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Minimalist revision of *Mesochorus* Gravenhorst, 1829 (Hymenoptera: Ichneumonidae: Mesochorinae) from Área de Conservación Guanacaste, Costa Rica, with 158 new species and host records for 129 species

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ABSTRACT

Introduction: Species of *Mesochorus* are found worldwide and members of this genus are primarily hyperparasitoids of Ichneumonoidea and Tachinidae.

Objectives: To describe species of Costa Rican *Mesochorus* reared from caterpillars and to a lesser extent Malaise-trapped**.**

Methods: The species are diagnosed by COI mtDNA barcodes, morphological inspection, and host data. A suite of images and host data (plant, caterpillar, and primary parasitoid) are provided for each species.

Results: A total of 158 new species of *Mesochorus*. Sharkey is the taxonomic authority for all.

Conclusions: This demonstrates a practical application of DNA barcoding that can be applied to the masses of undescribed neotropical insect species in hyperdiverse groups.

Keywords: Accelerated taxonomy; BIN code; conservation; COI DNA barcode; Ichneumonoidea; parasitoid host associations; tetra-trophic interaction.

RESUMEN

Revisión minimalista de *Mesochorus* Gravenhorst, 1829 (Hymenoptera: Ichneumonidae: Mesochorinae) del Área de Conservación Guanacaste, Costa Rica, con 158 especies nuevas y registros de hospedantes para 129 especies

Introducción: Las especies de *Mesochorus* se encuentran en todo el mundo y los miembros de este género son principalmente hiperparasitoides de las familias Ichneumonoidea y Tachinidae.

Objetivos: Describir las especies de *Mesochorus* costarricenses obtenidas de orugas y en menor medida por trampas Malaise.

Métodos: Las especies se diagnosticaron mediante el uso de código de barra molecular por COI del ADNmt, inspección morfológica y datos del huésped. Se proporciona un conjunto de imágenes y datos de los huéspedes (planta, oruga y parasitoide primario) para cada especie.

Resultados: Se encontró un total de 158 nuevas especies de *Mesochorus*. Sharkey es la autoridad taxonómica para todas las especies.

Conclusiones: Se demuestra una aplicación práctica del código de barras de ADN que se puede aplicar a grandes cantidades de especies de insectos neotropicales no descritas para grupos hiperdiversos.

Palabras clave: taxonomía acelerada; código BIN; conservación; código de barras molecular COI; ichneumonoidea; asociaciones hospedador y parasitoide; interacción tetratrófica.

INTRODUCTION

The purpose of this research is to diagnose and name 158 new species of Costa Rican *Mesochorus* Gravenhorst, 1829 (Ichneumonidae) from Área de Conservación Guanacaste [ACG] in northwestern Costa Rica, and to provide host records for 129 of these.

Species of *Mesochorus* are found worldwide and all species for which the biology is known are hyperparasitoids, primarily of the larvae of endoparasitic Braconidae and Ichneumonidae (Hymenoptera), rarely Tachinidae (Diptera), and more rarely Hemiptera and Psocoptera. More than 900 species of *Mesochorus* have been described and these comprise about 80 % of all mesochorines (Yu et al., 2016). Members can be distinguished from all other Mesochorinae by the presence of a transverse carina ventral to the antennal sockets (this carina is absent in all other genera), though this carina may be very weak and restricted to a small area medially.

Araujo (2018) corrected the key to the world genera of Mesochorinae published in Araujo et al., (2018). Dasch (1974) treated what he considered to be 245 species of Neotropical *Mesochorus*, including species he described under *Piestetron* Dasch, 1974, *Rhaibaspis* Dasch, 1974, and *Oncocotta* Dasch, 1974. This is one of the largest revisions of any ichneumonoid taxon. Although a few of the species described by Dasch may be redescribed in this Costa Rican *Mesochorus* study we choose to ignore his species concepts, and therefore we

do not attempt to coordinate with his names. There are four main reasons, which are expanded as follows. One: he described only a small fraction of the species that occur in Costa Rica. Two: his key does not work, leading the user to ambiguity. Three: it would take years to mimic his approach with the huge number of Costa Rican *Mesochorus*. Four: morphological differences are not sufficient to distinguish species of *Mesochorus* as demonstrated by their hosts and DNA barcodes.

One: Dasch (1974) treated a very small proportion of ACG *Mesochorus* species, therefore few synonyms will be generated in our current effort which does not attempt to match his names with Costa Rican specimens. The proportion of the total ACG *Mesochorus* species can be estimated by comparing the percentage of Malaise-trapped species with those reared by Janzen, Hallwachs and their team over 37 years (Fig. 1). 145 species were reared, and 37 species were captured in Malaise traps in the same forests. The overlap between these two collecting techniques is 12 species. Only 32.4 % (12/37) of the Malaise-trapped species were also reared. This suggests that the reared species represent only 32.4 % of the total number of ACG species of *Mesochorus* occurring in ACG. Extrapolating from this percentage (145/0.324) there are an estimated 447.5 species of *Mesochorus* in ACG. ACG has 65 % or less of the Costa Rican fauna and flora of the well-documented taxa, e.g., birds, angiosperms, mammals, butterflies. Under the assumption that *Mesochorus* diversity follows this pattern there are a predicted 688 (447.5/0.65) species of *Mesochorus* in Costa Rica.

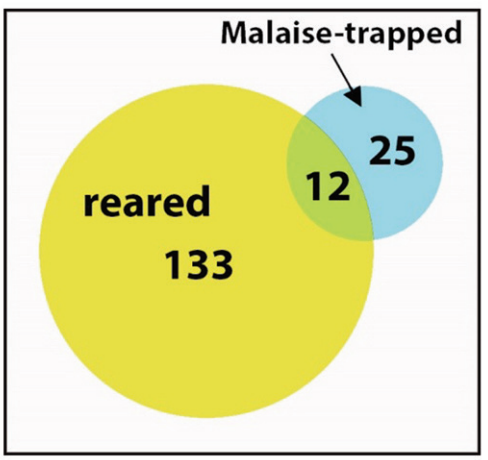

Fig. 1. Venn diagram comparing reared and Malaise-trapped species of *Mesochorus* in the ACG.

Dasch (1974) included 15 species with holotypes from localities in Costa Rica. However, Dasch's specimens are from all over Costa Rica and since the ACG contains only about 65 percent of the Costa Rican fauna, 65 % of Dasch's 15 species (~ ten) are likely to occur in ACG. The probability of any of these ten species being in the current revision can be estimated as the predicted fraction of *Mesochorus* species occurring in Costa Rica that are also in the present treatment, which is 23 % (158/688). In other words, it is likely that we are generating two or three synonyms (0.23 x 10) of these Dasch species. Taxapad lists 30 species recorded from Costa Rica, most of which were identified by Dasch so the number of estimated synonyms created may be four to six. This would only be true if the species concepts of each of the species with holotypes outside the country did not contain multiple species, as is our (MS) experience with strictly morphological approaches to species delimitation.

Dasch did not include any species whose holotypes are from Nicaragua and only one from Panama. However, there were a few from Honduras and many from Mexico. Some of these may also be included in our revision, but we estimate that the total number of synonyms generated by the current manuscript will be less than ten, and these can only be resolved later by obtaining barcodes from Dasch's holotypes or topotypic specimens that are identical morphologically.

Two: The Dasch (1974) key does not work. We ask the readers to carefully read the couplet from Dasch's key in Fig. 2. Imagine the futility of trying to identify the 158 species of ACG *Mesochorus* species knowing that only ten of them are likely to be included in the key. Our (MS) experience trying to do this, is that most

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58. Face narrow, width 0.49-0.52x width of head; hind femur slender, length 5.35-5.85x height; ovipositor sheath length 6.25x height; areola elongate and very slender; groove lacking from eye to lateral ocellus 59
Face narrow or wide, width 0.52-0.59x width of head; hind femur usually stouter, length 4.3-5.45x height; ovipositor sheath usually more slender, length 6.2-8.35x height; areola slender or short and broad; groove weak or strong between eye and lateral ocellus; combination of characteristics not as above 60

Fig. 2. Couplet 58 in the key to Neotropical *Mesochorus* (Dasch,1974).

83. Postpetiole strongly striate longitudinally; frons dull-shagreened; abdomen infuscate, tawny at apex of segment 2 and on all of segment 3 . . . . . 75. incultus Dasch (p. 172)
Postpetiole smooth or faintly striate; frons variously sculptured; abdomen colored otherwise 84

Fig. 3. Couplet 83 in the key to Neotropical *Mesochorus* (Dasch,1974).

specimens fail the key at some point. They usually partially fit both parts of a couplet. Henry Townes (RIP) is the most prominent ichneumonologist of all time and founder of the American Entomological Institute. He knew that his species-level keys for large genera did not work for others, but he followed protocols/rules to validate his species assignments (personal communication to MS decades ago).

Many of the characters in Dasch's key use jargon that only a few entomologists know. For example, few of the general population understand the terms postpetiole and frons (Fig. 3). The key is almost impossible for professional taxonomists, and it is in an alien language for the vast majority of potential users. This raises the question of for whom we are writing keys. Until recently, identification of all but the most flamboyant of insects was exclusively the job of taxonomists. They were forced to use keys such as Dasch's or use direct comparisons with specimens scattered among the world's museums. COI barcodes do the job so much more simply, quickly, and cheaply. Imagine if all of the estimated 688 species of *Mesochorus* were included in a morphological key. The key would likely be over 700 couplets long and impossible to work through, especially since many of the species would be represented by single specimens and morphological variation would be unknown.

We (MS) investigated the number of citations for Dasch (1974). According to a search in Google Scholar (October 19, 2021); this *Mesochorus* revision has 41 citations. The majority of the citations are geographical surveys that simply copy the distributional records that are in these papers and do not confirm any identifications. For example, Rodríguez-Berrío et al., (2009) surveyed the literature for all Ichnemonidae occurring in Peru and included a number of species cited as being present in Peru by Dasch (1974); the keys and descriptions were not employed. Only two citations were found (Janzen et al., 2003; González–Moreno & Bordera, 2012) that used the key to identify species, and both contain doubtful identifications due to the problems elucidated above. How can any reader have confidence that the identifications are correct? With barcodes associated with each species there would be far less doubt about these identifications.

With the advent of COI barcode libraries people no longer need to be taxonomic experts on the Ichneumonoidea. What were formerly

clients of taxonomic services would be enabled to identify specimens themselves. COI barcodes do the job so much more simply. Why do so many persist on archaic morphological approaches for megadiverse genera such as *Mesochorus*, or, for that matter, simply the hundreds of thousands of small and cryptic tropical species of insects, irrespective of the species-richness of their genera?

Three: Mimicking Dasch's approach, with all of its inherent weaknesses, for the species of *Mesochorus* treated here would take years, in contrast with the months it took by employing a primarily COI barcode approach. With approximately 1 % of Neotropical Ichneumonoidea described (Sharkey, Baker et al., 2021) there is a clear need for a faster approach for this taxon, and for other species-rich taxa.

Dasch did not include any species from Nicaragua and only one from Panama, however there were a few from Honduras and a number from Mexico. Some of these may also be included in our revision. Because Dasch's key does not work we would have had to borrow all holotypes from Mesoamerica. Mexico itself has 68 described species of *Mesochorus* (Yu et al., 2016). In order to accomplish these comparisons, we would have to write our own morphological key to the 158 species and then make a minimum of 15 900 comparisons, i.e., compare 100 holotypes with the 158 new species. But there is more. We have a great deal of confidence in our species concepts due to COI data and, to a lesser degree, rearing data. Because of these data sources, we have accurately determined morphological variation within species. Thus, we would need to compare a sample of paratypes to all published holotypes as well. All of the above would take years of work for the sake of a few synonymies, nearly all of which may be resolved by barcoding the Dasch holotypes. Such a glacial approach greatly slows taxonomic progress, to say nothing of impeding the use of taxonomic inference by other sectors of society (e.g., Janzen et al., 2020).

Four: Unlike the agathidine braconids (Braconidae: Agathidinae) that we (MS) are accustomed to treating at the species level, sister-species of *Mesochorus* are sometimes remarkably alike morphologically. In the recent treatment of Costa Rican *Alabagrus* (Braconidae: Agathidinae) (Sharkey et al., 2018) there were three species that could not be differentiated morphologically and were included together in one couplet of the key. In the case of *Mesochorus* there are probably five or six species-pairs that cannot be differentiated morphologically by a hard-core taxonomist, and nearly all by lay persons. Without the degree of certainty that is associated with COI barcode data we would not feel comfortable using any of Dasch's names. Most of the species treated here have associated biological data that includes host primary parasitoid, host caterpillar and host plant (see Supplemental file 1). If we treated one of the species described herein as belonging to one of Dasch's species these biological data would be assigned to that species name. When and if someone has the desire, money, and authorization to barcode Dasch's holotypes, it may be discovered that there are in fact two species and the reared species would have to be renamed. This would cause confusion since the biological data would forever be incorrectly associated with the Dasch species. Therefore, although we may create a few species to be synonymized, we feel that it is better to fail by splitting species rather than combining species under one questionable name.

Biology

Broad et al. (2018) summarized the biology of mesochorines, which roughly translates into the biology of *Mesochorus*. Their basic points are that species of *Mesochorus* are mostly koinobiont hyperparasitoids of endoparasitic Ichneumonoidea (Hymenoptera) and rarely Tachinidae (Diptera). They state that secondary hosts (hosts of their hosts) include larval Lepidoptera, Symphyta and Coleoptera. They also report nymphal and adult Hemiptera and Psocoptera as secondary hosts citing Waloff (1967) and Carlson (1979:703) respectively. Finally, they mention that ectoparasitic

Ichneumonidae are also known to be parasitized citing Shaw (1993).

It is well documented that *Mesochorus* females deposit eggs directly into primary parasitoid larvae, e.g., Blunck (1944) and Yeargan and Braman (1989). We have numerous records in which more than 100 specimens were reared from a single caterpillar and for which none of the primary parasitoids survived. There are also rare cases in our rearings in which a very few primary parasitoids and other ichneumonid and chalcidoid hyperparasitoids eclose along with dozens or hundreds of specimens of *Mesochorus*. In cases where large numbers of *Mesochorus* emerge from one caterpillar, e.g., hundreds of specimens, the ovipositing *Mesochorus* may dump many eggs into the parasitized host to have the first instar larvae find the primary parasitoids. We state this simply on conjecture as we lack any direct evidence.

Of the 158 species treated here, 129 have host records. Two species have a tachinid larva as a primary host, nine species are exclusively on Ichneumonidae, 115 species are exclusively on Braconidae with a strong bias towards Microgastrinae, and nine species attack both ichneumonids and braconids. Most often multiple conspecific *Mesochorus* emerged from the host parasitoid cocoons from one caterpillar, one per cocoon, suggesting that many species select caterpillars attacked by gregarious primary parasitoids. All Ichneumonidae primary parasitoids that were attacked, resulted in the emergence from the caterpillar of a single primary parasitoid larvae that spun a cocoon, from which a single *Mesochorus* specimen emerged. This occurred even in the single event in which more than one ichneumonid primary parasitoid were in the host caterpillar (see data associated with *Mesochorus unouno* sp. nov.).

Mesochorus angustistigmatus (Dasch 1974) was reported to parasitize *Microplitis espinachi* Walker, 2003 and *Microplitis figueresi* Walker, 2003 from ACG-reared specimens (Janzen et al., 2003). It is difficult to ascertain the validity of the wasp species-level identification for this record because neither of the depositories was given, nor were there voucher codes for the specimens reared prior to barcoding. The holotype of *M. angustistigmatus*, is from Brazil and this would normally make the Costa Rican identification doubtful; however, both of the sphingid host caterpillars *Erinnyis crameri* (Schaus, 1898) and *Erinnyis ello* (Linnaeus, 1758) are widespread from the southern USA through Brazil. Two of our species were reared from these same *Microplitis* hosts, i.e., *Mesochorus unocuatro* and *M. dosuno*. Neither species fits the description of *Mesochorus angustistigmatus* given by Dasch (1974) or the redescription by Janzen et al. (2003).

METHODS

General

Sharkey, Janzen et al. (2021) and Sharkey, Baker et al. (2021) present methods in great detail and these are summarized here. We started this revision by grouping our specimens into molecular unit trays based on their BIN placements (Ratnasingham & Hebert, 2013). One BIN (Barcode Index Number) = one molecular unit tray. The specimens in each tray were then investigated for general morphological consistency. This was followed by an inspection of a neighbor-joining (NJ) tree (not shown) that we generated on the BOLD (The Barcode of Life Data System) website (Ratnasingham & Hebert, 2007) using only those specimens with full or almost full barcodes, i.e., barcodes with more than 550 base pairs. We carefully examined the branching pattern of the specimens in each BIN. If there was any clumping or any outliers in the specimens within a BIN, we then looked at the rearing host data. We also looked at the morphology of the specimens, to see if they differed significantly and checked for concordance between these three data sources. In practice, all of these steps occur simultaneously with the NJ tree and the rearing database in hand. If these data sources were consistent with the hypothesis that any cluster of branches represents a separate species within the BIN,

we considered this possibility based on the degree of difference in morphology, sequence divergence, and host use. We then built a new NJ tree that included shorter barcodes to place those specimens into species formulated in the previous step and to add new species that may not be represented by specimens with full barcodes (Supplemental Material 2 [SM2]). In this supplemental material we have highlighted the records of the holotypes in red. Finally, we looked at the morphology and host data of the nearest neighbors (if they were included in the manuscript) for each BIN that was less than 3 % (p-distance) divergent from that neighbor. This was done to try to ensure that we were not describing the same species twice. If the distance was greater than 3 %, we considered the COI difference sufficient to confirm separate species status. If these do not differ morphologically, we might consider them to be cases where a pair of BINs split a species. For each of the 27 species described here that have a nearest neighbor that is less than 3 % divergent we illustrated one or more morphological traits that can be used to distinguish them. In most of these cases convincing characters were found but in several cases the differences seemed trivial, but we (MS) decided to maintain species status. Species concepts are hypotheses, some strong and others weak. More collecting, rearing, and barcoding will enable us or others to test these hypotheses. In all cases in which the nearest neighbor is a species that is included in the manuscript we identified the neighbor and gave the p-distance. In cases where the nearest neighbor is not included in the manuscript no information is provided here but it is easily accessible from BOLD. These neighbors are undescribed and therefore it is not relevant at this time and for this publication whether or not they represent the same or a different species.

Some readers have had difficulty understanding how our consensus barcodes act as diagnostic characters. An analogy might help. Imagine a segmented organism similar to a millipede with variable numbers of legs on each segment. Each segment can be likened to a position on the COI barcode, and the number of legs on a segment is analogous to the base pair in a particular position on the COI barcode sequence. Morphologists will recognize that it would be possible to use a code like 0 1 4 3 2 to indicate the number of legs on each of the first five segments, with the understanding that the first number represents the number of legs on the first segment, the second number represents the number of legs on the second segment, etc. Two species of this imaginary genus could be differentiated as follows: Species A: 0 1 4 3 2. Species B: 0 1 5 3 2. Equally, the diagnosis could be more precise by stating only the differences, i.e., Species A: Four legs on segment three. Species B: Five legs on segment three. This latter approach was used by Meierotto et al. (2019), e.g., 72–75 GGGT, 163 G, 222–225 GGGG, 264 G. In either case the diagnostic will be little if ever used. To diagnose a species is to enable a user to identify it and this will be done by searching for matching and closely matching barcodes on BOLD.

Meier et al. (2021) criticized the minimalist approach, and a response to their criticisms was recently published (Sharkey et al., 2022). However, there is one criticism that we also address here. Meier et al., noted that a number of the species described in Sharkey, Janzen et al. (2021) had COI barcodes that coded for identical amino acids. Their conclusion was, "These BINs have no known, functionally significant biological differences because the biology of these wasp "species" is not at all affected by which triplet codons are used to code for identical proteins. Given that most biologists associate speciation with the origin of biologically meaningful differences, describing such BINs as species rests on the hope that the correlation between time of divergence and the origin of new species is strong enough that biologically meaningful differences will later be found. However, most biologists are rightfully skeptical of results based on correlations and we would argue that it would be healthy to adopt the same position here." One could equally argue that the

Fig. 4. Images showing morphological differences between two species of *Mesochorus* whose slightly different COI barcodes generate identical amino acids, M. 127 (*M. unodossiete*) and M.139 (*Mesochorus unotresnueve*). Note the massive mandibles, relative to the width of the head, and smooth clypeus in *M. 127* and compare with the normal mandible and punctate clypeus of *M. 139*.

ratio between the lengths of the first and second flagellomeres (functions, if any, unknown), or most any other morphological character used to differentiate species, is simply the result of drift due to time of divergence. Nonetheless, to address this criticism, we produced a NJ tree based on barcode amino acids and identified all identical clusters that contained multiple species of *Mesochorus*. Just as with the nearest neighbors with divergences of less than 3 %, we include images that morphologically differentiate these species that the amino acids do not. Without exception, the proposed species that shared identical COI amino acids were different morphologically, and sometimes dramatically so (Fig. 4). In the case of Costa Rican species of *Mesochorus*, the BIN algorithm, as a measure of time of divergence, is a good estimator of species status.

Here we include several standardized images of each holotype specimen and, if available, an image of a specimen of the opposite sex. We also include at the end of the publication a frontal image of the head of each species (SM3, Figs. S1-S27). The purpose of these images is to help users confirm the identifications that they arrived at using CO1 barcodes. Essentially, we expect that CO1 barcodes will be used to identify species; however, a check, for those fortunate enough to possess a quality microscope, will be to examine the images. The facial images at the end of this treatment are grouped because they offer perhaps the best diagnostic characters. The overall sculpture and color as well as the shape of the clypeus and mandibles may all be partly diagnostic. It is expected that, when someone barcodes a specimen of *Mesochorus* and has a hit on one of our species, they will examine these images to confirm their identification. This is a far better option than asking to borrow the holotype specimen which could be refused in many cases, e.g., taxonomists not affiliated with recognized institutions and those working in countries with unsecured postal services. In this revision the BINs all match the species concepts. With more intense sampling, a presumed "species" may be found to be more than one, as sometimes is the case for COI barcodes. This is occasionally anticipated by 1 % or less difference between two clusters of barcodes within a BIN; these are also hints for

a closer look at the ecology of the wasps, if such data are available.

Species etymologies

The specific epithets for all the 158 new species here described correspond to various combinations of the Spanish numbers zero to nine, i.e., cero, uno, dos, tres, cuatro, cinco, seis, siete, ocho, and nueve.

Specimens and generic placements

All of the species described here were collected by rearing wild-caught host caterpillars in ACG in northwestern Costa Rica (Janzen & Hallwachs, 2016) or caught in Malaise traps in the same forests. Holotypes of all newly described species are deposited in the Canadian National Collection of Insects (CNC), Ottawa. Paratypes will be deposited in the Museo Nacional de Costa Rica in Santo Domingo de Heredia, and the Los Angeles County Museum as duplicates become available. All other specimens, including hundreds of paratypes in alcohol, will also be deposited at the CNC. Undescribed but yet different species, generally with only one damaged specimen per BIN, are also deposited in the CNC until they are described and augmented with newly collected conspecifics as they are collected by the ongoing inventory.

Some host species treated here are awaiting full identification and are given interim names. For example, *Antaeotricha* Janzen233 is identified to the genus *Antaeotricha* Zeller by classical morphology-based criteria and to Janzen233 by barcode and ecological information. However, no formal scientific species name will be available until a barcode-match is obtained with an existing holotype or until it is described as new, or interim matched morphologically with a described species by a taxonomic specialist. Equally, *Antaeotricha* radicalisEPR03 is also an interim name based on what the species looks like. However, the species interim epithet it is not a scientific name which is why it is not italicized. It temporarily retains the information that this species is recognized by similarity with its look-alike, *A. radicalis*, before barcoding the holotype and associating it with other ecological data. Finally, a name such as gelJanzen01 Janzen407 signifies a caterpillar in the family Gelechiidae for which even a generic name is not obtainable at present.

DNA extraction and sequencing

Molecular work was carried out at the Centre for Biodiversity Genomics (CBG) at the University of Guelph, using their standard protocols. A leg of each specimen was destructively sampled for DNA extraction using a glass fiber protocol (Ivanova et al., 2006). Extracted DNA was amplified for a 658-bp region near the 5' terminus of the cytochrome *c* oxidase subunit I (COI) gene using standard insect primers LepF1 (5'-ATTCAACCAATCATAAAGATATTGG-3') and LepR1 (5'-TAAACTTCTGGATGTCCAAAAAATCA-3') (Hebert et al., 2004). If initial amplification failed, additional amplifications were conducted following the established protocols using internal primer pairs: LepF1–C113R (130 bp) or LepF1–C_ANTMR1D (307 bp) and MLepF1–LepR1 (407 bp) to generate shorter overlapping sequences (Smith & Fisher, 2009). Amplified products were sequenced using Sanger technology, though the most recently barcoded were sequenced by SEQUEL II. Specimens that "failed" barcoding are not included here unless otherwise indicated. When included, they are usually identified by unambiguous morphological and ecological information equally possessed by others from ACG in that species.

Barcode sequences presented in the species descriptions herein are a consensus of the barcode sequences of all included individuals, meaning base pairs that differ between conspecific specimens are replaced by IUPAC ambiguity codes, but individual-based barcodes for every specimen are permanently recorded and retained in BOLD, which is publicly available and maintained by the Centre for Biodiversity Genomics (CBG).

Databases

Voucher codes are presented here for all holotype specimens (and all other barcoded individuals) treated herein. All host caterpillars are individually vouchered to their individual records (yy-SRNP-xxxxx). Codes beginning with DHJPARxxxxxxx are for the parasitoid (or hyperparasitoid) specimens reared from the caterpillar; therefore, each wasp carries two voucher codes, one for the rearing (host) record and one for the wasp itself. A hyperparasitoid also carries the host caterpillar voucher code, but only the host caterpillar record retains the primary parasitoid data, if there are any. In other words, if there were survivors of the primary parasitoid as well as the hyperparasitoid, both records are in the total caterpillar voucher in the Janzen and Hallwachs database (http://janzen.sas.upenn.edu/caterpillars/database.lasso), updated copies of which are periodically deposited in the Lepidoptera division of the National Museum of Natural History in the Smithsonian Institution, and will eventually be publicly available not only through the University of Pennsylvania, but other web sites as well. Specimen voucher codes beginning with BIOUG are generated by the CBG and stored in BOLD (http://www.boldsystems.org), and most of the specimens obtained from ACG Malaise traps have this prefix. The DHJPAR and their associated SRNP codes can also be found on the BOLD database. The abundant collateral information obtainable from these two databases complements the species treatments. See Sharkey, Janzen et al. (2021) for a brief introduction to what to look for and how the two databases supplement the species treatments herein. Instructions on how to use BOLD to identify a specimen are given in Sharkey, Baker et al. (2021). GenBank and BOLD were both searched to ensure that none of the species described herein having matching barcodes with named species.

Included in supplementary documentation (Supplemental Material 1 [SM1]) is an excel spreadsheet with information on 814 Costa Rican *Mesochorus* specimens. The columns in the spreadsheet are as follows.

A. **abb. (abbreviated) Species Name.** A numerical representation of the species of *Mesochorus*, e.g., 1 = *Mesochorus uno*, 23 = *Mesochorus dostres*.

B. **Species Name.** The name of the species to which the specimen belongs, e.g., *Mesochorus uno*.

C. **BOLD BIN.** This is the BOLD (Barcode of Life Database) BIN code to which the specimen belonged in December 2021. BINs are described in Ratnasingham and Hebert (2013) and are not fixed entities. They can merge, split, and disappear, just as can classical unit trays, but more than 95 % remain static in our experience. The BIN code can be searched for on BOLD to find all records and should prove useful in the future as more *Mesochorus* specimens are added from Costa Rica and other Neotropical countries.

D. **Hyper (Hyperparasitoid) Voucher.** *Mesochorus* specimen voucher codes. These are of two types, DHJPAR and BIOUG. DHJPAR codes are voucher codes created for the Janzen database and almost all are reared (http://janzen.sas.upenn.edu/caterpillars/database.lasso). These can be entered in the aforementioned database, in the "DHJPAR hyperparasite code" field, to obtain much of the same material that is in the current database, plus extra information such as images of host caterpillars and their adults, as explained in Sharkey, Janzen et al. (2021). Most specimens that were Malaise-trapped have BIOUG voucher codes. These are not currently available on the Janzen-Hallwachs database but are in BOLD. Both BIOUG and DHJPAR voucher codes also act as sample IDs on BOLD and can be used to search for associated information on BOLD (http://www.boldsystems.org/index.php/MAS_Management_RecordSearch). Details of

the type of information that can be found on BOLD are given in Sharkey, Janzen et al. (2021).

E. **Sex.** For all viewed specimens the sex is given, "m" for male and "f" for female.

F. **Specimen Status.** The categories include, "holotype", "paratype", "EtOH" and "not viewed". EtOH refers to specimens that are still in vials and deposited in the Canadian National Collection. Not viewed, refers to specimens that are in BOLD but that have not yet crossed author Sharkey's desk, since they go through the CBG processing before they arrive to Sharkey. Specimens that are "not viewed" or "EtOH" are not considered to be paratypes.

G-O. **Country, Conservation Área , Province, Sector, Locality, Latitude, Longitude, Elevation (in meters), Collector.**

P. **Collection Tech. (Technique)**. There are two types of collecting techniques, rearing and Malaise trapping. The Malaise-trapped specimens are from ten different sites within ACG, representing the three major ecosystems (dry forest, cloud forest, rain forest) and various overlaps and intergrades among them.

Q. **Hyper. (Hyperparasitoid) Eclos. (Eclosion) Date.** This is in the counterintuitive format month/day/year and refers to the date on which a reared specimen eclosed (emerged from the host cocoon), rather than the date when the caterpillar containing the primary host parasitoid was collected, because emergence date represents when free-flying adults would likely be collected. For Malaise-trapped specimens this date refers to the date they were captured.

R. **Cp. (Caterpillar) Collection Date.** For reared *Mesochorus* specimens this refers to the date that the host caterpillar was collected. For Malaise-trapped specimens no entry is given because there is no caterpillar collection.

S. **#(Number) Emerging.** Multiple when more than one specimen emerged from the host caterpillar (but always one per wasp cocoon), single if one specimen emerged from the host caterpillar.

T. **Caterpillar Voucher.** These codes are for the Janzen-Hallwachs database rearing records. (http://janzen.sas.upenn.edu/caterpillars/database.lasso). These can be entered in the aforementioned database, in the "VOUCHER CODE" field, to obtain much of the same material that is in the current database, plus extra information such as images of host caterpillars and their adults, as explained in Sharkey, Janzen et al. (2021) and, Sharkey, Baker et al. (2021)

U. **Caterpillar Family.** The family of the host caterpillar.

V. **Caterpillar species.** The species of the host caterpillar. (Names such as *Nycterotis* xylinoidesDHJ02 refer to an unnamed or unidentified species that is close to *Nycterotis xylinoides*). Names such as *Antaeotricha* Janzen221 are temporary placeholders for species that are not described or are not identifiable further than genus.)

W. **Primary Parasitoid Species.** The species of the host primary parasitoid (Names such as *Alphomelon* xestopygaDHJ05 refer to an unnamed or unidentified species of Microgastrinae that is close to *Alphomelon xestopyga*. Names such as *Hypomicrogaster* OVRGDHJ03 are temporary placeholders for species that are not described or are not identifiable further than genus and the interim species OVRGDH03.) There is no name if no primary parasitoids survived the hyperparasitoids, and the primary parasitoid cocoon was not identifiable by its morphology and host caterpillar (and therefore it has no barcode or BIN as well).

X. **Primary Parasitoid Subfamily.** The subfamily of the primary parasitoid.

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Y. **Primary Parasitoid Family.** The family of the primary parasitoid.

Z. **Primary Parasitoid Voucher.** In approximately one third of the rearings, specimens of both *Mesochorus* and their primary parasitoids emerged. In these cases, the primary parasitoid was destroyed by the hyperparasitoid, but siblings survived. These vouchers refer to the siblings. The DHJPAR codes can be searched for on the Janzen-Hallwachs database under the "DHJPAR parasite code" field and in BOLD they can be used as sample IDs.

AA. **Food Plant Species.** Names such as Orchidaceae 22039 are temporary identifiers for species that could not be fully identified.

AB. **Food Plant Family.** The family of the food plant.

TAXONOMIC SECTION

Family Ichneumonidae
Subfamily Mesochorinae
Genus *Mesochorus* Gravenhorst, 1829

The generic limits of *Mesochorus* follow Wahl (1993).

Mesochorus Gravenhorst, 1829: 960. Type-species: *Mesochorus splendidulus* Gravenhorst.

Stictopisthus Thomson, 1886: 327. Type-species: *Mesochorus bilineatus* Thomson. Synonymized by Townes (1945).

Edrisa Cameron, 1907: 111. Type-species: *Edrisa pilicornis* Cameron. Synonymized by Baltazar (1961).

Zamesochorus Viereck, 1912: 152. Type-species: *Zamesochorus orientalis* Viereck. Synonymized with *Edrisa* by Townes (1957).

Plectochorus Uchida, 1933: 163. Type-species: *Mesochorus iwatensis* Uchida. Synonymized by Wahl (1993).

Cryptochorus Aubert, 1965: 22. Type-species: *Cryptochorus obliterator* Aubert. Synonymized by Townes (1971).

Oncocotta Dasch, 1974: 33. Type-species: *Oncocotta depressa* Dasch. Synonymized by Wahl (1993).

Rhaibaspis Dasch, 1974: 389. Type-species: *Rhaibaspis bullata* Dasch. Synonymized by Wahl (1993).

Piestetron Dasch, 1974: 405. Type-species: *Piestetron nigrum* Dasch. Synonymized by Wahl (1993).

Note: All specimens were collected in Costa Rica, and all but one from Área de Conservación Guanacaste. Sharkey is the taxonomic authority for all of *Mesochorus* species treated below.

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Mesochorus uno

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:D4988F75-69B4-4128-947C-3A7B957190A7

Diagnostics: Fig. 5.
Consensus barcode (62 specimens).
GTATTATATTTTATTTTTGGTATTTGAGCTGGAATAATTGGATCAGCAATAAGATTAATTATCCGTATAGAATTAGG
GAATCCAGGGTTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACAGCTCATGCTTTTATTATAATTTTTTTTA
TAGTCATACCAATTATAATTGGAGGCTTTGGAAATTGATTAGTTCCTTTAATGATTGGTGCCCCTGATATGG
CATTTCCCCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCATTAATATTACTATTATTTAGAAGAATCATT
GGTAAAGGAGTAGGTACAGGATGAACTGTATACCCTCCATTATCATTAAATGTAAGCCATGAAGGAATRTCAGTA
GATTTATCAATTTTTTCATTACATTTAGCAGGAATATCTTCAATTATAGGRGCAGTAAATTTTATTACTACTATTATAAA
TATACATTTATTTGGAATATCATTAGATCAATTGTCATTATTTACATGATCAATTTTTATTACTACAATTTTATTATTATTA
GCTGTCCCAGTTTTAGCTGGTGCAATTACTATATTATTAACTGACCGAAATTTAAATACATCATTTTTTGACCCAACA
GGAGGAGGTGACCCAATTCTCTATCAACACTTA

BOLD data: BIN: BOLD:AAA6111.
Holotype ♀: DHJPAR0020700, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Sendero Palo Alto, 10.88186, -85.38221, 570 m, eclosion date 11/14/2007, host caterpillar collection date 10/26/2007, 07-SRNP-4233 (CNC). GenBank accession code OM237688.
Holotype host data: Hyperparasitoid of *Cotesia* Whitfield24 (Braconidae: Microgastrinae), which is a primary parasitoid of *Hylesia aeneides* (Saturniidae) feeding on *Inga oerstediana* (Fabaceae). Multiple specimens eclosed.
Other host data: *Cotesia*, *Diolcogaster*, and *Parapanteles* (Braconidae: Microgastrinae). Most rearings produced multiple *Mesochorus* specimens, however those on *Diolcogaster*, which is a solitary parasitoid presumably, produced one *Mesochorus* specimen.

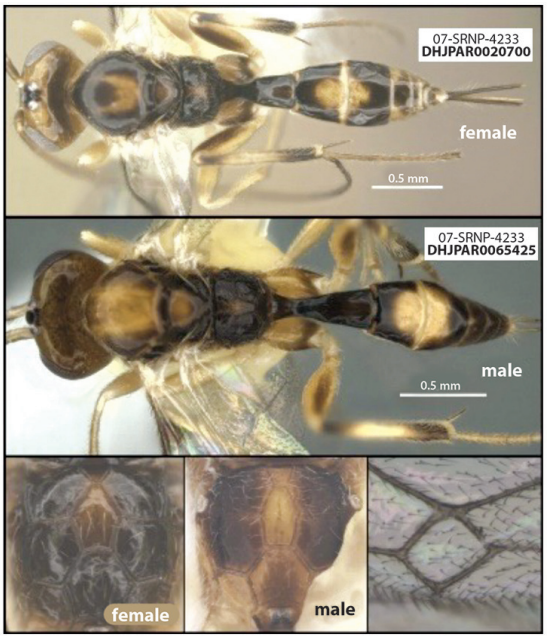

Fig. 5. *M. uno*, female holotype and male paratype; as indicated in the figure. Unlabeled image is of the holotype. The male (DHJPAR0065425) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the female holotype, both have the same rearing/caterpillar record, 07-SRNP-4233, that can be recovered from the Janzen/Hallwachs website.

Mesochorus dos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:C4327307-DC00-466B-A4E7-D65AB1AD1E83

Diagnostics: Fig. 6.
Holotype barcode.
AATTTTATATTTTATTTTTGGAATATGAGCAGGAATAATAGGATCATCAATAAGATTATTAATTCGTTTAGAACTAGGA
AACCCTGGTTACTTAATTAATAATGACCAAATTTACAATTCATTTGTCACTGCTCATGCTTTCGTAATAATTTTTTTTA
TGGTAATGCCAATTATAATTGGAGGATTTGGTAATTGATTAATCCCTTTAATAATTGGAGCCCCTGATATAGCATTCC
CGCGTATAAATAATATAAGATTTTGACTTCTACCCCCTTCTCTATTTTTATTAATTTTAAGAAGAATTACAAATAAA
GGGGTAGGGACAGGTTGAACAGTTTACCCACCTTTATCCTCAAATACTAGACATGAAGGAATATCTGTCGACTTAT
CAATTTTTTCTCTTCATTTAGCAGGAATATCTTCGATTATAGGAGCAATTAATTTTATTACTACAATTTATATTATAC
GATGTATAGGAACATCTTTAGATCAAATATCATTATTTACTTGATCAATAAAAATTACAACTATTTTACTTTTATTA
GCTGTACCTGTACTCGCAGGGGCAATTACAATATTATTAGCTGATCGAAACTTAAATACTTCATTTTTTGACCCTTCA
GGGGGAGGAGACCCCATTTTATACCAACATTTATTT

BOLD data. BIN: BOLD AAA6205.
Holotype ♂: DHJPAR0034198. Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Sendero Derrumbe, 10.92918, -85.46426, 1220 m., eclosion date 11/30/2008, caterpillar collection date 10/20/2008 (CNC). GenBank accession code OM237733.
Holotype host data:
Hyperparasitoid of *Hyphantrophaga virilis* (Tachinidae: Exoristinae), which is a primary parasitoid of *Quentalia chromana* (Bombycidae) feeding on *Sorocea trophoides* (Moraceae). There were six tachinid puparia from which one *Mesochorus* and five chalcidids eclosed; we assume it was a hyperparasitoid of a fly larva rather than one of the larva of the hyperparasitoid chalcidids.
Other host data: None.

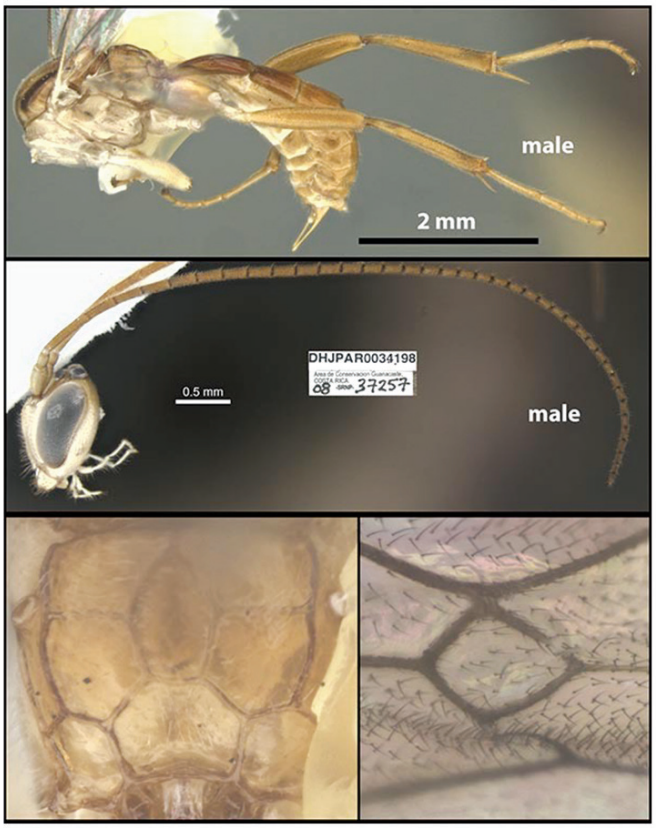

Fig. 6. *M. dos*, holotype male.

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Mesochorus tres

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:6889CFA3-D0E8-435B-9679-515DF10DB4C4

Diagnostics: Fig. 7.
Consensus barcode (62 specimens).
ATTTTATATTTWWTTTTTGGTATTTGAGCTGGRATAATTGGATCAGCAATAAGATTAATTATTCGTATAGAATTAGGA
AATCCGGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACTGCRCATGCCTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGGTTAGTACCTTTAATAATTGGTGCCCCAGATATAGCATTCC
CWCGAATAAATAATATAAGATTTTGATTATTACCCCCATCACTTATATTATTATTATTAAGAAGAATTATTAATAARG
GAGTAGGAACAGGGTGAACTGTTTACCCRCCTCTATCATTAAATGTAAGTCATGAAGGTATGTCTGTTGATTTAT
CAATTTTTTCATTACATTTAGCAGGAATATCTTCAATTATAGGTGCAGTAAATTTTATTACCACAATTATAAATA
TACATTTATTTGGAATATCATTAGATCARTTATCATTATTTACTTGATCAATTTTAATTACTACAATTTTATTGTTATTA
GCAGTTCCAGTTTTAGCAGGAGCMATYACAATAYTATTAACTGATCGGAATTTAAATACATCATTTTTTGATCCTTCR
GGGGGKGGAGATCCAATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AAA8075
Nearest neighbor: *M. unounocero,* BOLD:ACE9622, 1.6 % (p-dist) The dimensions of the central propodeal areolae are different in these neighbors as are the dimensions of the areolet of the forewings (Fig. 8).
Holotype ♀: DHJPAR0052942. Área de Conservación Guanacaste, Guanacaste, Sector Mundo Nuevo, Mamones, 10.77074, -85.42874, 365 m., eclosion date 08/17/2023, caterpillar collection date 07/30/2013 (CNC). GenBank accession code OM237724.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* OVRGDHJ06 (Braconidae: Microgastrinae), which is a primary parasitoid of *Nystalea ebalea* (Notodontidae) feeding on *Spondias mombin* (Anacardiaceae). Multiple *Mesochorus tres* specimens eclosed.
Other host data: *Hypomicrogaster* (Braconidae: Microgastrinae).

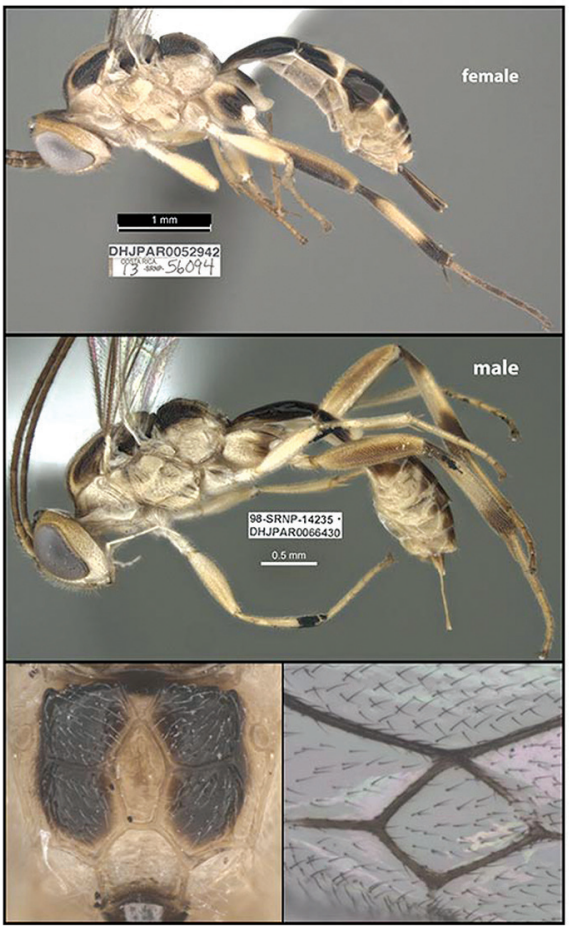

Fig. 7. *M. tres*, holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066430) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as a female paratype DHJPAR0020406, which was barcoded. They both have the same rearing/caterpillar record, 07-SRNP-4233, that can be recovered from the Janzen/Hallwachs website.

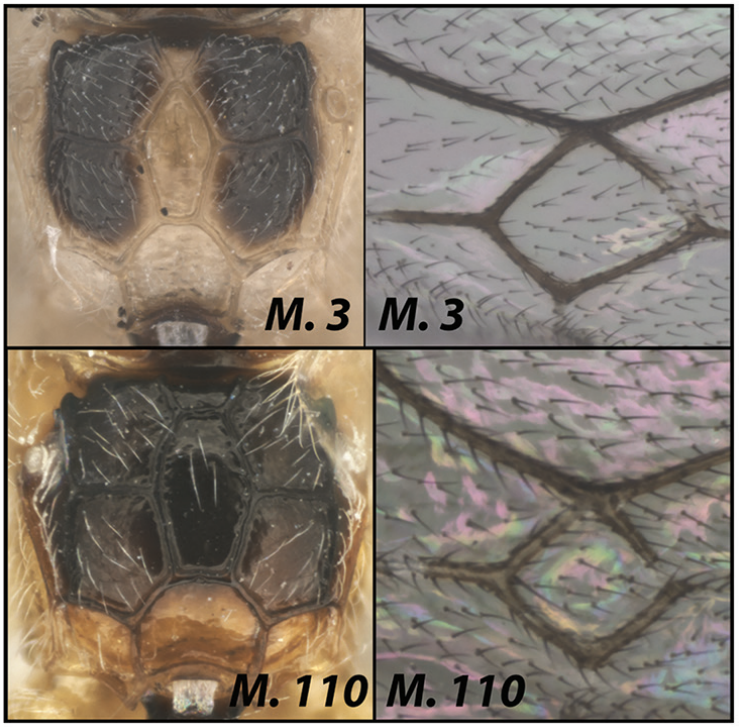

Fig. 8. Comparisons of *M. tres* with its nearest neighbor *M. unounocero*, whose barcodes code for identical amino acids.

Mesochorus cuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:4E57C1C3-C4D2-4208-891E-0F83B4EB3A65

Diagnostics: Fig. 9.
Holotype and consensus barcode (7 specimens).
ATTTTATATTTTATTTTTGGTATATGAGCAGGAATAATTGGTTCTTCTATAAGTATAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACATCCCATGCTTTTATTATAATTTTTTTTA
TAGTAATACCAATTATGATTGGTGGATTTGGTAATTGAATAGTACCATTAATAATTGGTGCACCAGATATA
GCTTTCCCTCGTATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATACTATTATTATTAAGTGGAATTT
GTCAAAAAGGTGTAGGAACTGGCTGAACAGTTTACCCTCCTTTATCATTAAATATTAGACATGAAGGGTTAT
CAGTTGATTTATCAATTTTTTCATTACATTTAGCAGGTATATCTTCAATTATAGGAGCAATTAATTTTATTACAAC
TATTATAAATATACGAATTTTAAAAACATCATTAGATCAAATATCATTATTTGTTTGATCAATTTTAATTACAACA
ATTTTATTATTACTTGCAGTTCCAGTTTTAGCTGGAGCAATTACTATATTATTATCTGATCGAAATTTAAATACTT
CATTTTTTGATCCTTCAGGAGGAGGAGATCCAATTTTATATCAACATTTA

BOLD data: BIN: BOLD:AAB0665.

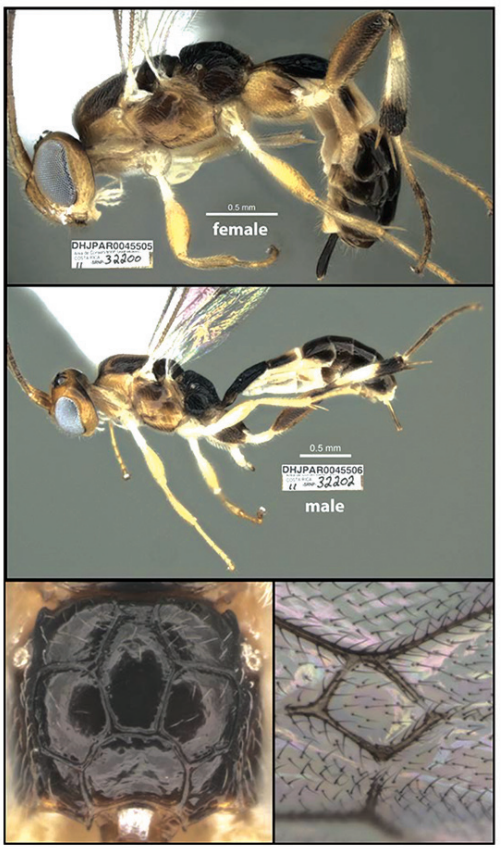

Fig. 9. *M. cuatro*, holotype female and paratype male. Unlabeled images are of the holotype.

Holotype ♀: DHJPAR0045505, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Carica, 10.99284, -85.42936660, eclosion date 8/25/2011, caterpillar collection date 08/08/2011 (CNC). GenBank accession code OM237725.
Holotype host data: Hyperparasitoid of *Dolichogenidea* Janzen30 (Braconidae: Microgastrinae) which is a primary parasitoid of *Antaeotricha* Janzen221 (Depressariidae) feeding on *Rhynchosia reticulata* (Fabaceae). One *Mesochorus* specimen eclosed.
Other host data: *Dolichogenidea* (Braconidae: Microgastrinae). One *Mesochorus* specimen eclosed.

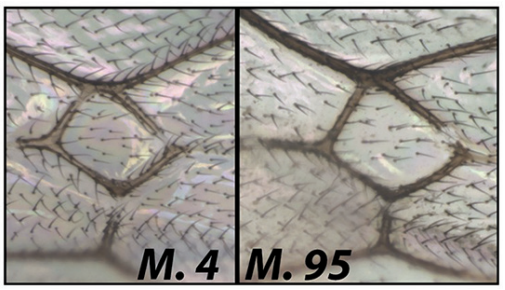

Fig. 10. Comparison of the areolet of two species of *Mesochorus* (*M. cuatro and M. nuevecinco*) whose COI barcodes code for identical amino acids.

Mesochorus cinco

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:11871F8A-57EE-4365-9702-EF8554EADA03

Diagnostics: Fig. 11.

Consensus barcode (21 specimens).

ATTTTATACTTTATTTTTGGTATATGAGCAGGAATAATTGGTTCTTCAATAAGAATAATTATTCGTATAGA
ATTAGGTACCCCAGGATTTTTAATTAATAATGACCAAATTTATAACTCATTTGTAACCTCACATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTTCCATTAATAATTGGAGCTCCAGA
TATAGCATTYCCTCGAATAAATAATATGAGATTTTGATTATTACCCCCTTCAATTATATTACTTTTATTAAGAAGAATTT
GTCAAAAGGGGGTAGGAACAGGATGAACTGTCTATCCTCCTTTATCTCTTAATGTAAGTCATGAAGGATTATCAGTA
GATTTATCAATTTTTTCATTACATTTAGCAGGAATATCTTCAATTATAGGAGCCGTAAATTTTATTACAACTATTATTAA
TATACGTATTAATAAAACATCATTTGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAACAATTTTATTAC
TATTAGCTGTACCTGTACTAGCAGGGGCAATTACTATATTATTATCTGATCGTAATTTAAATACATCATTTTTTGATC
CATCTGGAGGAGGAGAYCCAATTTTATATCAACATTTA

BOLD data: BIN: BOLD:AAB3993.

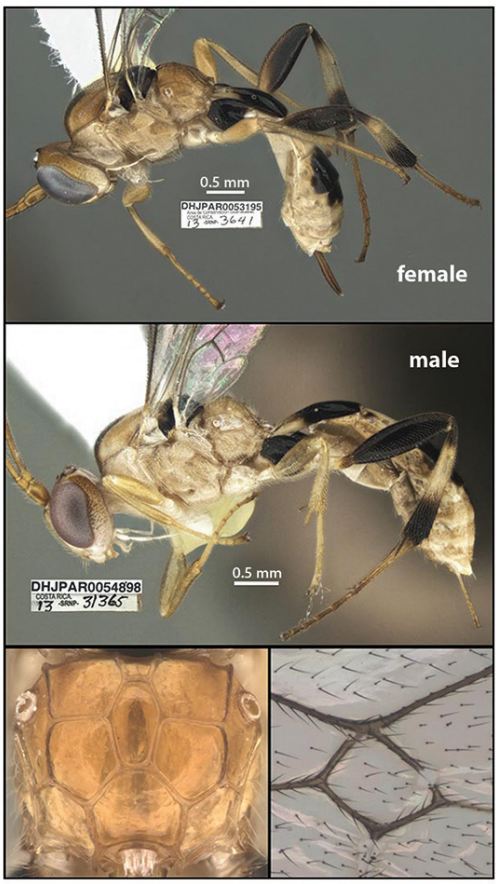

Fig. 11. *M. cinco*, holotype female and male paratype. Unlabeled images are of the holotype.

Nearest neighbor: *M. sieteseis* BOLD:AAX4045 2.89 % (p-dist). The dimensions of the central propodeal areolae and the medioposterior areolae are different (Fig. 94).

Holotype ♀: DHJPAR0053195, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Finca San Gabriel, 10.87766, -85.39343, 645 m, eclosion date 8/03/2013, caterpillar collection date 07/12/2013 (CNC). GenBank accession code OM237742.

Holotype host data: Hyperparasitoid of *Eiphosoma* macrumDHJ02 (Ichneumonidae: Cremastinae), which is a primary parasitoid of *Desmia ploralis* (Crambidae) feeding on *Psychotria remota* (Rubiaceae). One *Mesochorus* eclosed.

Other host data: *Eiphosoma* (Ichneumonidae: Cremastinae), *Casinaria* (Ichneumonidae: Campopleginae), *Podogaster* (Ichneumonidae: Anomaloninae), *Apanteles, Prasmodon* (Braconidae: Microgastrinae). One *Mesochorus* specimen eclosed.

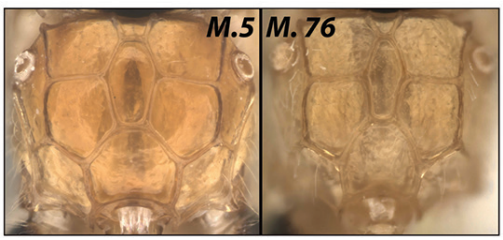

Fig. 12. Comparisons of *M. cinco* with its nearest neighbor, *M. sieteseis.*

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Mesochorus seis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:008C792B-35A1-4FE8-8037-D49868BF825E

Diagnostics: Fig. 13.
Holotype barcode.
AATTTTATATTTTATTTTTGGAATATGATCTGGAATAATTGGTTCTTCTATAAGTATAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCTATTATAATTGGTGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCACCAGATATAGCTTTTC
CACGAATAAATAATATAAGATTTTGATTATTACCTCCATCAATTATATTATTATTATTGAGAAGAATTTGTCAAAAA
GGAGTAGGTACTGGATGAACAATTTACCCTCCATTATCATTAAACATTAGACATGAAGGATTATCAGTTGATTTAT
CAATTTTTTCATTACATTTAGCTGGAATATCTTCAATTATAGGAGCAATTAATTTTATTACAACTATTTTAAATATAC
GAATTTTAATAACATCATTAGATCAAATATCTTTATTTGTTTGATCTATTTTAATTACAACTATTTTATTATTATTAG
CAGTTCCGGTTTTAGCTGGAGCAATTACTATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATCCATCTG
GAGGTGGTGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAB4680.
Nearest neighbor: *M. unotresnueve* BOLD:ADQ8339 3.85 % (p-dist).
Holotype ♀: DHJPAR0045502. Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, San Lucas, 10.91847, -85.30338, 320m., eclosion date 06/13/2011, caterpillar collection date 05/26/2011 (CNC). GenBank accession code OM237747.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Janzen238 (Braconidae: Microgastrinae), which is a primary parasitoid of *Macaria* BioLep11 (Geometridae) feeding on *Senegalia multipinnata* (Fabaceae). One *Mesochorus* specimen eclosed.
Other host data: None.

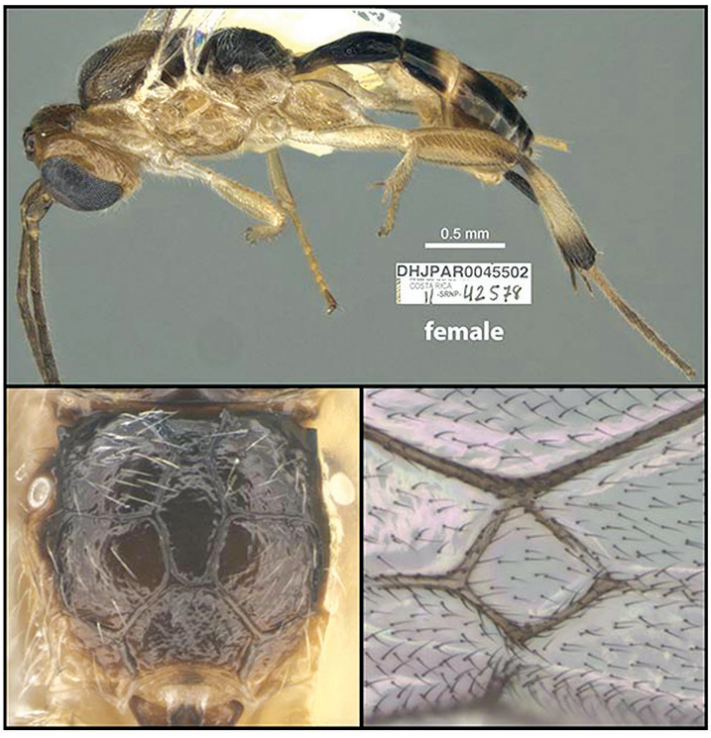

Fig. 13. *M. seis*, holotype female.

Mesochorus siete

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:AE27D127-7A89-4229-B104-D7449E9083D4

Diagnostics: Fig. 14.
Consensus barcode (23 specimens).
ATTTTATATTTTATTTTTGGTATATGAGCAGGTATAATTGGTTCTTCGATAAGAATAATTATTCGAATAGAGTTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATGCCAATTATAATTGGAGGATTTGGAAATTGATTAATTCCATTAATGATTGGAGCACCTGATATA
GCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTAATAAKTGGTGTTATTCAA
AAAGGTGTTGGTACTGGATGAACTGTTTATCCACCRTTATCATTAAATATAGGTCATGAGGGATTATCAGTTGATTTAT
CAATTTTTTCTTTACATTTAGCAGGTATATCTTCTATTATAGGAGCAATTAATTTTATTACAACAATTTTAAATATACG
GATTTTAAAAACATCATTAGATCAAATAACTTTATTTGTTTGATCAATTTTAATTACAACAATTTTGTTATTATTAG
CAGTGCCAGTTTTAGCTGGTGCTATTACTATATTATTATCAGATCGGAATTTAAATACTTCTTTTTTTGATCCATCAG
GAGGGGGGGATCCTATTTTATATCAGCATTTA

BOLD data: BIN: BOLD:AAB8789.
Nearest neighbor: *M. dosdos*, BOLD:AAE4006, 7.37 % (p-dist).
Holotype ♀: DHJPAR0058135. Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Sendero Carmona, 10.87621, -85.38632, 670 m, eclosion date 10/11/2015, caterpillar collection date 09/26/2015 (CNC). GenBank accession code OM237764.
Holotype host data: Hyperparasitoid of *Alphomelon nanosoma* (Braconidae: Microgastrinae), which is a primary parasitoid of *Carystoides escalantei* (Hesperiidae) feeding on *Chamaedorea tepejilote* (Arecaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Alphomelon*, *Cotesia* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens emerged.

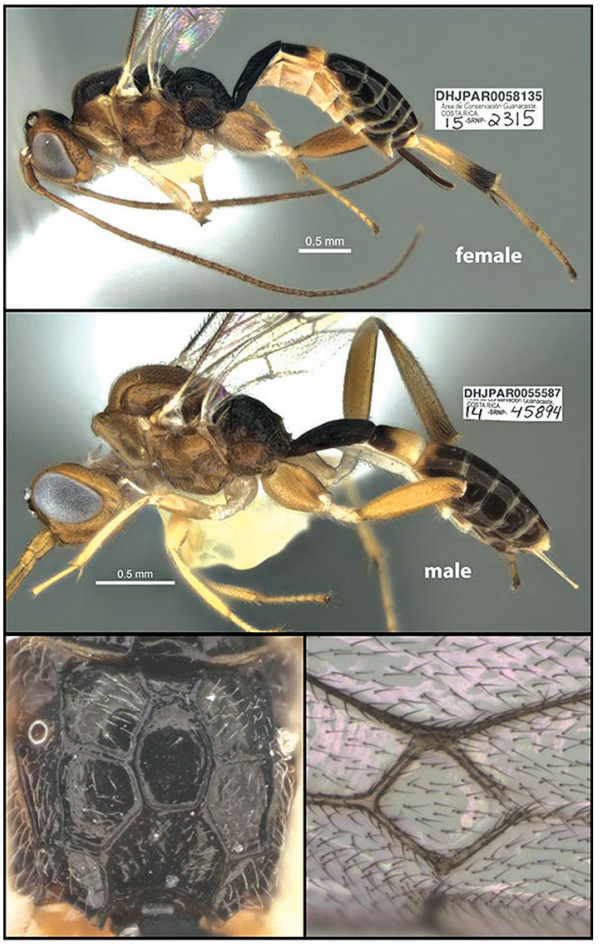

Fig. 14. *M. siete*, holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus ocho

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:F78ABB7E-E3AA-48E8-8B71-E9816D0574F7

Diagnostics Fig. 15.

Consensus barcode (17 specimens).

ATTTTATATTTTATTTTTGGTATTTGAGCTGGAATAATTGGGTCAGCAATAAGATTAATTATTCGTATAGAATTA
GGTAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACTGCACATGCCTTTATTATAATTTTTTT
CATAGTTATACCAATTATAATTGGGGGATTTGGAAATTGGTTAGTACCTTTAATAATTGGTGCCCCAGATATAG
CATTCCCACGAATAAATAATATAAGATTTTGATTATTACCCCCATCACTTATATTATTATTATTAAGAAGAATTATTAA
TAAAGGAGTAGGAACAGGATGAACTGTTTACCCRCCCTTATCATTAAATGTAAGACACGAAGGTATATCTGTT
GATTTATCAATTTTTTCATTACATTTAGCAGGAATATCTTCAATTATAGGCGCAGTAAATTTTATTACCACAATTA
TAAATATACATTTATTTGGAATATCATTAGATCAAATATCATTATTTACTTGGTCAATTTTAATTACTACAATTTTATT
GTTATTAGCAGTTCCAGTTTTAGCGGGAGCAATTACAATATTATTAACTGACCGGAATTTAAATACATCATTTTTT
GATCCTTCAGGAGGTGGGGATCCAATTCTTTATCAGCATTTA

BOLD data: BIN: BOLD:AAC0368.

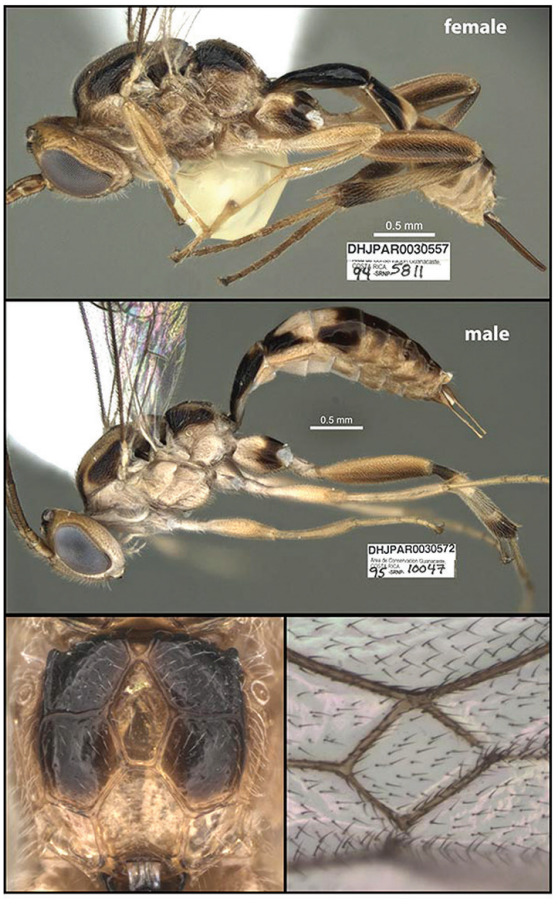

Fig. 15. *M. ocho*, holotype female and male paratype. Unlabeled images are of the holotype.

Nearest neighbor: *M. unounocero*, BOLD:ACE9622, 3.04 % (p-dist).

Holotype ♀: DHJPAR0030557. Área de Conservación Guanacaste, Guanacaste, Sector Santa Rosa, Vado Cuajiniquil, 10.94041, -85.68043, 275 m, eclosion date 08/06/1994, caterpillar collection date 07/19/1994 (CNC). GenBank accession code OM237741.

Holotype host data: Hyperparasitoid of *Hypomicrogaster* OVRGDHJ05 (Braconidae: Microgastrinae), which is a primary parasitoid of *Nycterotis* xylinoidesDHJ02 (Notodontidae) feeding on *Inga vera* (Fabaceae). Multiple *Mesochorus* specimens eclosed.

Other host data: *Glyptapanteles* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

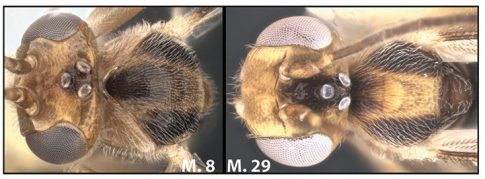

Fig. 16. Illustrating some of the morphological differences between *Mesochorus ocho* and *M. dosnueve* which have COI barcodes that code for identical amino acids.

Mesochorus nueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:64DB672B-148F-4CFF-83F2-042021FF669F

Diagnostics: Fig. 17.
Consensus barcode (24 specimens).
ATTTTATATTTTATTTTTGGAATATGAGCAGGTATAATTGGATCTTCAATAAGAATAATTATTCGAATAGAATTAGGA
AATTCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCACATGCTTTTATTATAATTTTTTTTA
TAGTAATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTACCTTTAATAATTGGTGCTCCAGATATAGCTTTTC
CACGAATAAATAATATAAGATTTTGATTACTTCCTCCTTCAATTATATTATTATTATTAAGAAGAATTTGTCAAAAA
GGTGTAGGAACTGGTTGAACAGTTTATCCTCCATTATCATTAAATATTAGTCATGAAGGACTTTCGGTTGATTTAT
CAATTTTTTCTTTACATTTAGCTGGAATATCATCAATTATAGGTGCAATTAATTTTATTACTACAATTTTAAATATAC
GAATTATAAAAACTCATTTAGATCAAATAACATTATTTGTTTGGTCAATTTTAATTACAACAATTTTATTATTATTAG
CAGTTCCAGTTTTAGCTGGAGCAATTACTATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATCCATCAG
GAGGAGGTGATCCAATTTTATATCAACATTTA

BOLD data: BIN: BOLD:AAC2766.
Holotype ♀: DHJPAR0030553. Área de Conservación Guanacaste, Guanacaste, Sector Pocosol, Puente Sontoli, 10.95119, -85.59750, 245 m, eclosion date 8/26/1994, caterpillar collection date 07/27/1994 (CNC). GenBank accession code OM237730.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi07 (Braconidae: Microgastrinae), which is a primary parasitoid of *Ianassa* rusticaDHJ05 (Notodontidae) feeding on *Inga vera* (Fabaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Diolcogaster* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

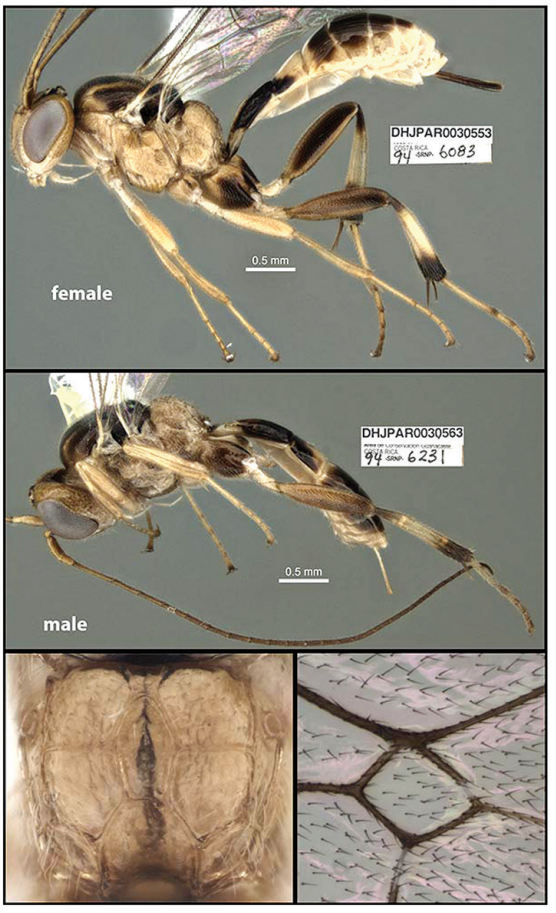

Fig. 17. *M. nueve*, holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0030563) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the female DHJPAR0020406, which was barcoded. They both have the same rearing/caterpillar record, 07-SRNP-4233, which can be recovered from the Janzen/Hallwachs website.

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Mesochorus unocero
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:EE4568B9-C287-4D65-A1F5-BD1CECAE60FA

Diagnostics: Fig. 18.
Holotype barcode.
TATTTTATATTTTATTTTTGGTATTTGGGCTGGAATAATTGGATCATCAATAAGATTAATTATCCGAATAGAATTAGGA
AATCCTGGATATTTAATTAATAATGATCAAATTTATAATTCATTTGTGACAGCACATGCATTTATTATAATTTTTTTTA
TAGTGATACCAATTATAATTGGAGGATTTGGAAACTGACTAATACCTTTAATAATTGGGGCTCCTGATATA
GCTTTCCCTCGAATAAATAATATAAGATTTTGATTATTGCCCCCTTCTTTATTATTATTACTTCTAAGAAGTATTATTAA
TAAAGGTACTGGGACAGGGTGAACAGTTTATCCCCCATTATCATTAAATATTAGACACGAGGGTATATCAGTA
GATTTATCAATTTTTTCATTACATTTAGCGGGGATATCTTCAATCATAGGGGCCGTAAATTTCATTACTACTATTATTAA
TATAAAATTAAATGGGATATCTATAGATCAATTATCATTATTTACTTGGTCAATTAAAATTACAACAATTTTATTATTAC
TAGCGGTCCCAGTTTTAGCAGGGGCTATTACTATATTATTAACTGACCGAAATTTAAATACATCTTTTTTTGACCCAT
CAGGAGGGGGAGACCCAATTCTTTACCAACACTTATTT

BOLD data: BIN: BOLD:AAC6093.
Holotype ♀: DHJPAR0034220, Área de Conservación Guanacaste, Guanacaste, Sector Del Oro, Quebrada Salazar, 11.00217, -85.46337, 560 m, eclosion date 10/02/2008, caterpillar collection date 09/23/2008 (CNC). GenBank accession code OM237712.
Holotype host data: Hyperparasitoid of *Meteorus* Janzen23 (Braconidae: Euphorinae), which is a primary parasitoid of *Memphis pithyusa* (Nymphalidae) feeding on *Croton schiedeanus* (Euphorbiaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

Fig. 18. *M. cuatrouno*, holotype female.

Mesochorus unouno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:88216698-C911-4C9F-9AD7-093CA8CD526C

Diagnostics: Fig. 19.
Consensus barcode (7 specimens).
ATTTTATACTTTATTTTTGGAATATGATCAGGAATAATTGGYTCTTCAATAAGAATAATTATTCGAATAGA
ATTAGGTAATCCAGGATTTTTAATTAATAAYGATCAAATTTATAACTCATTTGTTACTTCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGRTTCGGAAATTGAATAGTTCCTTTAATAATTGGAGCCC
CAGATATAGCATTCCCACGAATAAATAATATAAGATTTTGACTTTTACCTCCTTCAATTATATTACTTTTACTAAGA
AGAATTTGTCAAAAAGGAGTAGGRACAGGGTGAACTGTTTACCCTCCTTTATCTCTTAATGTTAGTCAYGAAG
GACTATCAGTAGATTTATCAATTTTTTCATTACATTTAGCAGGTATATCTTCAATTATAGGAGCAGTAAATTTTATTA
CAACTATTATTAAYATACGTATTCATAAAACATCATTTGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAA
CAATTTTATTATTATTGGCTGTTCCTGTRTTAGCTGGAGCAATTACTATATTACTATCTGATCGTAATTTAAATACAT
CATTTTTTGATCCCTCRGGAGGYGGTGAYCCAATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AAC6096.
Holotype ♀: DHJPAR0021752, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Pasmompa, 11.01926, -85.40997, 440 m, eclosion date 9/15/2005, caterpillar collection date 08/19/2005 (CNC). GenBank accession code JF793172.
Holotype host data: Hyperparasitoid of *Eiphosoma gollum* (Ichneumonidae: Cremastinae), which is a primary parasitoid of *Desmia* benealisDHJ02 (Crambidae) feeding on *Drymonia serrulata* (Gesneriaceae). A single *Mesochorus* specimen eclosed from a single *Eiphosoma gollum* cocoon.
Other host data: *Eiphosoma* (Ichneumonidae: Cremastinae). One caterpillar produced three *Eiphosoma* cocoons and only one of these produced a *Mesochorus* specimen. All other host caterpillars produced a single *Eiphosoma* cocoon and a single *Mesochorus* hyperparasitoid.

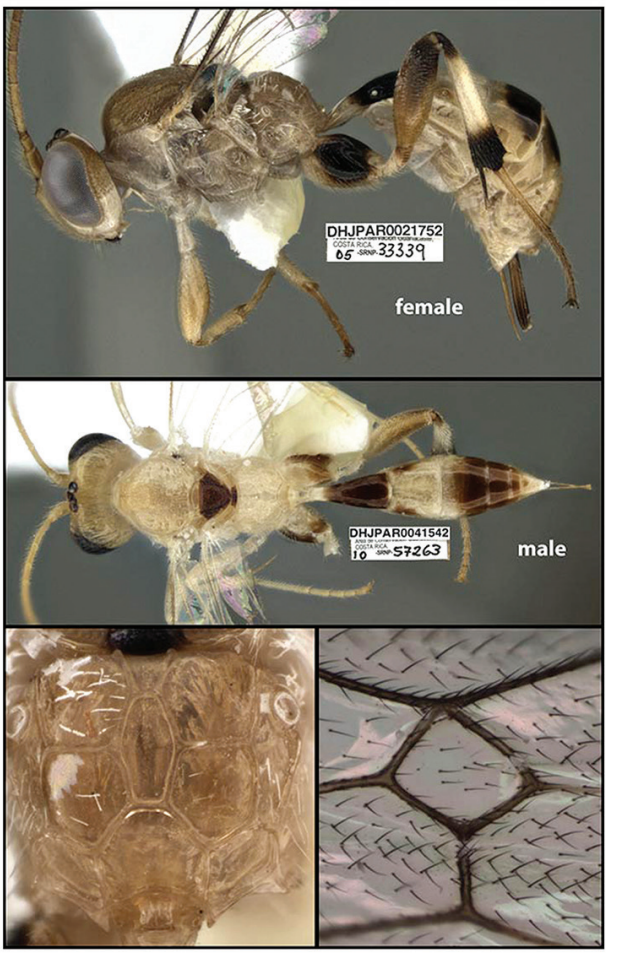

Fig. 19. *M. unouno*, holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus unodos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:59295DE6-A1E9-42D1-A639-D597FE2222F0

Diagnostics: Fig. 20.
Consensus barcode (7 specimens).
ATTTTATATTTTATTTTTGGAATTTGAGCTGGAATAATTGGATCATCTATAAGATTAATTATTCGAATAGAGTTA
GGAACCCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACAGCCCATGCATTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGRTTTGGAAATTGATTAATTCCTTTAATAATTGGAGCGCCT
GATATAGCATTCCCTCGAATAAATAATATAAGATTTTGATTGTTACCACCTTCAATTATATTATTATTATTAAGAA
GAATTATTAATAAAGGAGTAGGAACAGGATGAACAGTTTATCCTCCTTTATCATTAAATATAAGACATGAAGGTA
TRTCAGTTGATCTTTCAATTTTTGCCTTACACTTAGCAGGAATATCTTCAATTATAGGGGCAGTAAATTTTATTA
CAACTATTTTAAATATACATTTAATTGGGATAACAATAGATCAACTATCATTATTTACTTGATCTATTAAAATTA
CAACAATTTTATTATTATTAGCAGTCCCAGTTTTAGCTGGTGCTATTACAATATTATTAACTGATCGAAATTTAAA
TACTTCTTTTTTTGACCCATCAGGGGGGGGTGATCCAATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AAC6097.
Nearest neighbor: *M.cinconueve,* BOLD:AAT8854, 6.57 % (p-dist).
Holotype ♀: DHJPAR0040049, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Estación Llanura, 10.93332, -85.25331, 135 m, eclosion date 09/12/2009, caterpillar collection date, 08/29/2009 (CNC). GenBank accession code JN281466.
Holotype host data: Hyperparasitoid of *Parapanteles* Whitfield102DHJ01 (Braconidae: Microgastrinae), which is a primary parasitoid of *Napaea eucharila* (Riodinidae) feeding on *Werauhia gladioliflora* (Bromeliaceae). The single caterpillar produced three *Parapanteles* cocoons and only one of these produced a *Mesochorus* specimen.
Other host data: *Parapanteles* (Braconidae: Microgastrinae). All other host caterpillars produced multiple *Parapanteles* cocoons and multiple *Mesochorus* hyperparasitoids.

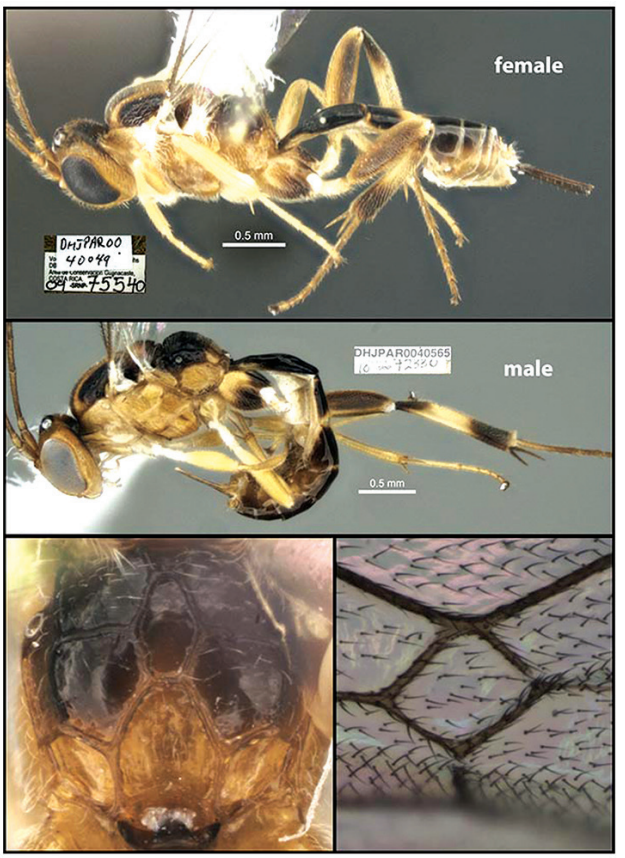

Fig. 20. *M. unodos*, holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus unotres
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:3903B570-C448-4860-A678-3AF8FE060278

Diagnostics: Fig. 21.
Consensus barcode (12 specimens).
ATTCTTTATTTTATTTTTGGTTTATGATCAGGAATAATTGGTGCTTCAATAAGTATAATTATTCGAATAGAATTAGG
GAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCTCCCGATATAGCCTTCC
CACGAATAAATAATATAAGATTTTGATTATTACCCCCATCAATTATACTATTATTAATGAGAAGAATTTGCCAAAAA
GGTGTTGGAACTGGTTGAACAGTATACCCTCCTTTATCATTAAATGTTAGACATGAAGGTTTATCAGTTGATTTATC
TATTTTTTCATTACATTTAGCTGGAATATCTTCAATTATAGGAGCAATTAATTTTATTTCAACAATTTTAAATATAC
GAATTATAAAATCATCATTTGATCAAATATCYTTATTTGTTTGATCAATTTTAATCACAACAATTTTATTATTACTAG
CAGTTCCAGTTTTAGCTGGTGCAATTACTATATTATTATCAGATCGAAATTTAAATACTTCATTTTTTGATCCTTCCG
GAGGTGGAGATCCAATTTTATACCAGCATTTA

BOLD data: BIN: BOLD:AAC6377.
Nearest neighbor: *M. ochocinco*, BOLD:AAX4065, 6.25 % (p-dist).
Holotype ♀: DHJPAR0012196, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Estación Caribe, 10.90187, -85.27495, 415 m, eclosion date 07/20/2006, caterpillar collection date 07/06/2006 (CNC). GenBank accession code JF793206.
Holotype host data: Hyperparasitoid of *Glyptapanteles ianyarrowi* (Braconidae: Microgastrinae), which is a primary parasitoid of *Napata flaviceps* (Erebidae) feeding on *Cespedesia spathulata* (Ochnaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Glyptapanteles, Hypomicrogaster* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

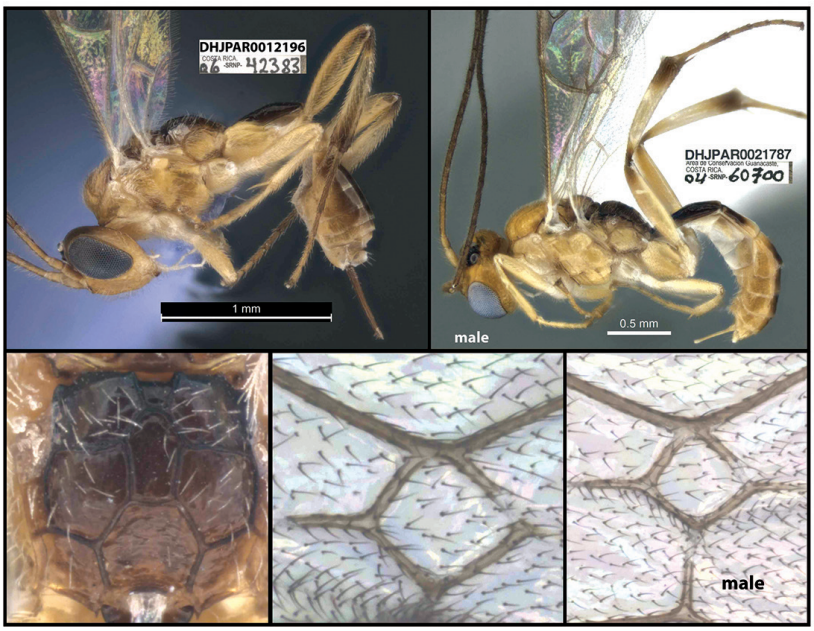

Fig. 21. *M. unotres*, holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus unocuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:684CB2B8-4F72-4CDB-84FA-24060EE42202

Diagnostics: Fig. 22.
Consensus barcode (12 specimens).
ATTTTATATTTCATTTTTGGTATATGAGCAGGAATAATTGGATCCGCAATAAGCTTAATTATYCGAATAGAATTAGGA
AATCCAGGATTCTTAATTAATAATGATCAAATTTATAATTCATTTGTTACAGCCCACGCATTTGTAATAATTTTTTTTA
TAGTAATACCAGTAATAATTGGAGGATTCGGAAATTGATTARTTCCATTAATAATCGGAGCTCCTGATATAG
CATTCCCCCGAATAAATAATATAAGATTTTGATTACTACCCCCATCATTAATATTACTATTATTAAGAAGAATCATTAA
TAAAGGAGTAGGAACAGGATGAACTGTTTATCCACCATTATCTTTAAATTCAAGACATGAAGGTATATCAGTA
GATTTATCAATTTTCTCTTTACATTTARCTGGTWTATCTTCAATTATAGGGGCCATTAATTTTATTACTACAATTTTTAA
TATRCATTTATTTGGAATATCATTAGATCAATTATCATTATTTACGTGATCAATTATTATTACTACAATTTTATTATTATTA
GCAGTTCCAGTTTTAGCTGGRGCAATTACAATATTATTAACCGATCGAAATTTAAATACTTCTTTTTTTGATCCTTCA
GGAGGRGGAGATCCAATTCTTTACCAACATTTA

BOLD data: BIN: BOLD:AAC8600.
Nearest neighbor: *M. sietecinco,* BOLD:AAX4039, 6.89 % (p-dist).
Holotype ♀: DHJPAR0012191, Área de Conservación Guanacaste, Guanacaste, Sector Del Oro, Margarita, 11.03234, -85.43954, 380 m, eclosion date 08/09/2006, caterpillar collection date 07/15/2006 (CNC). GenBank accession code JF793161.
Holotype host data: Hyperparasitoid of *Microplitis francopupulini* (Braconidae: Microgastrinae), which is a primary parasitoid of *Xylophanes kaechi* (Sphingidae) feeding on *Palicourea guianensis* (Rubiaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Meteorus* (Braconidae: Euphorinae), *Cotesia Microplitis* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

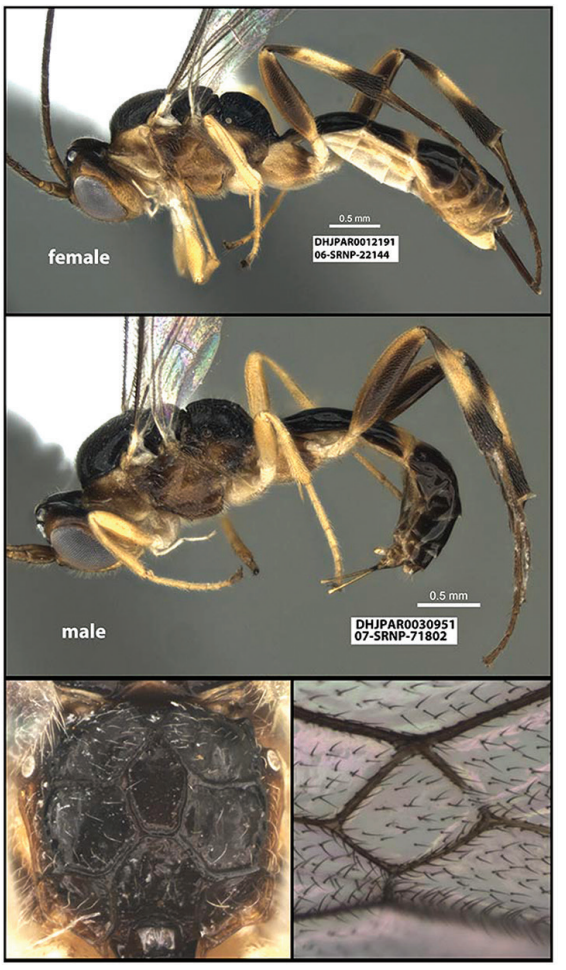

Fig. 22. *M. unocuatro*, holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus unocinco

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:8CDBE9E0-DFE3-4020-8BFA-4F641E9C96A4

Diagnostics: Fig. 23.
Consensus barcode (12 specimens).
GTTCTATACTTTATTTTTGGTATATGAGCAGGAATAATTGGTTCATCTATAAGAATAATTATTCGTATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCACATGCTTTTATTATAATTTTTTTTA
TAGTCATACCAATTATAATTGGAGGATTTGGAAATTGATTAATTCCATTAATAATTGGAGCACCTGATATA
GCCTTCCCTCGTATAAATAATATAAGATTTTGATTATTACCACCATCAATTATATTATTATTAATTAGAAGAATTTGT
CAAAAAGGTGTTGGTACTGGATGAACAATTTATCCACCATTATCTTTAAATATTAGTCATGAAGGATTATCAGTT
GATTTATCAATTTTTTCTTTACATTTAGCTGGAATATCTTCTATTATAGGAGCAATTAATTTTATTACAACAATTTTAAA
TATACGAATTTTAAAATCATCATTAGACCAAATATCATTATTCGTTTGATCAATATTAATTACAACAATTTTATTACTAC
TAGCAGTTCCAGTTTTAGCTGGAGCTATTACTATATTATTATCTGATCGAAATTTAAATACTTCTTTTTTTGATCCATCT
GGAGGAGGAGATCCAATTTTATATCAACATTTA

BOLD data: BIN: BOLD:AAC8776.
Nearest neighbor: *M. doscero*, BOLD:AAD3078, 4.81 % (p-dist).
Holotype ♀: DHJPAR0020402, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Rancho Harold, 10.90475, -85.46803820, eclosion date 2/03/1997, caterpillar collection date 12/28/1996 (CNC). GenBank accession code JF793198.
Holotype host data: Hyperparasitoid of *Apanteles anabellecordobae* (Braconidae: Microgastrinae), which is a primary parasitoid of *Achlyodes pallida* (Hesperiidae) feeding on *Zanthoxylum caribaeum* (Rutaceae). Multiple specimens of *Mesochorus* eclosed.
Other host data: *Apanteles* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed. Pteromalid specimens, presumably hyperparasitoids, sometimes eclosed along with *Mesochorus* specimens.

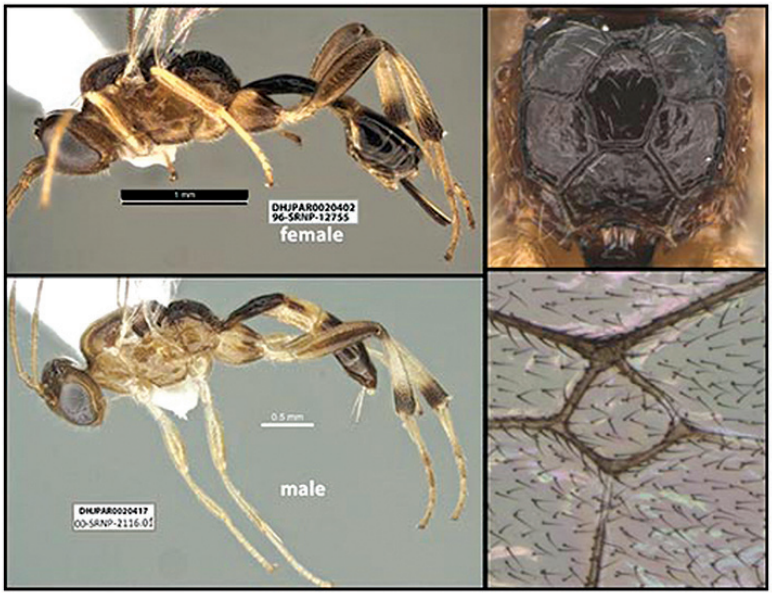

Fig. 23. *M. unocinco*, holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus unoseis

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:30AB9DAD-0F32-4F92-9DA6-FA9311ED20D6

Diagnostics: Fig. 24.
Consensus barcode (13 specimens).
ATTTTATATTTTATTTTTGGGATATGATCAGGRATAATTGGTTCATCTATAAGAATAATTATTCGTATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCTCCAGATATA
GCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCACCATCAATTATATTATTATTGTTAAGTGGAATTT
GTCAAAAAGGTGTAGGCACTGGATGAACARTTTATCCACCTTTATCTTTAAATATTAGACATGAAGGACTTT
CAGTAGATTTATCAATTTTTTCATTACATTTAGCTGGTATATCTTCAATTATAGGAGCAATTAATTTTATTACA
ACAATTTTTAATATACGAATTTTTAAAACATCTTTAGATCAAATATCTCTATTTGTTTGATCTATTTTAATTACA
ACAATTTTATTATTATTAGCAGTACCAGTTTTAGCTGGTGCTATTACTATATTATTATCTGATCGTAATTTAAA
TACATCTTTTTTTGACCCATCAGGTGGAGGTGACCCAATTTTATATCAACATTTA

BOLD data: BIN: BOLD:AAD0123.
Nearest neighbor: *M. ochocuato*, BOLD:AAX4064, 4.49 % (p-dist).
Holotype ♀: DHJPAR0049478, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Selva, 10.92291, -85.31877, 410 m, eclosion date 02/24/2012, caterpillar collection date 02/07/2012 (CNC). GenBank accession code OM237721.
Holotype host data: Hyperparasitoid of *Apanteles jorgecortesi* (Braconidae: Microgastrinae), which is a primary parasitoid of *Stenoma* Janzen07 (Depressariidae) feeding on *Vismia baccifera* (Hypericaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Apanteles* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

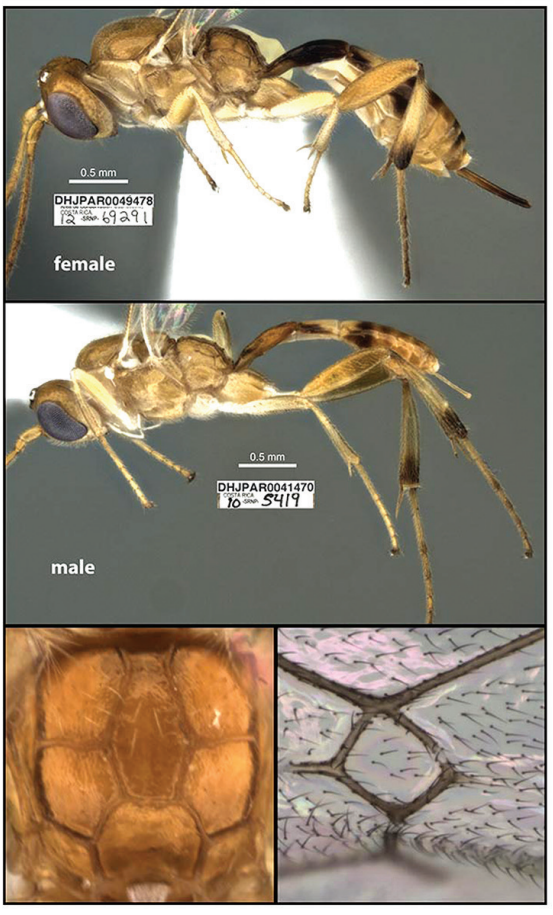

Fig. 24. *M. unoseis*, holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus unosiete

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:679D5978-D9C7-4CF9-BB39-F7A61E164F5A

Diagnostics: Fig. 25.

Consensus barcode (8 specimens).

ATCTTATATTTTATTTTTGGTATTTGAGCTGGAATAATTGGATCTTCAATAAGATTAATTATTCGTATAGA
ATTAGGTAATCCAGGTTATTTAATTAATAATGATCAAATTTATAATTCATTTGTAACAGCTCATGCTTTTATTA
TAATTTTTTTTATAGTAATACCTATTATGATTGGAGGATTTGGGAATTGATTAATTCCTTTAATAATTGGAGCTCCT
GATATAGCATTTCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCATTGATATTATTATTATTAAGAA
GATTARTTAATAAAGGAGTTGGAACAGGATGAACAGTTTATCCCCCATTATCTTTAAATATTAGACATGAAGGA
ATATCAGTTGATTTATCTATTTTTTCATTACATTTAGCAGGGATATCTTCAATTATAGGTGCAGTAAATTTTATTAC
TACAATTTTAAATATACACTTACAAGGAATAAGTTTAGATCAGTTATCATTATTTACATGATCTATTAAAATTAC
TACAATTTTATTATTATTAGCAGTCCCAGTATTAGCAGGAGCAATTACTATATTATTAACAGATCGAAATTTAAA
TACATCTTTTTTTGATCCATCAGGAGGAGGAGATCCTATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AAD1724.
Nearest neighbor: *M. unounouno*, BOLD:ACF3106, 1.28 % (p-dist). The dimensions of the three median areolae are different (Fig. 23).
Holotype ♀: DHJPAR0020415. Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Vochysia, 10.86666, -85.24528, 320 m, eclosion date 02/06/2007, caterpillar collection date, 01/26/2007 (CNC). GenBank accession code OM237691.
Holotype host data: Hyperparasitoid of *Parapanteles* paradoxusDHJ02 (Braconidae: Microgastrinae), which is a primary parasitoid of *Tithraustes seminigrata* (Notodontidae) feeding on *Asterogyne martiana* (Arecaceae). One *Mesochorus* eclosed from one of four *Parapanteles* cocoons.
Other host data: *Parapanteles* (Braconidae: Microgastrinae). Multiple specimens of *Mesochorus* eclosed.

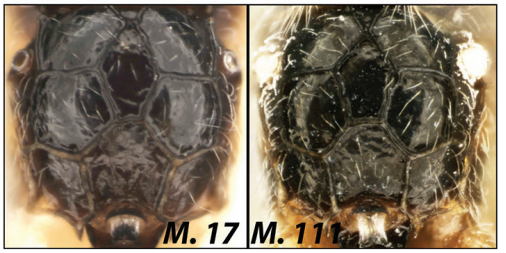

Fig. 26. Comparisons of *M. unosiete* with its nearest neighbor, *M. unounouno*. Their barcodes code for identical amino acids.

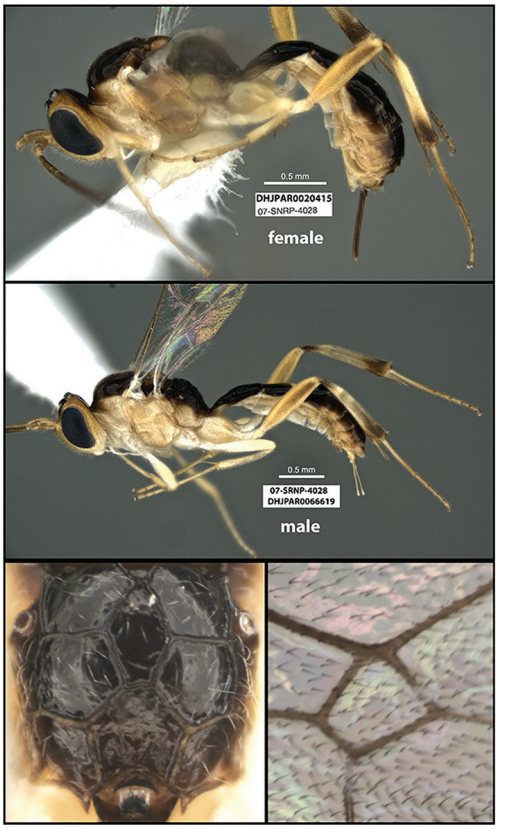

Fig. 25. *M. unosiete*, holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066619) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, DHJPAR0020415, which was barcoded. They both have the same rearing/caterpillar record, 07-SRNP-40281, that can be recovered from the Janzen/Hallwachs website.

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Mesochorus unoocho

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:80EBD9A7-BF3A-4416-B61A-29EF2115D879

Diagnostics: Fig. 27.
Holotype barcode.
AATTCTATATTTTATTTTTGGTTTATGAGCAGGAATAGTAGGTGCTTCAATAAGAATAATTATTCGAATAGA
ATTAGGAAACCCAGGATTTCTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCACATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTTCCATTAATAATTGGAGCAC
CAGATATAGCTTTCCCTCGTATAAATAATATAAGATTTTGATTATTACCCCCATCAATTATATTATTATTATTAAGA
GGAATTTGTCAAAAAGGTGTTGGAACTGGTTGAACAGTATATCCACCTTTATCATTAAATATTAGTCATGAAG
GATTATCAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGTATATCTTCAATTATAGGAGCAATTAATTTTATCA
CAACAATTTTAAATATACGTATTTTAAAATCATCTTTAGATCAAATATCATTATTTGTTTGATCTATTTTAATTACTAC
TATTTTATTATTATTAGCAGTTCCAGTTTTAGCAGGTGCAATTACTATATTATTATCTGATCGAAACTTAAATACTT
CATTTTTTGATCCATCAGGTGGAGGGGACCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ABU8004.
Holotype ♂: DHJPAR0045509, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Orosilito, 10.98332, -85.43623, 900 m, eclosion date 7/19/2011, caterpillar collection date 06/27/2011 (CNC). GenBank accession code OM237743.
Holotype host data: Hyperparasitoid of an unidentified microgastrine (Braconidae), which is a primary parasitoid of *Pyrinia* Janzen02 (Geometridae) feeding on *Miconia albertobrenesii* (Melastomataceae). A single *Mesochorus* eclosed.
Other host data: None.

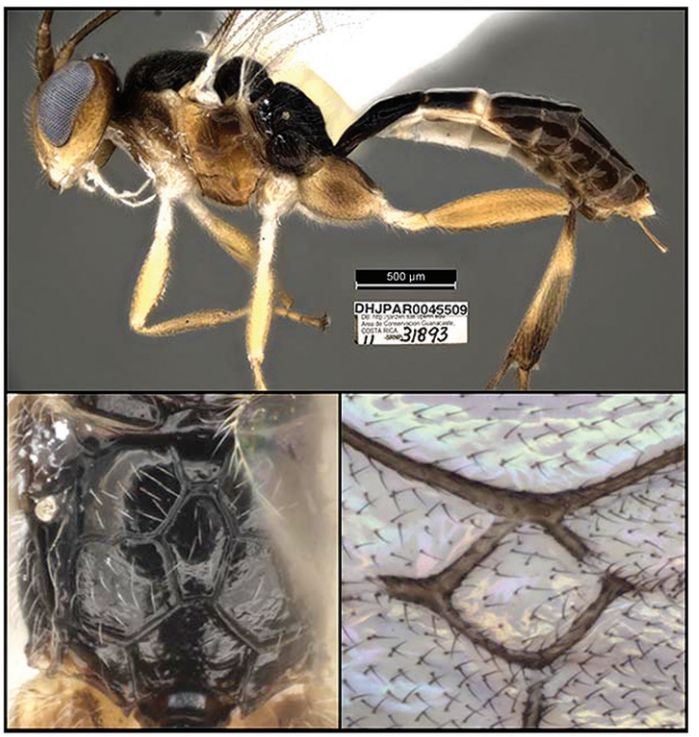

Fig. 27. *M. unoocho*, holotype male.

Mesochorus unonueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:66249060-2480-4ADF-8B0F-0DB7E2B0D70D

Diagnostics: Fig. 28.
Holotype barcode.
AATTTTATATTTTATTTTTGGTATATGATCAGGAATGATTGGATCAGCAATAAGTTTAATTATTCGAATAGA
ATTAGGTAATCCTGGATTTCTAATTAATAATGACCAAATTTATAATTCTTTTGTTACAGCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCTATTATAATTGGAGGGTTTGGAAATTGAATAGTTCCTTTAATAATTGGTGCACCT
GACATAGCATTTCCTCGAATAAATAATATAAGATTTTGACTTTTACCTCCTTCAATTATATTATTATTATTAAGAA
GAATTTGTCAAAAAGGTGTTGGAACTGGATGAACTATTTACCCCCCTTTATCATTAAATAGAAGACATGAAG
GATTTTCAGTAGATTTATCTATTTTTTCATTACACTTAGCAGGTATATCTTCAATTATAGGTGCAGTTAATTTTATTA
CAACAATTTTAAATATACGAATTAATGGTTCATCATTAGATCAAATATCTTTATTTGTATGATCAATTAAAATTACAA
CAGTATTATTATTATTAGCTGTACCTGTGTTAGCAGGTGCAATTACTATATTATTAACTGATCGTAATTTAAACACA
ACTTTTTTTGACCCTTCAGGAGGAGGTGACCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ACJ3972.
Nearest neighbor: *M. cincotres*, BOLD:AAM1692, 8.33 % (p-dist).
Holotype ♀: DHJPAR0051851, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Jacobo, 10.94076, -85.31770, 461 m, eclosion date 03/01/2013, caterpillar collection date 02/11/2013 (CNC). GenBank accession code OM237714.
Holotype host data: Hyperparasitoid of *Glyptapanteles* Whitfield152 (Braconidae: Microgastrinae), which is a primary parasitoid of *Psaliodes* Janzen05 (Geometridae) feeding on *Salpichlaena volubilis* (Blechnaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

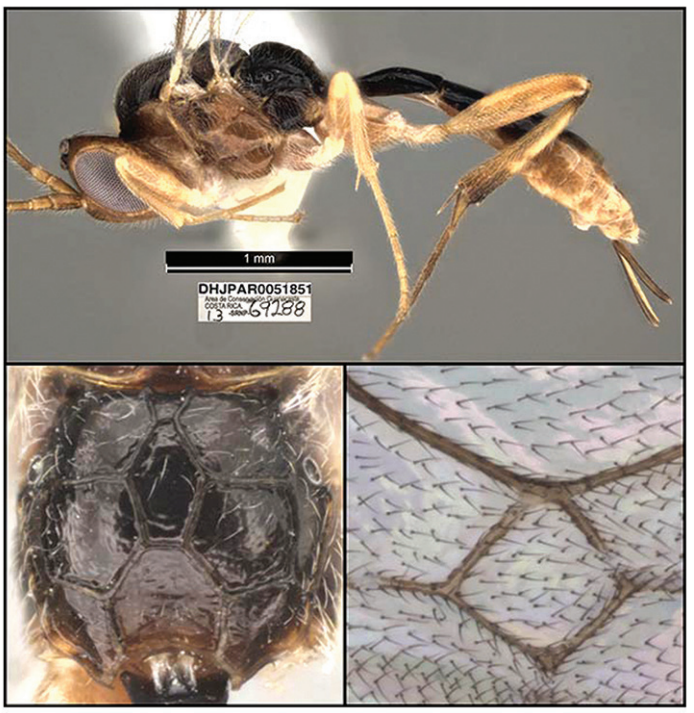

Fig. 28. *M. unonueve*, holotype female.

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Mesochorus doscero

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:9DA02EA7-EABD-4B10-BB7C-D4AF64C79D9B

Diagnostics: Fig. 29.
Consensus barcode (12 specimens).
ATTTTATACTTTATTTTTGGTATATGAGCTGGTATAATTGGTTCATCAATAAGAATAATTATTCGTATAGAATTAGGA
AATCCTGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTGACATCACATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGATTAATTCCATTAATAATTGGAGCTCCTGATATA
GCTTTCCCTCGTATAAATAATATAAGATTTTGATTATTACCCCCATCAATTATATTATTATTAATAAGAGGAATTT
GCCAAAAAGGTGTTGGTACCGGATGAACAATTTATCCCCCATTATCATTAAATATTGCCCATGAAGGAATAT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCTGGAATATCATCTATTATAGGAGCAATTAATTTTATTACA
ACAATTTTAAATATACGAATTTTAAAATCATCATTAGACCAAATATCATTATTTGTATGATCAATATTAATTACA
ACAATTTTATTATTATTAGCAGTTCCAGTTTTAGCCGGGGCTATTACTATATTATTATCTGATCGTAATTTAAA
TACTTCTTTTTTTGATCCATCAGGAGGAGGTGACCCAATTTTATACCAACATTTA

BOLD data: BIN: BOLD:AAD3078.
Nearest neighbor: *M. unocinco*, BOLD:AAC8776, 4.81 % (p-dist).
Holotype ♀: DHJPAR0021720, Área de Conservación Guanacaste, Guanacaste, Sector Del Oro, Quebrada Raiz, 11.02865, -85.48669, 280 m, eclosion date 08/05/2004, caterpillar collection date 07/15/2004 (CNC). GenBank accession code OM237703.
Holotype host data: Hyperparasitoid of *Aparteles ruthfrancoae* (Braconidae: Microgastrinae), which is a primary parasitoid of *Staphylus vulgata* (Hesperiidae) feeding on *Achyranthes aspera* (Amaranthaceae). More than 100 *Mesochorus* specimens eclosed.
Other host data: *Aparteles* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

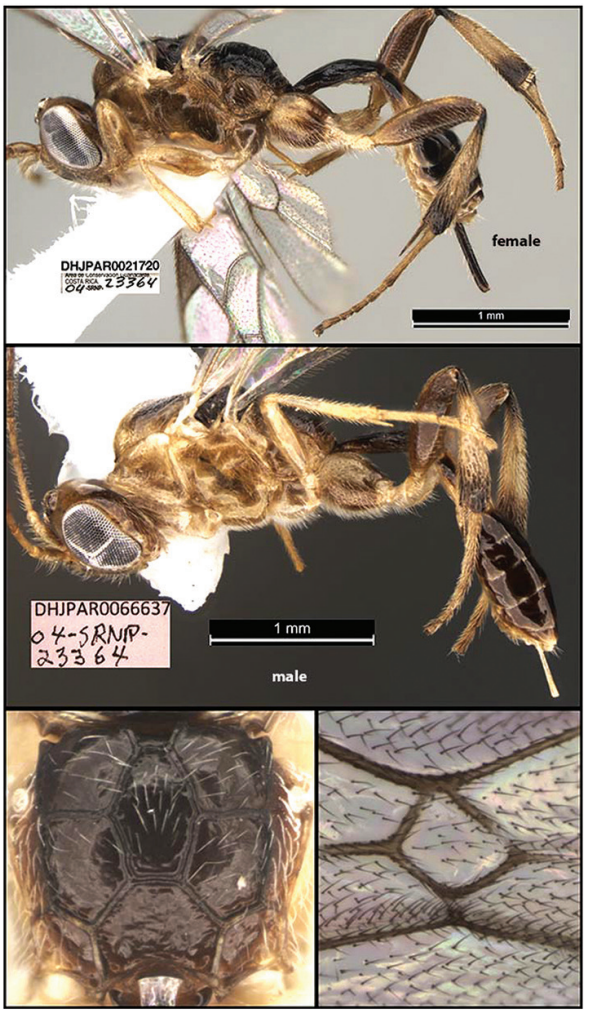

Fig. 29. *M. doscero*, holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066637) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, DHJPAR0021720, which was barcoded. They both have the same rearing/caterpillar record, 04-SRNP-23364, that can be recovered from the Janzen/Hallwachs website.

Mesochorus dosuno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:8BEE9D86-5E6C-4D05-B9D4-10C9DF9C3F96

Diagnostics: Fig. 30.
Consensus barcode (12 specimens).
ATTTTATATTTTATTTTTGGTTTATGAGCAGGAATAATTGGAGCTTCAATAAGAATAATTATTCGAATAGAGTTA
GGAAACCCAGGATTTCTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCCTTTATTA
TAATTTTTTTTATAGTAATACCTATTATAATTGGAGGATTTGGAAATTGAATAATCCCGTTAATAATTGGAGCCCCAGA
TATAGCTTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCATCAATTATATTATTATTATTAAGAGGAATTT
GTCAAAAAGGAGTAGGAACTGGTTGAACAGTTTATCCACCTTTATCCTTAAATGTTAGTCATGAAGGTCTTTCTGTA
GATTTATCAATTTTTTCCCTTCATTTAGCTGGTATATCTTCAATTATAGGAGCTATTAATTTTATTACAACAATTTTAA
ATATACGAATTTCAAAAACATCATTAGACCAAATATCATTATTTGTTTGATCTATTTTAATTACAACAATTTTATTAC
TATTAGCTGTCCCAGTTTTAGCTGGTGCAATTACAATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATC
CGTCTGGAGGAGGAGACCCAATTTTATACCAACATTTA

BOLD data: BIN: BOLD:AAE3978.
Nearest neighbor: *M. seisnueve*, BOLD:AAX4031, 7.33 % (p-dist).
Holotype ♀: DHJPAR0052931, Área de Conservación Guanacaste, Guanacaste, Sector Mundo Nuevo, Mamones, 10.77074, -85.42874, 365 m, eclosion date 06/19/2013, caterpillar collection date 06/12/2013 (CNC). GenBank accession code OM237694.
Holotype host data: Hyperparasitoid of *Cotesia* Whitfield32 (Braconidae: Microgastrinae), which is a primary parasitoid of *Eumorpha satellitia* (Sphingidae) feeding on *Cissus pseudosicyoides* (Vitaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Cotesia, Microplitis* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

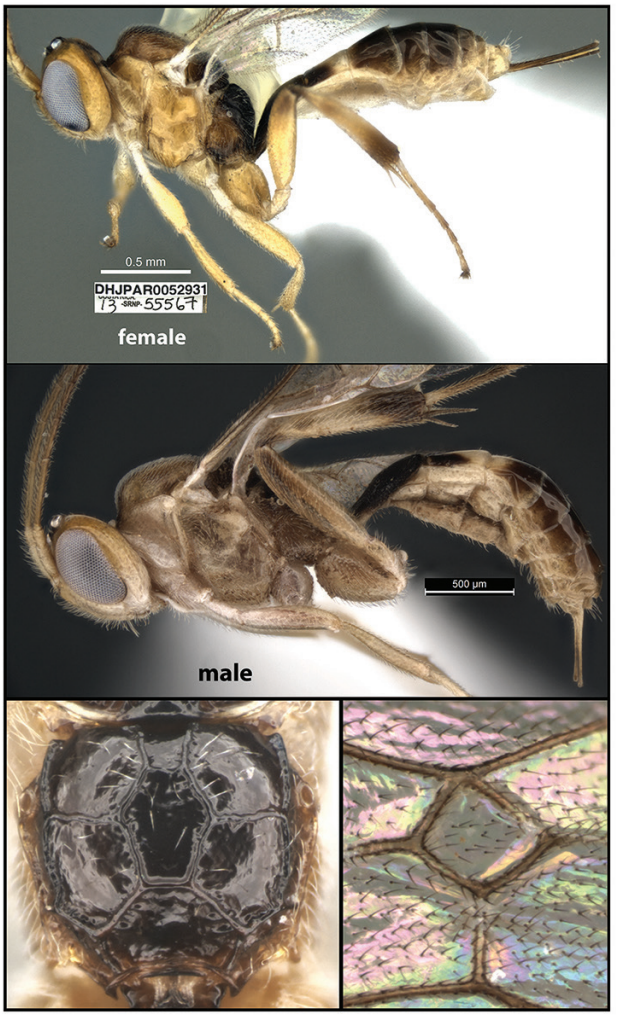

Fig. 30. *M. dosuno*, holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus dosdos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:ED065147-E385-4B40-84B5-6EC7FDC279C5

Diagnostics: Fig. 31.
Consensus barcode (10 specimens).
ATTTTATATTTYMWTTTTGGTATATGAGCAGGAATAATTGGTTCATCRATAAGAATAATTATTCGTATAGA
ATTAGGAAATCCAGGATTTTTAATCAATAATGATCAAATTTATAATTCTTTTGTTACATCACATGCTTTTATTA
TAATTTTTTTTATAGTAATRCCAATTATAATTGGAGGATTTGGAAATTGATTAATTCCATTAATAATTGGAGCWCCT
GATATAGCTTTYCCTCGAATAAATAACATAAGATTTTGATTATTACCCCCATCAATTATATTATTAATAATWAGA
GGAATTTGTCAAAAAGGTGTAGGAACTGGATGAACAGTTTACCCACCATTATCATTAAATATTAGTCATGAAG
GATTATCAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGAATATCTTCTATTATAGGAGCAATTAATTTTATTA
CAACAATTTTAAATATACGAATTTTAAAATCATCATTTGATCAAATATCATTATTTGCTTGATCAATATTAATTA
CAACAATTTTATTATTATTAGCAGTTCCAGTTTTAGCAGGAGCTATTACTATATTATTATGTGATCGTAATTTAAA
TACTTCTTTTTTTGATCCATCGGGAGGAGGGGACCCAATTTTATACCAACATTTA

BOLD data: BIN: BOLD:AAE4006.
Nearest neighbor: *M. dostres*, BOLD:AAE9552, 4.21 % (p-dist).
Holotype ♀: DHJPAR0030588, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Estación Gongora, 10.88700, -85.47443, 570 m, eclosion date 07/08/1998, caterpillar collection date 08/29/1998 (CNC). GenBank accession code OM237736.
Holotype host data: Hyperparasitoid of *Alphomelon talidicida* (Braconidae: Microgastrinae), which is a primary parasitoid of *Talides sinois* (Hesperiidae) feeding on *Musa acuminata* (introduced) (Musaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Alphomelon* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

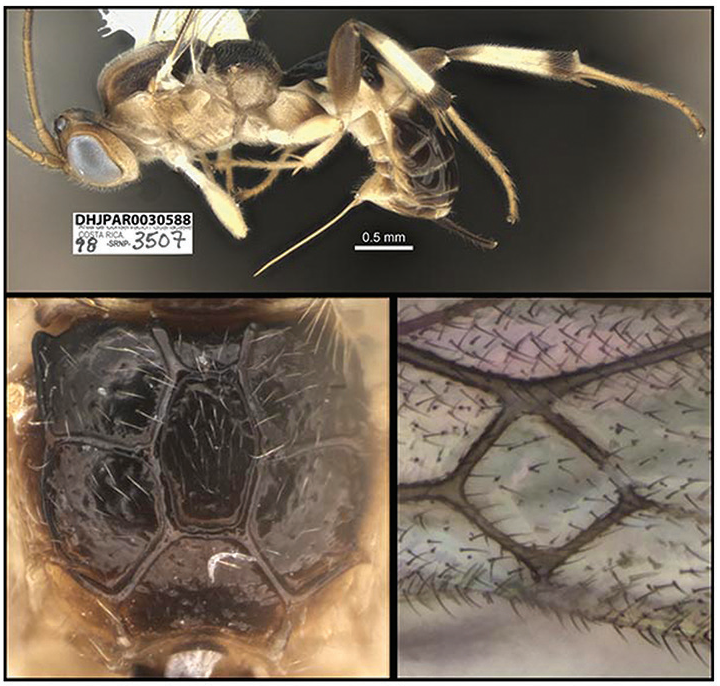

Fig. 31. *M. dosdos*, holotype female.

Mesochorus dostres

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:352F4AA9-99F8-4D94-9722-E5EBA7C504D5

Diagnostics: Fig. 32.

Consensus barcode (16 specimens).

WTTTTATATTTTATTTTTGGTATATGAGCAGGAATAATTGGTTCATCAATAAGAATAATTATTCGTATAGAATTAGGA
AATCCTGGATTTTTAATYAATAATGATCAAATTTATAATTCTTTTGTTACATCYCATGCTTTTATTATAATTTTTTTTA
TAGTAATACCAATTATAATTGGAGGGTTTGGAAATTGATTAATTCCACTAATAATTGGRGCTCCTGATATA
GCTTTYCCTCGAATAAATAATATAAGATTCTGATTATTACCMCCATCAATTATAYTATTAATAGTAAGARGRATTT
GTCAAAAAGGTGTTGGTACTGGATGAACAATTTAYCCMCCATTATCATTAAATGTTAGTCATGAAGGATTAT
CARTTGATTTATCAATTTTTTCTTTACATTTGGCAGGAGCATCTTCTATTATAGGAGCAATTAATTTTATTACA
ACAATTTTAAATATACGAATTTTAAAATCATCATTWGATCAAATATCATTATTTGCTTGATCAATATTAATTAC
TACAATTTTATTATTATTAGCAGTYCCAGTTTTAGCAGGAGCTATTACTATATTATTATGTGATCGAAATTTRAA
TACTTCTTTTTTTGATCCATCAGGAGGRGGAGACCCAATTTTGTATCAACATTTA

BOLD data: BIN: BOLD:AAE9552.

Nearest neighbor: *M. dosdos*, BOLD:AAE4006, 4.21 % (p-dist).

Holotype ♀: DHJPAR0030560, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Estación Gongora, 10.88700, -85.47443, 570 m, eclosion date 11/16/1994, caterpillar collection date 10/22/1994 (CNC). GenBank accession code OM237773.

Holotype host data: Hyperparasitoid of *Alphomelon nanosoma* (Braconidae: Microgastrinae), which is a primary parasitoid of *Carystoides escalantei* (Hesperiidae) feeding on *Chamaedorea costaricana* (Arecaceae). Multiple *Mesochorus* specimens eclosed.

Other host data: *Alphomelon* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

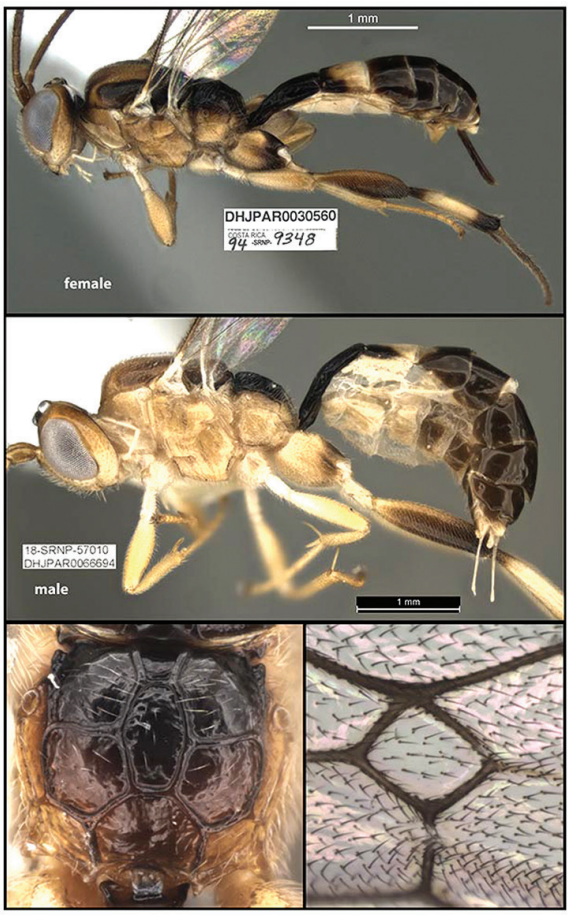

Fig. 32. *M. dostres*, holotype female and paratype male. Unlabeled images are of the holotype. The male (DHJPAR0066694) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as a barcoded paratype, DHJPAR0063976, which was barcoded. They both have the same rearing/caterpillar record, 18-SRNP-57010, that can be recovered from the Janzen/Hallwachs website.

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Mesochorus doscuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:E49600B6-67C4-4F0C-A32A-614C2E9766EA

Diagnostics: Fig. 33.
Consensus barcode (4 specimens).
GTRTTATACTTTATTTTTGGAATTTGAGCTGGAATAATTGGCTCAGCAATAAGTTTAATTATTCGAATAGA
ATTAGGAAACCCAGGATTTTTAATTAATAATGACCAAATTTATAATTCATTTGTAACAACACATGCTTTTATTA
TAATTTTTTTTATAGTTATACCTATTATAATTGGGGGATTCGGAAATTGATTAGTACCTTTAATAATTGGTGCCCCT
GATATAGCATTCCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCGTCTTTAATATTATTATTATTAAGAAGA
ATTATTAATAAAGGAGTAGGGACAGGGTGGACTATTTACCCTCCTTTATCATTAAATTTAAGCCATGAAGGAA
TATCAGTAGATTTATCAATTTTTTCATTACATTTAGCGGGTATATCCTCAATTATAGGTGCTGTAAATTTTATTACTA
CAATTTTAAATATACATTTATTTGGAATATCATTAGATCAACTATCWTTATTTACGTGATCAATTATTATTACTACA
ATTTTATTATTATTAGCAGTTCCAGTTTTAGCAGGAGCAATTACAATATTATTAACTGATCGGAATTTAAATACAT
CATTTTTTGATCCCTCTGGAGGAGGTGATCCTATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AAE9748.

Holotype ♀: DHJPAR0012190, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Puente Palma, 10.91630, -85.37869, 460 m, eclosion date 08/02/2006, caterpillar collection date 07/14/2006 (CNC). GenBank accession code JF793158.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi82 (Braconidae: Microgastrinae), which is a primary parasitoid of *Isanthrene echemon* (Erebidae) feeding on *Mikania guaco* (Asteraceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Diolcogaster* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

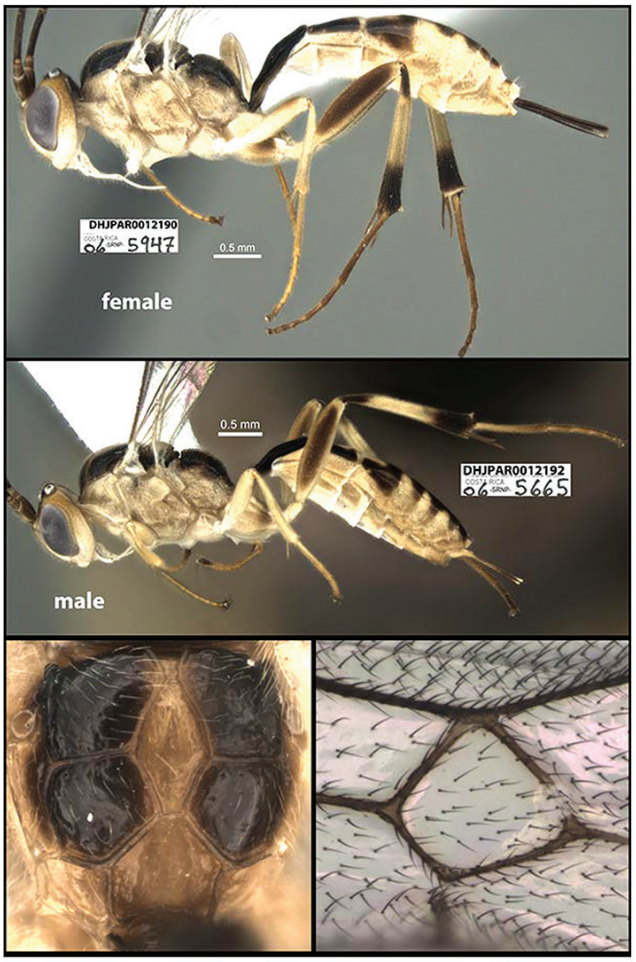

Fig. 33. *M. doscuatro*, holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus doscinco

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:0FDD7131-3B85-45AA-B5CD-2BA7A2EA3A04

Diagnostics: Fig. 34.
Consensus barcode (4 specimens).
GTTTTATATTTTATTTTTGGAATTTGGGCCGGAATAATTGGGTCATCAATAAGCTTAATTATTCGAATAGA
ACTTGGTAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACAGCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGGTTTGGAAATTGATTAATTCCTTTAATAATTGGAGCCCCT
GATATAGCATTCCCTCGAATAAACAATATAAGATTTTGACTTTTACCTCCTTCATTAATATTACTTCTATTAAGAA
GAATTATTAATAAAGGAGTTGGAACAGGTTGAACCGTTTATCCACCTTTATCATTAAATGTCAGACATGAAGGTA
TATCAGTAGATTTATCAATTTTTTCATTACATTTAGCCGGGATATCTTCAATTATAGGAGCAGTTAATTTTATTA
CAACAATTTTAAACATACATTTATTTGGCATATCAATAGATCAATTATCTTTATTTACATGATCAATTAAAATTAC
TACAATTTTATTACTTTTAGCTGTTCCAGTTTTAGCTGGAGCAATTACTATACTATTAACAGATCGAAATTTAAA
TACATCTTTTTTTGACCCATCAGGTGGTGGTGACCCAATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AAE9757.
Nearest neighbor: *M. unoceroocho*, BOLD:ACE7768, 1.4 % (p-dist). Central areola of *M. doscinco* petiolate apically, sessile in *M. unoceroocho* (Fig. 35).

Fig. 34. *M. doscinco*, holotype female.

Holotype ♀: DHJPAR0021750, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Rio Blanco Abajo, 10.90037, -85.37254, 500 m, eclosion date 03/06/2006, caterpillar collection date 02/15/2006 (CNC). GenBank accession code JF793168.
Holotype host data: Hyperparasitoid of *Glyptapanteles* Whitfield54 (Braconidae: Microgastrinae), which is a primary parasitoid of *Semaeopus* Janzen08 (Geometridae) feeding on *Virola sebifera* (Myristicaceae). A single *Mesochorus* specimen eclosed.
Other host data: none.

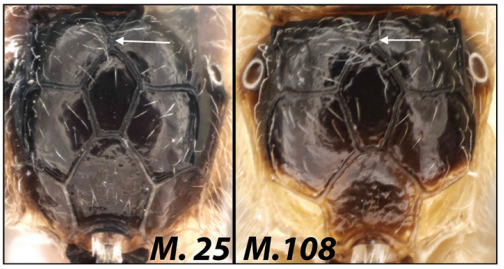

Fig. 35. Comparisons of *M. doscinco* with its nearest neighbor, *M. unoceroocho*.

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Mesochorus dosseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:8EBDB703-B84E-4D3A-870C-46AD689397CF

Diagnostics: Fig. 36.
Consensus barcode (5 specimens).
ATTTTATATTTTATTTTTGGAATATGATCAGGAATAATTGGTTCATCAATAAGAATAATTATTCGAATAGAATTAGGA
AATTCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACATCTCATGCTTTTATTATAATTTTCTTTA
TAGTAATACCAATTATAATTGGAGGATTTGGTAATTGAATAGTTCCTTTGATAATTGGAGCCCCAGATATAGCTTTTC
CACGAATAAATAATATAAGATTTTGATTATTACCTCCATCAATTATATTATTATTAATGAGAAATATTTGTAGTAAA
GGAGTAGGAACTGGTTGAACAGTATACCCTCCTTTATCTTTAAATATTAGTCATGAAGGTATATCAGTTGATTTAT
CAATTTTTTCCTTACATTTAGCTGGCATATCTTCAATTATAGGAGCAATTAATTTTATTACAACTATTATAAATATAC
GAATTTTAAAAACATCATTAGATCAGATATCTTTATTTATTTGATCAATTTTAATTACAACTATTTTATTATTATTAG
CAGTTCCAGTTTTAGCAGGTGCTATTACTATATTACTTTCTGATCGAAATTTAAATACTTCATTTTTTGATCCTTCAG
GAGGTGGAGATCCAATTTTATTCCAACATTTA

BOLD data: BIN: BOLD:AAE9780.
Holotype ♀: DHJPAR0012195, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Finca Hugo, 10.88068, -85.26968, 540 m, eclosion date 07/23/2006, caterpillar collection date 07/07/2006 (CNC). GenBank accession code JF793181.
Holotype host data: Hyperparasitoid of *Dolichogenidea melaniamunozae* (Braconidae: Microgastrinae), which is a primary parasitoid of *Cerconota recurvella* (Depressariidae) feeding on *Vismia baccifera* (Hypericaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Dolichogenidea, Apanteles* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

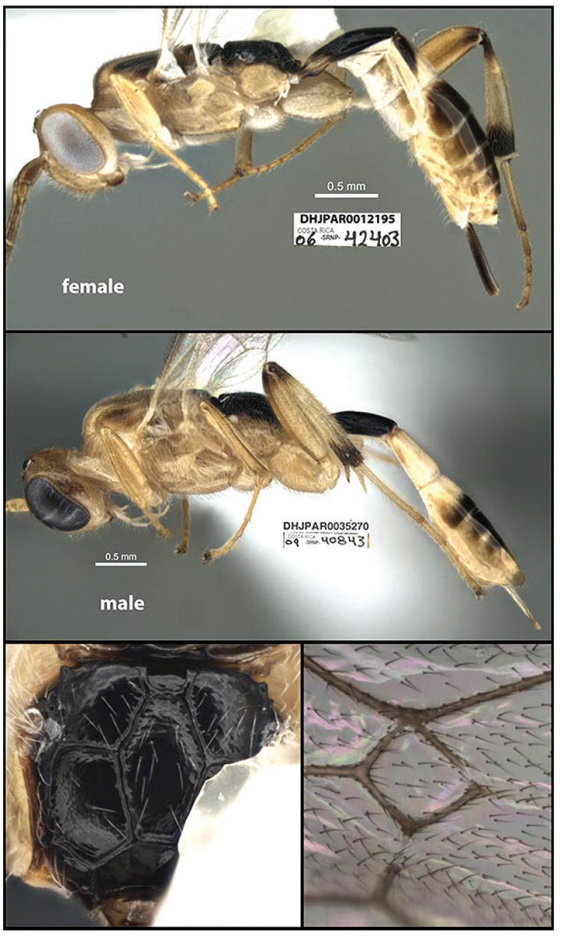

Fig. 36. *M. dosseis*, holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus dossiete
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:D1DA1FCA-CBAE-4789-B0BB-FCCC27400A43

Diagnostics: Fig. 37.
Consensus barcode (3 specimens).
ATTTTATATTTTATTTTTGGAATTTGAGCTGGAATAATTGGGTCAGCAATAAGCTTAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACAGCCCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGGGGATTTGGAAATTGGTTAGTACCCCTAATAATTGGGGCCCCTGATATAG
CATTCCCTCGAATAAATAACATAAGATTTTGATTATTACCTCCTTCACTAATATTATTAATATTAAGAAGAATTATTAA
CAAAGGAGTTGGAACAGGATGAACTGTTTATCCCCCTTTATCATTAAATCTTAGTCATGAAGGAATATCAGTA
GATTTATCAATTTTTTCATTACATTTAGCAGGGATATCATCAATTATAGGTGCAGTAAATTTTATTACTACTATTTTAAA
TATACATTTATTTGGAATATCATTAGATCAACTATCATTATTTACATGATCAATTTTTATTACTACAATTTTATTATTATTA
GCAGTACCAGTTTTAGCTGGAGCAATCACAATATTATTAACTGATCGAAATTTAAATACATCTTTTTTTGATCCGTCA
GGAGGGGGTGACCCCATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AAF0551.
Holotype ♀: DHJPAR0030584, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Quebrada Florcita, 10.93362, -85.47308, 860 m, eclosion date 03/04/1997, caterpillar collection date 02/06/1997 (CNC). GenBank accession code OM628822.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* plagiosDHJ01 (Braconidae: Microgastrinae), which is a primary parasitoid of *Nycterotis* xylinoidesDHJ02 (Notodontidae) feeding on *Inga longispica* (Fabaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Hypomicrogaster* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

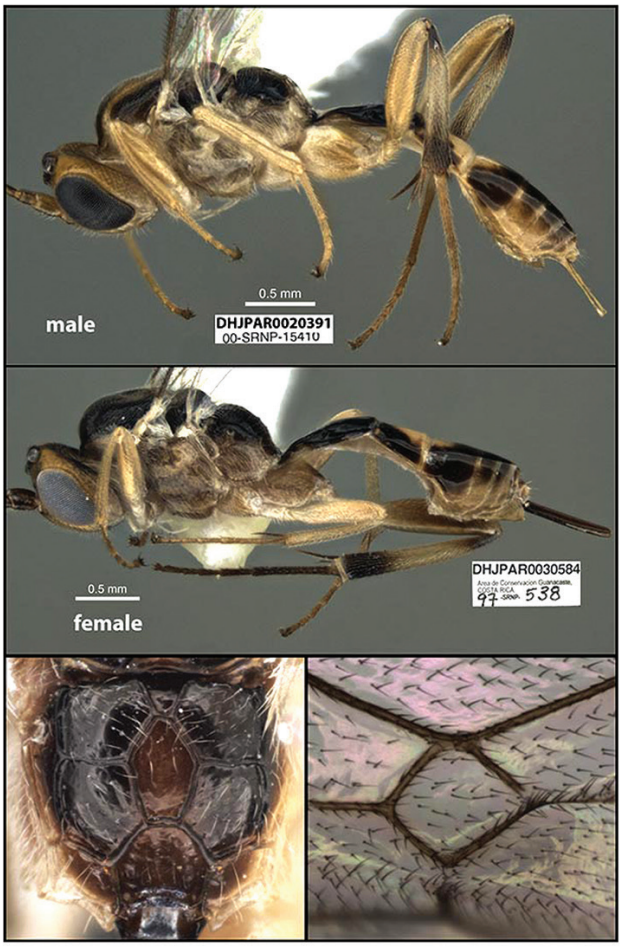

Fig. 37. *M. dossiete*, holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus dosocho
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:83791888-1A7B-432C-829E-D7EF7CAF23D3

Diagnostics: Fig. 38.
Consensus barcode (3 specimens).
ATTTTATATTTTATTTTAGGAATTTGATCAGGTATRATTGGATCTTCAATAAGATTAATTATTCGAATAGA
ATTAGGTAATCCTGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACAGCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATRCCAATTATAATTGGAGGGTTTGGAAATTGATTAATTCCATTAATAATTGGAGCCCCT
GATATAGCATTCCCTCGAATAAATAATATAAGATTTTGATTACTTCCCCCTTCATTAATATTATTATTATTAAGAA
GAATTATTAATAAAGGAGTAGGAACAGGTTGAACAGTATATCCTCCATTATCTTTAAATATTAGTCATGAAGGTA
TATCTGTAGATTTATCTATTTTTTCTTTACATTTAGCAGGTATATCTTCAATTATAGGAGCTATTAATTTTATTAC
TACAATTTTAAACATACATTTATTTGGAATAACTATAGATCAATTAACTTTATTTACTTGATCAATTAAAATTACA
ACAATTTTATTATTATTAGCAGTACCAGTATTAGCAGGAGCAATTACAATATTATTAACTGATCGRAATTTAAA
TACATCTTTTTTTGATCCATCAGGAGGAGGAGACCCYATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AAF0566.
Holotype ♀: DHJPAR0022166, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Quebrada Otilio, 10.88996, -85.47966, 550 m, eclosion date 10/27/2007, caterpillar collection date 10/13/2007 (CNC). GenBank accession code JF793167.
Holotype host data: Hyperparasitoid of *Microcharops tibialis* (Ichneumonidae: Campopleginae), which is a primary parasitoid of *Hemiceras nigrescens* (Notodontidae) feeding on *Inga punctata* (Fabaceae). One *Mesochorus* eclosed.
Other host data: Two records. *Microcharops* (Ichneumonidae: Campopleginae) and *Glyptapanteles* (Braconidae: Microgastrinae). Multiple specimens eclosed from the caterpillar attacked by specimens of *Glyptapanteles.* One *Mesochorus* eclosed from the sole *Microcharops* cocoon.

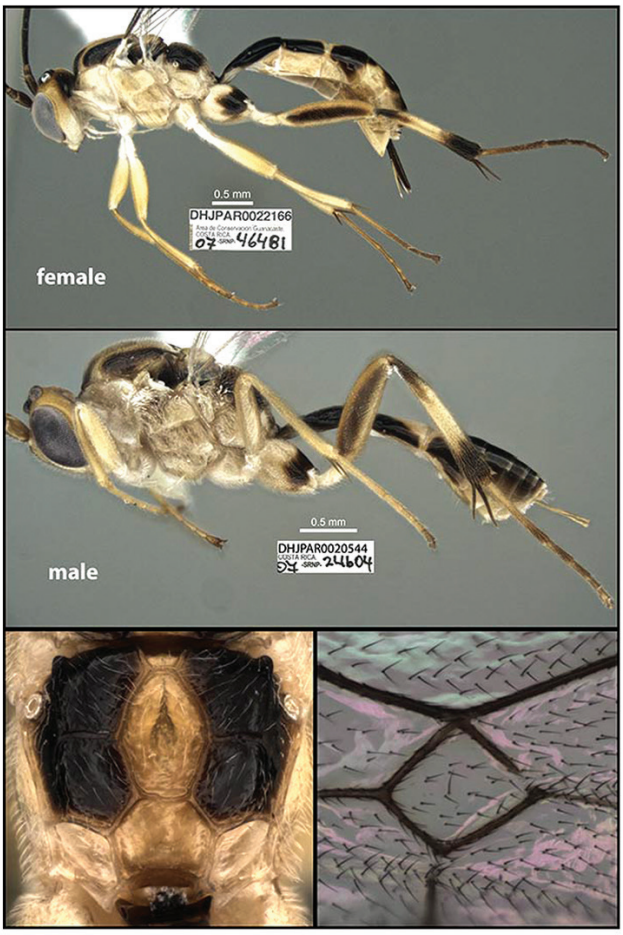

Fig. 38. *M. dosocho*, holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus dosnueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:F38B7375-1F77-4AFE-8153-A876C7E1EAA5

Diagnostics: Fig. 39.
Consensus barcode (3 specimens).
ATTTTATATTTTATTTTTGGTATTTGGGCTGGAATAATTGGATCAGCAATAAGATTAATTATTCGTATAGA
ATTAGGTAATCCAGGATTTTTAATTAATAACGATCAAATTTATAATTCATTTGTAACTGCACATGCCTTTATTA
TAATTTTTTTTATGGTTATACCAATTATAATTGGAGGATTTGGAAATTGATTAGTACCTTTAATAATTGGTGCCCCA
GATATAGCATTCCCACGAATAAACAATATAAGATTTTGATTATTACCCCCATCACTTATATTATTATTATTAAGAAGA
ATTATTAATAAAGGAGTAGGGACAGGATGAACTGTTTATCCACCTTTATCATTAAATGTAAGWCATGAAGGTA
TATCTGTTGATTTATCAATTTTTTCATTACATTTAGCGGGAATATCTTCAATTATAGGAGCGGTAAATTTTATTAC
CACAATTATAAATATACATTTATTTGGAATATCATTAGATCAAATATCATTATTTACYTGATCAATTTTAATTACTACA
ATTTTATTATTATTGGCAGTACCAGTTTTAGCAGGAGCAATTACAATATTATTAACCGACCGGAATTTAAATACTT
CATTTTTTGATCCTTCAGGAGGTGGAGATCCAATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AAF0585.
Holotype ♀: DHJPAR0021802, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Mismo, 10.98758, -85.41967, 680 m, eclosion date 07/21/2004, caterpillar collection date 07/01/2004 (CNC). GenBank accession code OM237766.
Holotype host data: Hyperparasitoid of *Glyptapanteles bobhanneri* (Braconidae: Microgastrinae), which is a primary parasitoid of *Scotura* leucophlepsDHJ05 (Notodontidae) feeding on *Rinorea deflexiflora* (Violaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Glyptapanteles* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

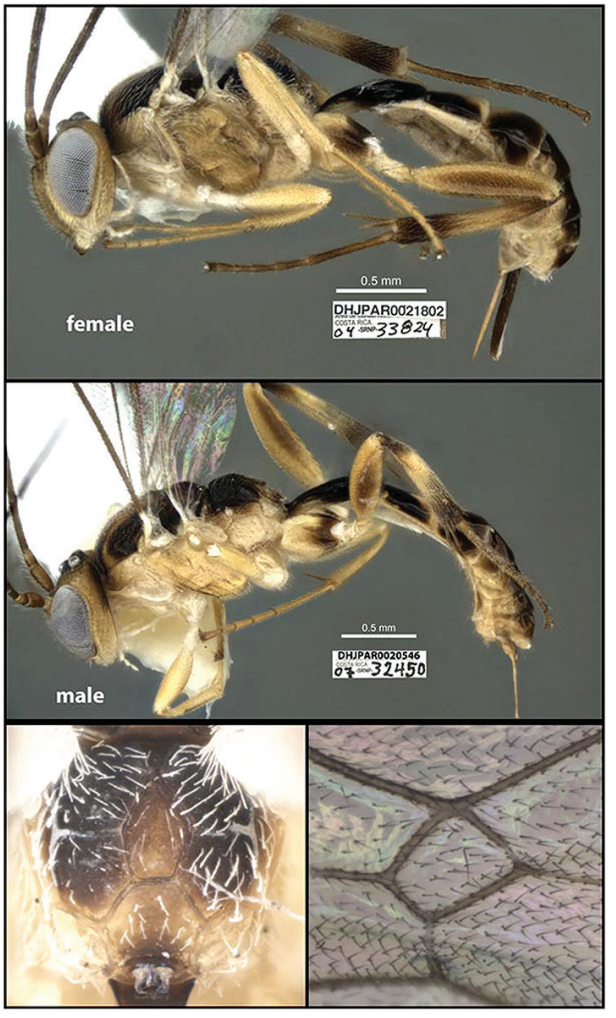

Fig. 39. *M. dosnueve*, holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus trescero
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:3318E5D3-C567-45D7-B8AE-BC6CAD578033

Diagnostics: Fig. 40.
Consensus barcode (4 specimens).
ATTTTATATTTTATTTTAGGAATATGGTCAGGAATAATTGGTGCATCAATAAGTTTAATTATTCGATTAGAATTAGGA
AATCCTGGTTATTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACAGCTCATGCTTTTATTATAATTTTTTTTA
TAGTAATACCAATTATAATTGGAGGATTTGGAAATTGATTAATTCCTTTAATAATTGGAGCTCCTGATATA
GCTTTCCCTCGAATAAATAATATAAGATTTTGACTTCTTCCTCCTTCTTTAATACTATTAATTTTTAGAAGAATTATTCA
TAAAGGTGTAGGAACAGGTTGAACTGTATATCCCCCATTATCATTAAATATTAGACATGAAGGTATATCAGTTGATC
TATCAATTTTTTCATTACATTTAGCTGGTATATCTTCAATTATAGGAGCAATTAATTTTATTTCAACTATTTTAAATATAC
GATTTAAAGGGACATCATTAGATCAAATATCATTATTTTCATGATCAATTAAAATTACAACTATTTTACTTTTATTAG
CAGTTCCAGTTTTAGCAGGTGCAATTACAATATTATTATCAGATCGAAATTTAAATACTTCTTTCTTTGATCCCTCAG
GAGGAGGAGATCCAATTTTATACCAACATTTA

BOLD data: BIN: BOLD:AAF0625.
Holotype ♀: DHJPAR0021745, Área de Conservación Guanacaste, Guanacaste, Sector Del Oro, Quebrada Raiz, 11.02865, -85.48669, 280 m, eclosion date 06/23/2005, caterpillar collection date 06/03/2005 (CNC). GenBank accession code OM237752.
Holotype host data: Hyperparasitoid of *Campoplex* Gauld08DHJ01 (Ichneumonidae), which is a primary parasitoid of gelJanzen01 Janzen485 (Gelechiidae) feeding on *Rinorea deflexiflora* (Violaceae). One *Mesochorus* specimen eclosed.
Other host data: Cardiochilinae sp. (Braconidae), *Apanteles* (Braconidae, Microgastrinae). A single *Mesochorus* specimen eclosed.

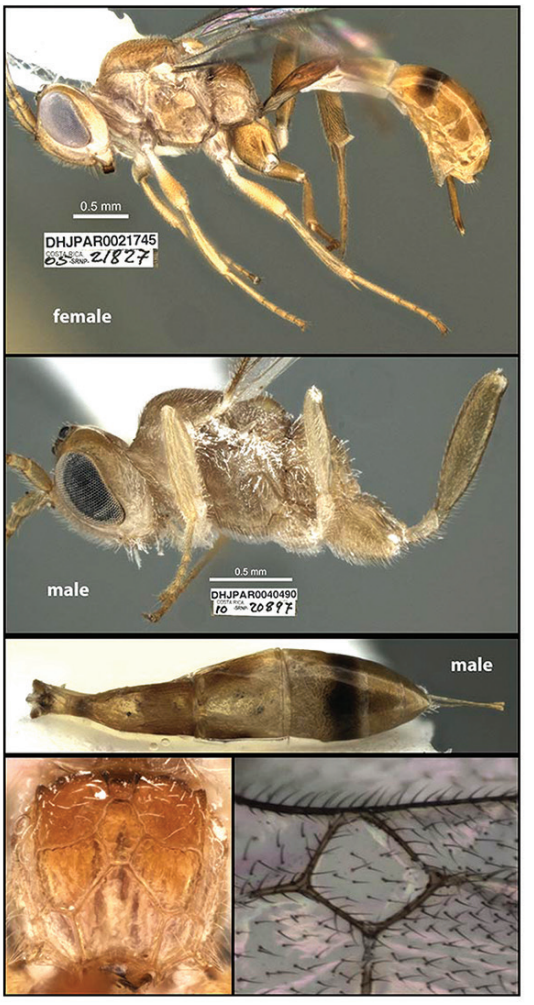

Fig. 40. *M. trescero* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus tresuno

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:A362F007-BFC3-446F-A4B1-DB1E7238A432

Diagnostics: Fig. 41

Consensus barcode (6 specimens).

ATTTTATATTTTATTTTTGGGATATGAGCAGGAATAATTGGTTCTTCAATAAGAATAATTATTCGAATAGAATTAGGA
AATTCAGGATTTTTAATTAACAATGATCAAATTTAYAATTCATTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTAATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTACCTTTAATAATTGGTGCACCAGATATA
GCTTTTCCTCGTATAAATAATATAAGATTTTGATTATTACCACCTTCAATTATATTATTATTATTAAGAAGAATTT
GTCAAAAAGGTGTTGGTACTGGTTGAACAGTTTATCCTCCTTTATCATTAAATATTAGTCATGAAGGACTTT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCTGGGATATCATCAATTATAGGTGCAATTAATTTTATTACAACA
ATTTTAAATATACGAATTATAAAAACTTCTTTAGATCAAATAACATTATTTGTTTGATCAATTTTAATTACAACA
ATTTTATTATTATTAGCAGTACCAGTTTTAGCTGGAGCAATTACTATATTACTTTCTGATCGAAATTTAAATACTT
CATTTTTTGATCCATCAGGGGGTGGAGATCCAATTTTATACCAACATTTA

BOLD data: BIN: BOLD:AAF0637.
Nearest neighbor: *M. nueve*, BOLD:AAC2766, 4.65 % (p-dist).
Holotype ♀: DHJPAR0063475, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Nacho, 10.98445, -85.42481, 710 m, eclosion date 08/23/2018, caterpillar collection date 08/08/2018 (CNC). GenBank accession code OM237735.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi117 (Braconidae: Microgastrinae), which is a primary parasitoid of *Desmia* BioLep06 (Crambidae) feeding on *Hoffmannia longipetiolata* (Rubiaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Diolcogaster, Hypomicrogaster* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

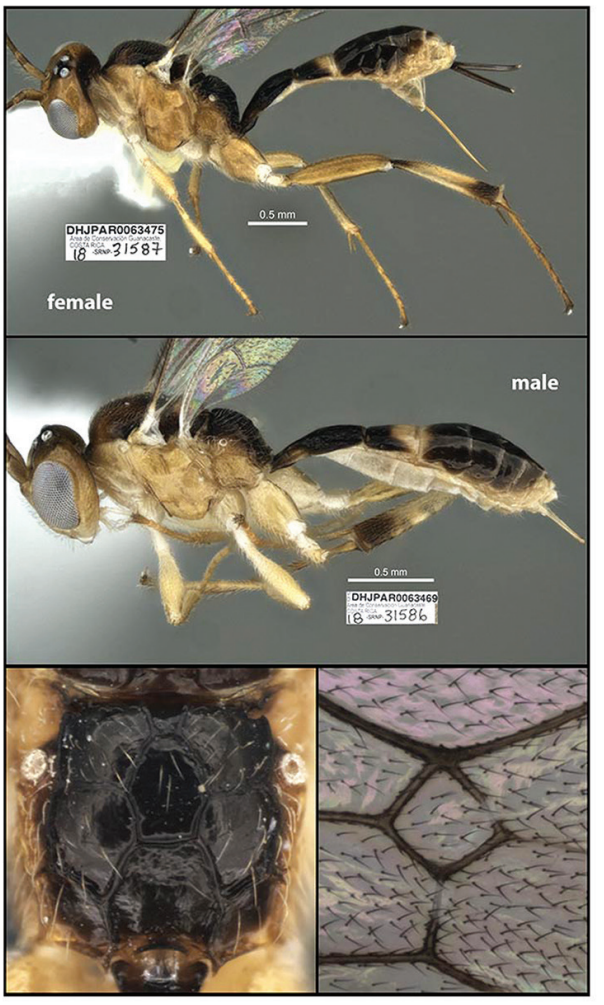

Fig. 41. *M. tresuno* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus tresdos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:8A1EB8A7-326F-4137-AA17-D9091F9D09EF

Diagnostics: Fig. 42.
Consensus barcode (17 specimens).
ATTTTATATTTTATTTTTGGTATATGAGCTGGGATAATTGGRTCATCAATAAGATTAATTATTCGAATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCACATGCTTTTATTA
TAATTTTTTTTATAGTAATACCAATTATAATTGGTGGATTTGGAAATTGAATAGTTCCTTTAATAATTGGAGCACCA
GATATAGCTTTYCCTCGAATAAACAATATAAGATTTTGATTATTACCTCCATCAATTATATTATTATTATTAAGAGGA
ATTTGTCAAAAAGGTGTTGGAACTGGTTGAACAGTMTATCCTCCATTATCATTAAATGTTAGTCATGAAGGTTTAT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGAATRTCATCAATTATAGGTGCTATTAATTTTATTACAAC
TATTTTAAATATACGAATTTTAAAAACATCTTTAGATCAAATATCATTATTTGTTTGATCAATTTTAATTACAACA
ATTTTATTATTATTAGCTGTTCCAGTTTTAGCAGGTGCAATTACAATATTACTTTCTGATCGAAATTTAAATACTT
CATTTTTTGATCCATCAGGAGGAGGKGATCCAATTTTATATCAACATTTA

BOLD data: BIN: BOLD:AAF0643.
Nearest neighbor: *M. nueveseis*, BOLD:ABX4997, 3.04 % (p-dist).
Holotype ♀: DHJPAR0038931, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Leonel, 10.99637, -85.40195, 510 m, eclosion date 04/06/2010, caterpillar collection date 03/23/2010 (CNC). GenBank accession code HM882332.
Holotype host data: Hyperparasitoid of *Apanteles anamartinezae* (Braconidae: Microgastrinae), which is a primary parasitoid of *Atteva zebra* (Attevidae) feeding on *Simarouba amara* (Simaroubaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Apanteles* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

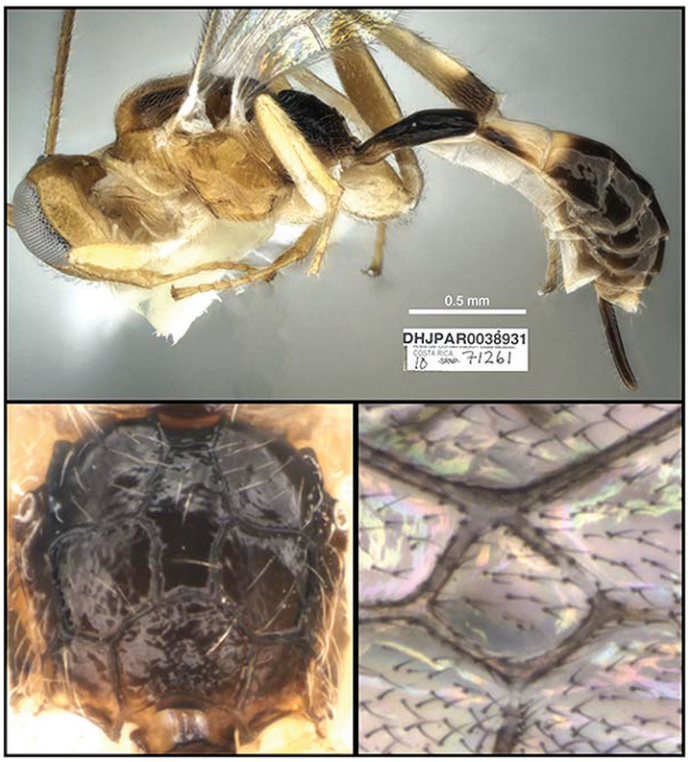

Fig. 42. *M. tresdos* holotype female.

Mesochorus trestres
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:F861AC1C-4406-4392-9229-B9DE076F7450

Diagnostics: Fig. 43.
Consensus barcode (6 specimens).
ATTTTATATTTTATTTTTGGAATATGAGCCGGAATAATTGGTTCATCAATAAGAATAATTATTCGAATAGAATTAGGA
AATCCTAGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCATTAATAATTGGTGCTCCAGATATA
GCTTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTATTAAGAAGAGTTTGTCA
AAAAGGAGTAGGAACTGGGTGAACAGTATATCCACCATTATCATTAAATATTAGACATGAAGGATTATCTGTTGATC
TATCAATTTTTTCTTTACATTTAGCAGGAATATCATCAATTATAGGAGCAATTAATTTTATTACAACTATTTTAAATA
TACGAATTTTAATAACATCATTAGATCAAATATCTTTATTTGTTTGATCTATTTTAATTACTACAATTTTATTACTATTA
GCAGTTCCAGTTTTAGCGGGTGCAATTACAATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATCCATCA
GGTGGAGGGGATCCAATTTTATATCAACATTTA

BOLD data: BIN: BOLD:AAF0671.

Holotype ♀: DHJPAR0012199, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Nacho, 10.98445, -85.42481, 710 m, eclosion date 08/06/2006, caterpillar collection date 07/15/2006 (CNC). GenBank accession code JF793183.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi64 (Braconidae: Microgastrinae), which is a primary parasitoid of *Trichaea pilicornis* (Crambidae) feeding on *Psychotria grandis* (Rubiaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Diolcogaster, Hypomicrogaster* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

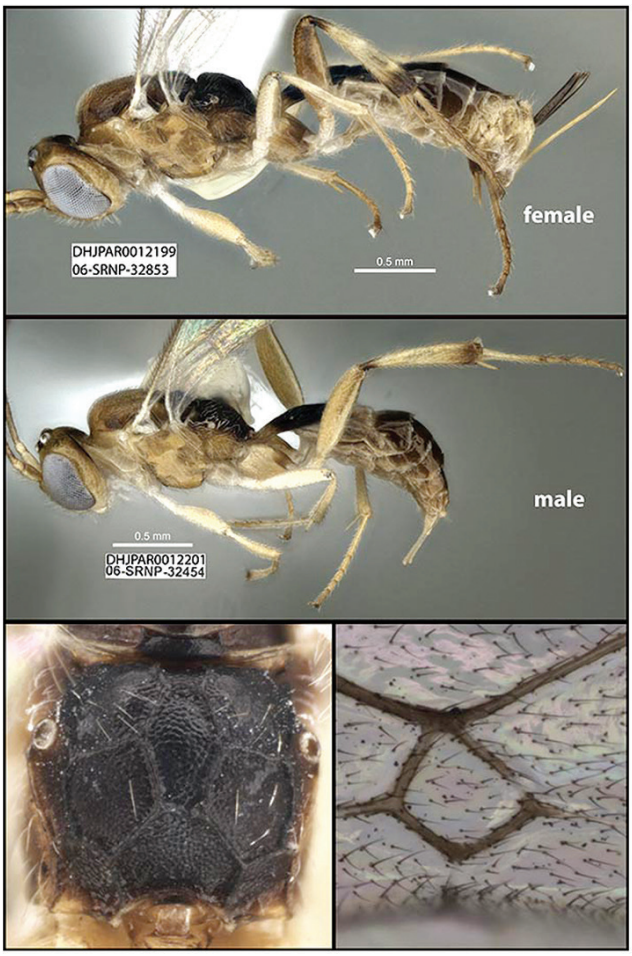

Fig. 43. *M. trestres* holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus trescuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:8B6AEAEC-5121-4B59-88AB-1591CFB87C3C

Diagnostics: Fig. 44.
Consensus barcode (5 specimens).
WTTTTATATTTTATTTTTGGTATATGATCAGGAATAATTGGATCTTCAATAAGAATAATTATCCGAATAGAATTAGGA
AATTCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCYCATGCTTTTATTATAATTTTCTTTA
TAGTTATACCAATTATAATTGGAGGATTCGGAAATTGAATAGTACCATTAATAATTGGTGCCCCAGATATA
GCTTTCCCTCGAATAAATAATATAAGATTTTGATTACTACCACCTTCAATTATATTATTATTATTAAGAAATATTT
GTCAAAAAGGTGTAGGAACTGGTTGAACAATTTATCCCCCATTATCATTAAATATTAGACATGAAGGACTTT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCTGGAATATCTTCAATTATAGGAGCAATTAATTTCATTACTA
CAATTTTAAATATACGAATTATAAAAACTTCATTTGATCAAATAACATTATTTGTTTGATCAATTTTAATCACTACA
ATTTTATTATTATTAGCAGTACCAGTTTTAGCTGGAGCAATTACTATATTACTTTCAGACCGAAATTTAAATACTT
CATTTTTTGATCCATCAGGAGGTGGAGACCCAATTTTATAYCAACATTTA

BOLD data: BIN: BOLD:AAF0739.
Nearest neighbor: *M. sietecero*, BOLD:AAX4033, 5.32 % (p-dist).
Holotype ♀: DHJPAR0057726, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Sendero Rincon, 10.89620, -85.27769, 430 m, eclosion date 05/07/2015, caterpillar collection date 04/19/2015 (CNC). GenBank accession code OM237748.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi70 (Braconidae: Microgastrinae), which is a primary parasitoid of *Poliopastea* Janzen02 (Erebidae) feeding on *Allomarkgrafia plumeriiflora* (Apocynaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Diolcogaster* (Braconidae: Microgastrinae). Some rearings produced single specimens of *Mesochorus* and others multiple specimens.

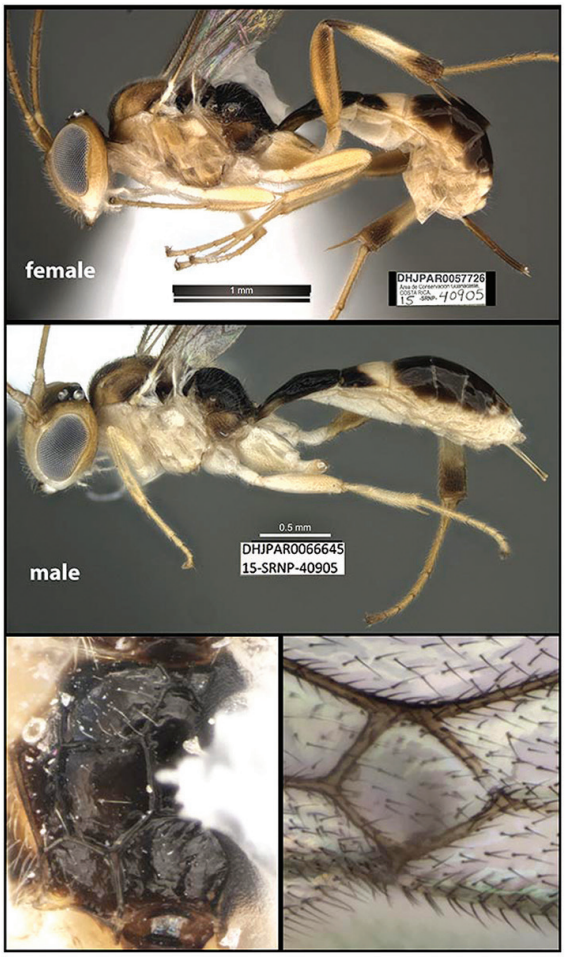

Fig. 44. *M. trescuatro* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066645) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, which was barcoded. They both have the same rearing/caterpillar record, 15-SRNP-40905, that can be recovered from the Janzen/Hallwachs website.

Mesochorus trescinco
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:9DA31F41-0128-4A61-B54F-531BA00D5B51

Diagnostics: Fig. 45.
Consensus barcode (2 specimens).
GTTTTATATTTTATTTTTGGAATTTGAGCAGGAATAATTGGTTCATCTATAAGTTTAATTATTCGTATAGA
ATTAGGAAATCCTGGATTTTTAATTAATAATGATCAAATTTATAAYTCATTTGTAACTGCTCACGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATCATAATTGGAGGATTTGGRAATTGATTAATTCCAYTAATAATTGGAGCTCCT
GATATAGCATTTCCTCGGATAAATAATATAAGATTTTGACTTTTACCTCCATCATTAATATTATTATTAATAAGAA
GAATTATTAATAAAGGGGTAGGYACAGGATGAACAGTTTATCCRCCATTATCATTAAATGTTAGRCATGAAGGA
ATATCYGTAGACTTATCAATTTTTTCATTACATTTAGCAGGTATGTCATCAATTATAGGAGCAGTTAATTTTATTA
CAACAATTATAAATATACATTTATATGGAATATCAATAGATCAATTATCATTATTTACATGATCAATTAAAATTAC
TACTATTTTATTATTATTAGCAGTTCCCGTTTTAGCAGGAGCAATTACAATATTATTAACAGATCGAAATTTAAA
TACATCTTTTTTTGATCCATCAGGAGGAGGAGATCCTATTCTTTATCAACATTTA

BOLD data: BIN:BOLD:AAF8905.
Nearest neighbor: *M. unodosocho*, BOLD:ACZ6907 7.49 % (p-dist).
Holotype ♀: DHJPAR0021738, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Estación Cacao, 10.92691, -85.46822, 1 150 m, eclosion date 04/29/2002, caterpillar collection date 04/09/2002 (CNC). GenBank accession code JF793165.
Holotype host data: Hyperparasitoid of *Meteorus* Janzen08 (Braconidae), which is a primary parasitoid of *Mythimnia sequax* (Noctuidae) feeding on *Cynodon nlemfuensis* (introduced) (Poaceae). One *Mesochorus* specimen eclosed.
Other host data: *Cotesia* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

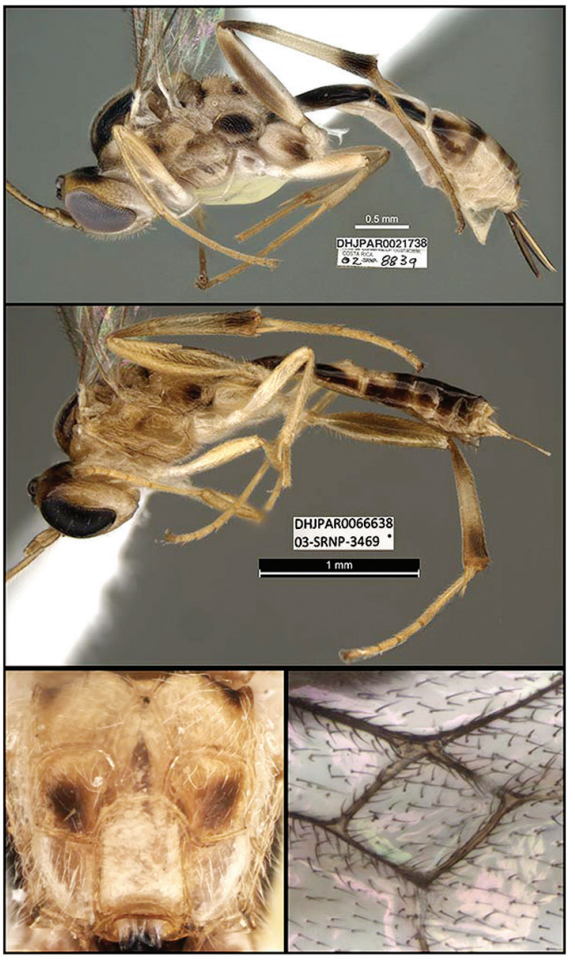

Fig. 45. *M. trescinco* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066638) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as a paratype, DHJPAR0020409, which was barcoded. They both have the same rearing/caterpillar record, 03-SRNP-3469, that can be recovered from the Janzen/Hallwachs website.

Mesochorus tresseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:69F03DD6-411C-4813-B55D-194FCD5FED72

Diagnostics: Fig. 46.
Consensus barcode (2 specimens).
ATTTTATATTTTATTTTNGGTATATGAGCTGGTATAATTGGATCATCTATAAGAATAATTATTCGAATAGA
ATTAGGTAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACTTCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGTGGATTTGGAAATTGAATAGTTCCATTAATAATTGGAGCTC
CAGATATAGCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCATCAATTATATTATTATTATTAAGA
GGAATTTGTCAAAAAGGTACAGGAACTGGTTGAACAGTTTATCCTCCTTTATCATTAAATATAAGACATGAA
GGTTTATCTGTTGATTTATCTATTTTTTCTTTACATATAGCAGGTATATCTTCAATTATAGGTGCAATTAATTTTATTA
CAACAATTTTAAATATACGAATTTTAAAAACATCATTAGATCAAATATCATTATTTGTTTGATCAATTTTAATTACAA
CAATTTTATTATTATTAGCTGTACCAGTTTTAGCAGGTGCTATTACAATATTATTATCTGATCGAAATTTAAATACAT
CATTTTTTGACCCATCAGGTGGT

BOLD data: BIN: BOLD:AAG9050.
Holotype ♀: DHJPAR0030751, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Sendero Circular, 10.92714, -85.46683, 1 185 m, eclosion date 05/02/2008, caterpillar collection date 04/15/2008 (CNC). GenBank accession code OM237745.
Holotype host data: Hyperparasitoid of microgastrine (Braconidae), which is a primary parasitoid of *Pseudatteria volcanica* (Tortricidae) feeding on *Mollinedia viridiflora* (Monimiaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: Unidentified microgastrine. Multiple *Mesochorus* specimens eclosed.

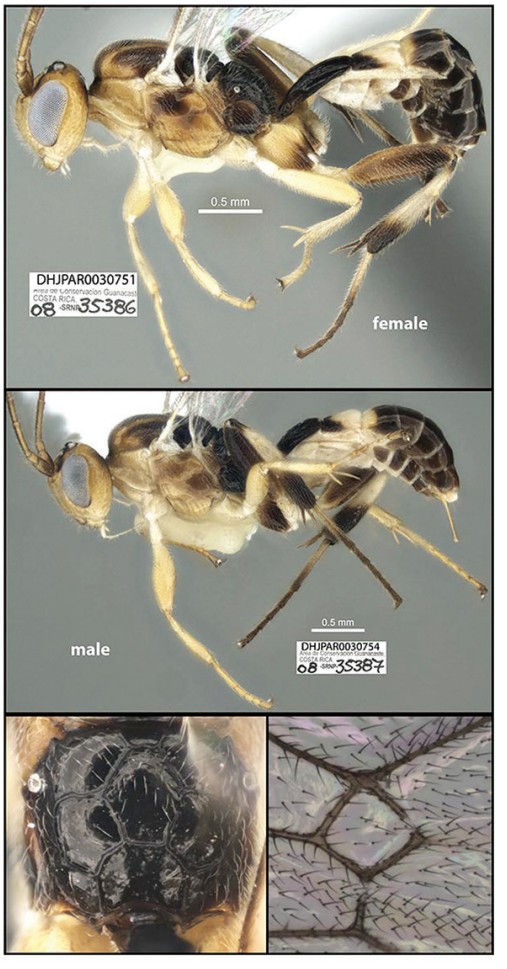

Fig. 46. *M. tresseis* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus tressiete

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:E777C1C2-520A-497A-8358-D9084D0B8044

Diagnostics: Fig. 47.
Consensus barcode (10 specimens).
ATTTTATATTTTATTTTTGGTATATGAGCAGGAATAATTGGTTCATCAATAAGAATAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCTCATGCATTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCCCCTGATATA
GCCTTTCCTCGAATAAATAATATAAGATTTTGATTACTACCACCTTCAATTATATTATTATTATTAAGAAATATTTGT
CAAAAAGGAGTAGGAACTGGATGAACAATTTATCCACCTTTATCATTAAACATAAGTCATGAAGGATTATCTATT
GACTTATCAATTTTTTCTTTACATTTAGCGGGTATATCATCAATTATAGGAGGAATTAATTTTATTACAACAATTTTAA
ATATACGTATTTTTAATTCTTCATTTGATCAAATATCCTTATTTGTTTGATCAATTTTAATTACAACAATTTTAC
TATTATTAGCTGTTCCAGTTTTTGCTGGTGCAATTACTATATTATTATCAGATCGTAATTTAAATACTTCATTTTTT
GATCCTTCTGGAGGAGGTGATCCAATTTTATTCCAACATTTA

BOLD data: BIN: BOLD:AAG9324.
Nearest neighbor: *M. sieteuno*, BOLD:AAX4034, 7.39% (p-dist).
Holotype ♀: DHJPAR0058819, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Jacobo, 10.94076, -85.31770, 461 m, eclosion date 01/17/2016, caterpillar collection date 12/22/2015 (CNC). GenBank accession code OM237757.
Holotype host data: Hyperparasitoid of *Alphomelon* Deans29 (Braconidae: Microgastrinae), which is a primary parasitoid of hespJanzen01 Janzen55 (Hesperiidae) feeding on *Cryptochloa concinna* (Poaceae). One *Mesochorus* specimen eclosed.
Other host data: *Alphomelon* (Braconidae: Microgastrinae). Most rearings produced a single primary parasitoid cocoon and a single *Mesochorus* specimen; one rearing produced multiple cocoons and multiple *Mesochorus* specimens.

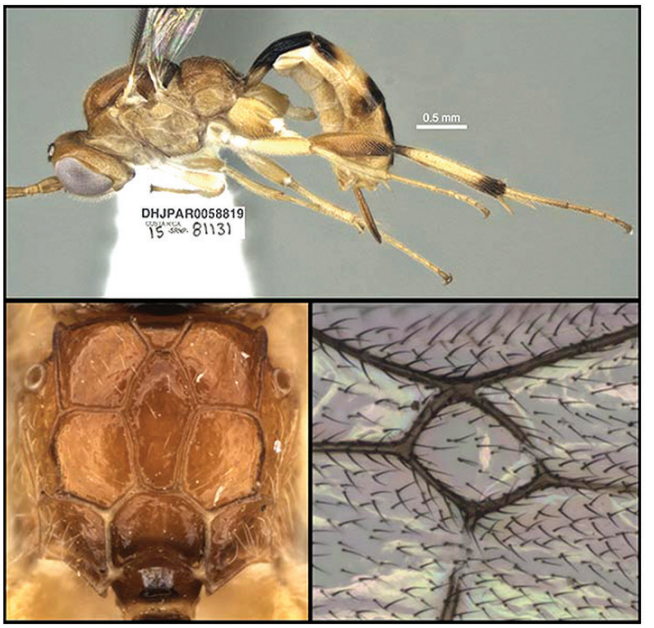

Fig. 47. *M. tressiete* holotype female.

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Mesochorus tresocho

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:EC5C48AC-B365-4C65-B736-04A301B8E1A1

Diagnostics: Fig. 48.

Consensus barcode (2 specimens).

ATTTTATATTTTATTTTTGGAATTTGATCAGGAATAATTGGATCATCAATAAGATTAATTATTCGTATAGAATTAGGA
AATCCAGGTTTCTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACCGCTCATGCATTTATTATAATTTTTTTTA
TAGTGATGCCAATTATAATTGGTGGGTTTGGAAATTGATTAATTCCATTAATAATTGGAGCTCCAGATATA
GCTTTTCCCCGAATAAATAATATAAGATTCTGACTTTTACCCCCTTCATTAAATTTATTATTGGCCAGATCGATTA
CAAGAAAAGGTGTAGGGACAGGATGAACAGTGTATCCCCCATTATCTTTAAATGTAAGTCATGAAGGTATGT
CAGTAGATTTATCAATTTTTTCCCTTCATTTAGCAGGTATATCCTCAATTATAGGAGCAATTAATTTTATTACAA
CAATTTTAAATATACATTTACATGGAATATCAATAGATCAATTATCATTATTTACATGGTCAATTAAAATTACAACA
ATTTTACTTTTATTAGCAGTACCTGTATTAGCAGGGGCAATTACTATATTATTAACTGATCGTAATTTAAATACTT
CATTTTTTGATCCATCTGGAGGTGGAGACCCTATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AAG9508.

Holotype ♀: DHJPAR0021754, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Cerro Pedregal, 10.92767, -85.47449, 1 080 m, eclosion date 07/15/2005, caterpillar collection date 06/18/2005 (CNC). GenBank accession code JF793166.

Holotype host data: Hyperparasitoid of *Stantonia* Janzen05-35548 (Braconidae: Orgilinae), which is a primary parasitoid of immidJanzen01 Janzen15 (Immidae) feeding on *Arachnothryx buddleioides* (Rubiaceae). One *Mesochorus* specimen eclosed.

Other host data: *Stantonia* (Braconidae: Orgilinae). One *Mesochorus* specimen eclosed.

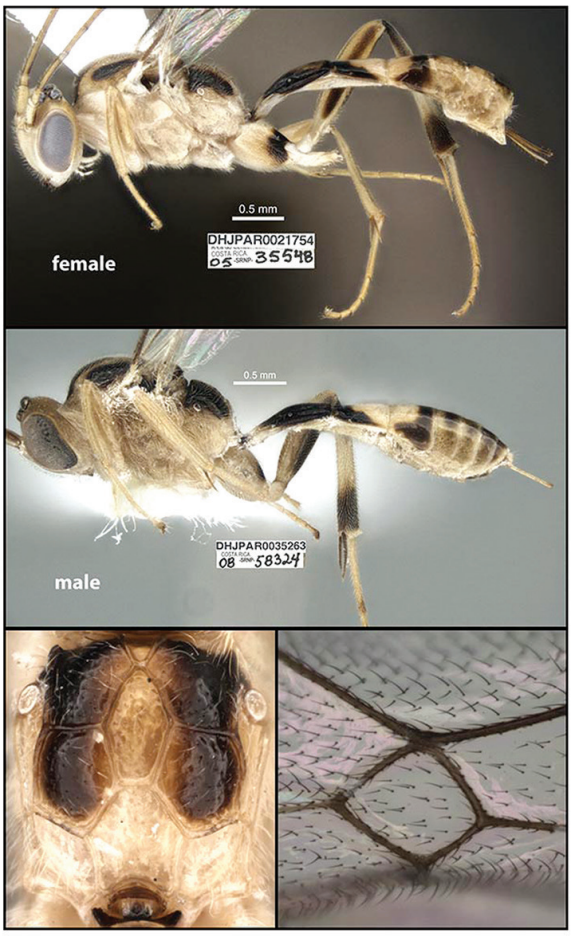

Fig. 48. *M. tresocho* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus tresnueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:6C7C49ED-193A-45FB-80F3-F89BFEDEAA0F

Diagnostics: Fig. 49.
Consensus barcode (2 specimens).
ATTTTATATTTTATTTTTGGTTTATGAGCAGGAATAGTAGGTGCTTCAATAAGAATAATTATTCGAATAGAATTAGGA
AATCCAGGATTCCTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCACCAGATATA
GCTTTCCCTCGAATAAATAATATAAGATTTTGATTACTACCCCCATCAATTATATTATTATTATTAAGAGGAATTTGT
CAAAAAGGTGTTGGAACTGGTTGAACAGTATATCCACCTTTATCATTAAATATTAGTCATGAAGGACTATCAGTT
GATTTATCAATTTTTTCTTTACATTTAGCAGGTATATCCTCAATTATAGGAGCAATTAATTTTATTACAACAATTTTAAA
TATACGTATTTTAAAATCATCTTTAGACCAAATATCATTATTTGTTTGATCAATTTTAATCACTACTATTTTATTATTATTA
GCAGTTCCAGTTTTAGCAGGGGCAATTACTATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATCCATCA
GGTGGAGGAGATCCAATTTTATACCAACATTTA

BOLD data: BIN: BOLD:AAG9894.
Holotype ♀: DHJPAR0021777, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Sendero Carmona, 10.87621, -85.38632, 670 m, eclosion date 01/02/2006, caterpillar collection date 12/19/2005 (CNC). GenBank accession code JF793205.
Holotype host data: Hyperparasitoid of *Parapanteles* paradoxusDHJ02 (Braconidae: Microgastrinae), which is a primary parasitoid of *Tithraustes* noctilucesICG02 (Notodontidae) feeding on *Chamaedorea tepejilote* (Arecaceae). One *Mesochorus* specimen eclosed.
Other host data: *Parapanteles* (Braconidae: Microgastrinae). One *Mesochorus* specimen eclosed.

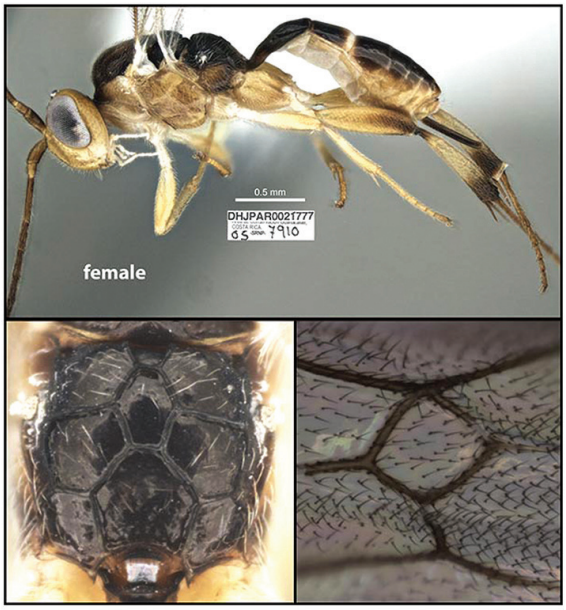

Fig. 49. *M. tresnueve* holotype female.

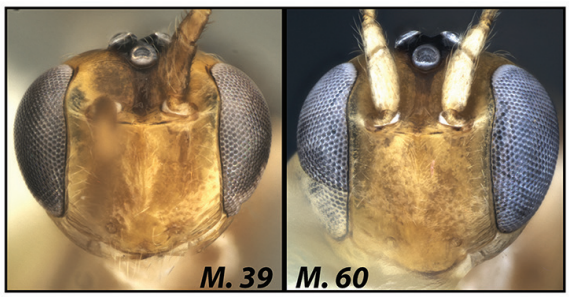

Fig. 50. Comparisons of the heads of two species of *Mesochorus* (*M. tresnueve* and *M. seiscero*) whose COI barcodes code for identical amino acids. Note the colors of the scapes and pedicels and the microsculpture of the face.

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Mesochorus cuatrocero
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:71622B4F-86FB-4F0B-BC78-B2DC69A8C0DD

Diagnostics: Fig. 51.
Consensus barcode (4 specimens).
AATTTTATATTTTATTTTTGGAATTTGAGCAGGAATAAYTGGATCATCCATAAGATTAATCATTCGAATAGA
ATTAGGTAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACAGCCCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGGGGATTTGGAAATTGATTAGTTCCTTTAATAATTGGAGCACCT
GATATAGCATTCCCCCGAATAAATAATATAAGATTTTGACTTTTACCCCCTTCATTAATACTTTTATTATTAAGAA
GAATCATTAATAAGGGGGTTGGGACTGGGTGAACTGTATACCCTCCGTTATCATTAAATATCAGTCATGAAGGA
ATATCTGTAGATTTATCTATTTTTTCATTACATTTAGCTGGAATATCTTCAATTATGGGAGCAATTAATTTTATTACA
ACAATTTTAAATATACATTTATTTGGGATGTCTATAGATCAATTATCTTTATTTACATGATCAATTAAAATTACAA
CAATTTTATTATTATTAGCTGTTCCAGTTTTAGCTGGTGCAATTACTATATTATTAACTGATCGTAATTTAAATACAT
CATTTTTTGACCCTTCAGGAGGAGGAGATCCAGTCTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAH2888.
Nearest neighbor: *M. cuatrouno*, BOLD:AAH3285, 5.93% (p-dist).
Holotype ♀: DHJPAR0030755, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Orosilito, 10.98332, -85.43623, 900 m, eclosion date 04/23/2008, caterpillar collection date 04/09/2008 (CNC). GenBank accession code OM237693.
Holotype host data: Hyperparasitoid of *Meteorus* Janzen01 (Braconidae: Euphorinae), which is a primary parasitoid of *Natada* 02-SRNP-19195 (Limacodidae) feeding on *Ocotea gomezii* (Lauraceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Triraphis* (Braconidae: Rogadinae). Two *Mesochorus* specimens eclosed from three host cocoons, the other produced an adult *Triraphis*. Some rearings produced single *Mesochorus* specimens, others produced multiple specimens.

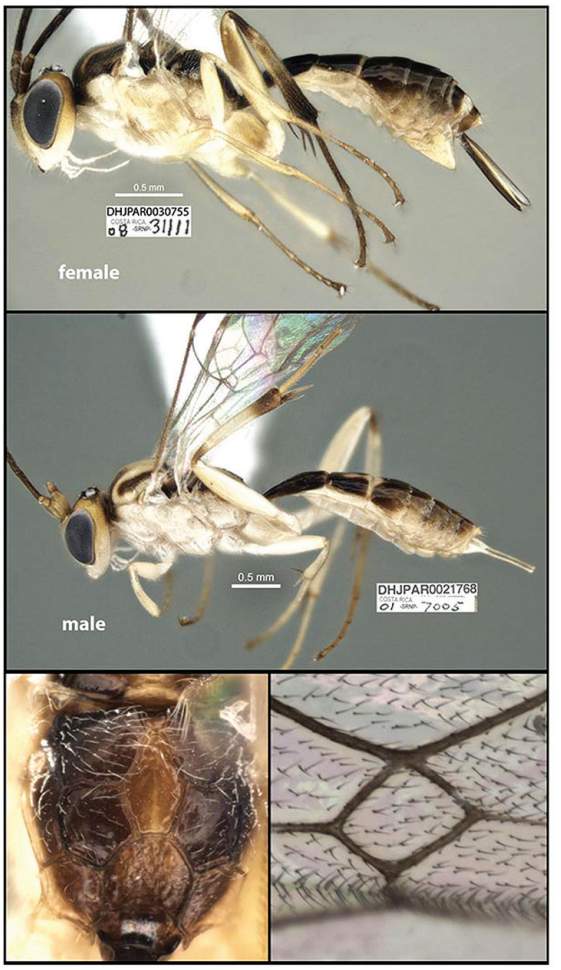

Fig. 51. *M. cuatrocero* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus cuatrouno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:4EF63F59-1315-4F9A-A30D-7763CD1C9364

Diagnostics: Fig. 52.
Consensus barcode (4 specimens).
AATTTTATATTTTATTTTTGGAATTTGAGCAGGAATAATTGGTTCATCAATAAGATTAATTATCCGAATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACAGCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGGGGATTTGGAAATTGATTAATTCCTTTAATAATTGGAGCTCCT
GATATAGCATTTCCTCGTATAAACAATATAAGATTTTGACTTTTACCACCTTCATTAATACTTTTACTATTAAGAA
GAATTATTAATAAAGGAGTTGGAACAGGATGAACTGTTTATCCTCCATTATCATTAAATATTAGACATGAAGGAA
TATCAGTAGATTTATCTATTTTTTCATTACATTTAGCTGGAATATCTTCAATTATAGGAGCAATTAATTTTATTACA
ACAATTTTAAATATACATTTATTTGGAATATCAATAGATCAATTATCCTTATTTACATGATCAATTAAAATTACAA
CAATTTTATTATTATTAGCTGTACCAGTTTTAGCTGGAGCAATTACTATATTATTAASTGATCGTAATTTAAATACAT
CATTTTTTGATCCTTCAGGAGGTGGAGACCCAGTTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAH3285.
Nearest neighbor: *M. cuatrocero*, BOLD:AAH2888, 5.93% (p-dist).
Holotype ♀: DHJPAR0040035, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Cuestona, 10.99455, -85.41461, 640 m, eclosion date 08/28/2009, caterpillar collection date 08/17/2009 (CNC). GenBank accession code OM237713.
Holotype host data: Hyperparasitoid of *Triraphis billfreelandi* (Braconidae: Rogadinae), which is a primary parasitoid of *Vipsophobetron davisi* (Limacodidae) feeding on *Asterogyne martiana* (Arecaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Triraphis* (Braconidae: Rogadinae), *Fornicia* (Braconidae: Microgastrinae). All four rearings produced a single *Mesochorus* specimen.

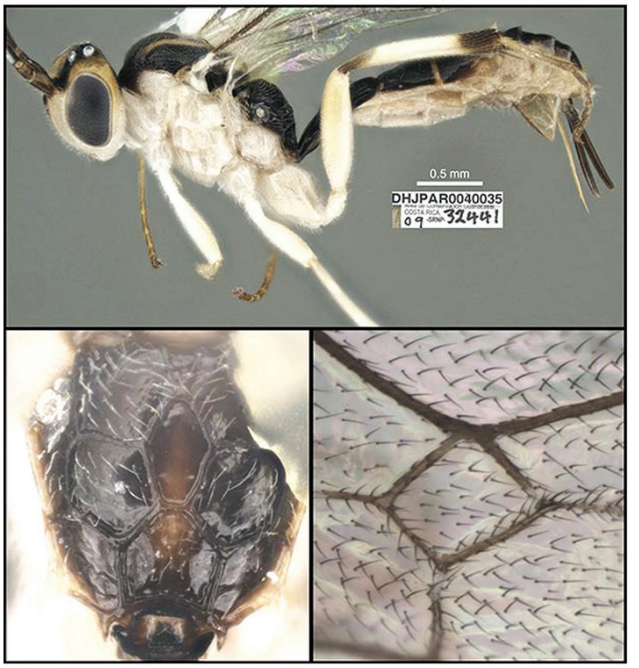

Fig. 52. *M. cuatrouno* holotype female.

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Mesochorus cuatrodos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:FC3D04E0-2015-4D03-BAD7-BB139F19496B

Diagnostics: Fig. 53.
Consensus barcode (5 specimens).
AGTTTTATACTTTATTTTTGGAATATGAGCAGGTATAATTGGATCATCTATAAGATTTATTATTCGCATAGA
ATTAGGTAACCCTGGTTATTTAATTAATAATGATCAAATTTATAATTCCTTTGTTACAGCCCATGCATTTATTA
TAATTTTTTTTATAGTTATACCTATTATAATTGGAGGATTTGGAAATTGAATAATTCCTTTAATAATYGGTGCYCCT
GATATAGCATTCCCTCGAATAAATAATATAAGATTCTGATTACTGCCTCCATCTCTTATATTTTTACTATTAAGA
AGAATCTGTCAAAAAGGYGTAGGYACTGGGTGAACTGTTTATCCTCCATTATCTTTAAATATCAGTCATGAAG
GATTATCTGTTGATCTATCTATTTTCTCCTTACATCTAGCAGGAATATCCTCAATTATAGGGGCAATCAATTTTATTA
CAACAATTTTAAATATACGAATTATAAATACTTCATTAGATCAAATATCATTATTTGTCTGATCTATTTTAATTACAA
CAATTCTATTACTTTTAGCAGTTCCAGTTTTAGCTGGAGCTATTACAATACTATTATCAGATCGAAATTTAAATACAT
CATTTTTTGACCCATCAGGAGGRGGAGACCCTATCTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAH7479.
Nearest neighbor: *M. unounoseis*, BOLD:ACK4344, 10.42% (p-dist).
Holotype ♀: DHJPAR0020370, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Pasmompa, 11.01926, -85.40997, 440 m, eclosion date 02/13/2007, caterpillar collection date 01/22/2007 (CNC). GenBank accession code JF793180.
Holotype host data: Hyperparasitoid of *Eiphosoma gollum* (Ichneumonidae: Cremastinae), which is a primary parasitoid of *Herpetogramma salbialis* (Crambidae) feeding on *Zexmenia virgulta* (Asteraceae). A single *Mesochorus* specimen eclosed.
Other host data: *Eiphosoma* (Ichneumonidae: Cremastinae), *Occia* (Ichneumonidae: Banchinae). A single *Mesochorus* specimen eclosed.

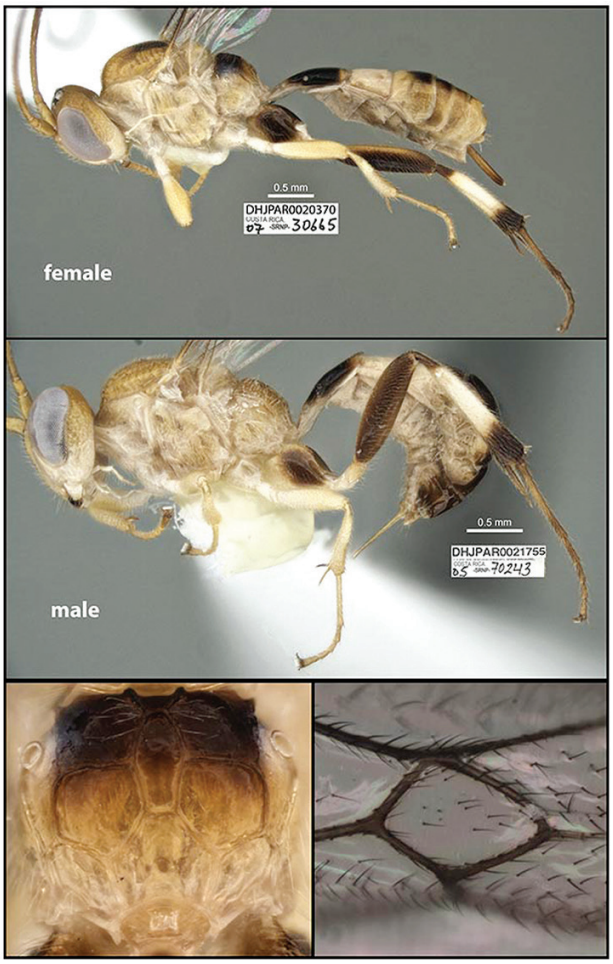

Fig. 53. *M. cuatrodos* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus cuatrotres
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:13C28170-6430-4541-9A14-DC63003C1A92

Diagnostics: Fig. 54.
Consensus barcode (19 specimens).
AATTTTATACTTTATTTTTGGTATATGGGCAGGAATAATTGGATCATCTATAAGAATAATTATTCGTATAGA
ATTAGGAAACCCWGGATTTTTAATTAATAATGATCAAATTTAYAATTCTTTTGTAACATCACATGCTTTTATTA
TAATTTTTTTTATAGTTATRCCAATTATAATTGGTGGATTTGGAAATTGAATAGTTCCATTAATAATTGGAGCTCCT
GATATAGCCTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCYTCAATTATACTTTTATTATTGAGARGA
ATTTGYCAAAAAGGRGTAGGAACAGGATGAACAGTTTAYCCACCATTATCATTAAATATTAGTCATGAAGGTTTAT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCTGGAATATCTTCTATTATAGGAGCTATTAATTTTATTWCA
ACAATTTTAAATATACGAATTTTTAAAACATCTTTAGACCAAATATCTTTATTTGTGTGATCAATTTTTATCAC
CACAATTTTATTATTATTAGCTGTACCAGTTTTAGCTGGTGCAATTACAATATTATTRTCTGATCGAAATTTAAA
TACTTCTTTTTTTGAYCCATCAGGAGGAGGAGAYCCTATTTTATACCAACACTTATTT

BOLD data: BIN: BOLD:AAK7532.

Holotype ♀: DHJPAR0041478, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Garzasol, 10.89666, -85.29003, 400 m, eclosion date 01/07/2011, caterpillar collection date 12/17/2010 (CNC). GenBank accession code JQ575297.
Holotype host data: Hyperparasitoid of agaJanzen01 Janzen4951 (Braconidae: Agathidinae), (based on a *M. cuatrotres* paratype, probably *Lytopylus* sp.) which is a primary parasitoid of *Ategumia* lotanalisDHJ10 (Crambidae) feeding on *Triolena hirsuta* (Melastomataceae). A single *Mesochorus* specimen eclosed.
Other host data: *Hypomicrogaster*, *Apanteles*, *Dolichogenidea* (Braconidae: Microgastrinae), *Lytopylus* (Braconidae: Agathidinae). All rearings produced a single *Mesochorus* specimen.

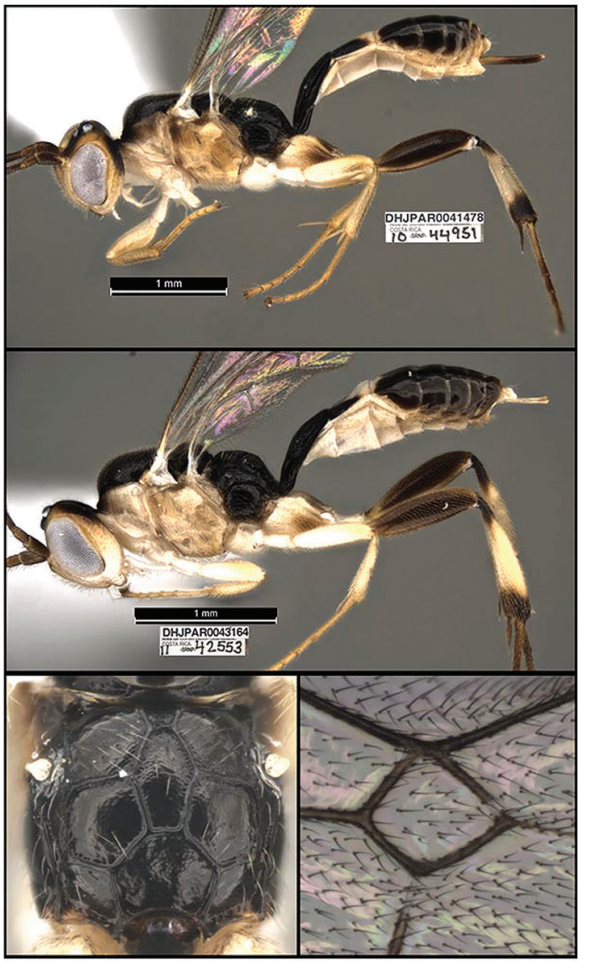

Fig. 54. *M. cuatrotres* holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus cuatrocuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:751C0A18-8A66-4CDC-87B9-82AF78BE439F

Diagnostics: Fig. 55.
Holotype barcode.
ATTTTATATTTTATTTTTGGAATATGAGCAGGAATAATTGGTTCTTCTATAAGTATAATTATTCGAATAGA
ATTAGGAAATCCAGGTTTTTTAATTAATAATGATCAAATTTATAATTCATTCGTTACTTCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCACCA
GATATAGCTTTTCCCCGAATGAATAATATAAGATTTTGATTATTACCTCCATCAATTATATTATTATTATTAAGAAGA
ATTTGTCAAAAAGGAGTTGGTACTGGATGAACAGTTTATCCACCATTATCATTAAATGTTAGTCATGAAGGATTAT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGAATATCATCAATTATAGGTGCAATTAATTTTATTACAAC
TATTTTAAATATACGAATTTTAAAAACATCATTAGATCAAATATCTTTATTTGTTTGATCTATTTTAATTACAAC
TATTTTATTATTATTAGCAGTACCAGTTTTAGCTGGAGCAATCACCATATTATTATCTGATCGAAATTTAAATACTT
CATTTTTTGATCCATCGGGAGGAGGAGATCCAATTTTATAC

BOLD data: BIN: BOLD:AAK7548.
Nearest neighbor: *M. unotresnueve*, BOLD:ADQ8339, 2.12% (p-dist). Propodeum paler posteriorly and more rugose laterally in *M. cuatrocuatro* (Fig. 56).
Holotype ♂: DHJPAR0021800, Área de Conservación Guanacaste, Guanacaste, Sector Del Oro, Canyon Rio Mena, 10.99616, -85.45562, 560 m, eclosion date 03/15/2004, caterpillar collection date 02/24/2004 (CNC). GenBank accession code JF793202.
Holotype host data: Hyperparasitoid of *Hypomicrogaster rugosus* (Braconidae: Microgastrinae), which is a primary parasitoid of *Phanus vitreus* (Hesperiidae) feeding on *Inga longispica* (Fabaceae). Multiple *Mescochorus* specimens eclosed.
Other host data: None.

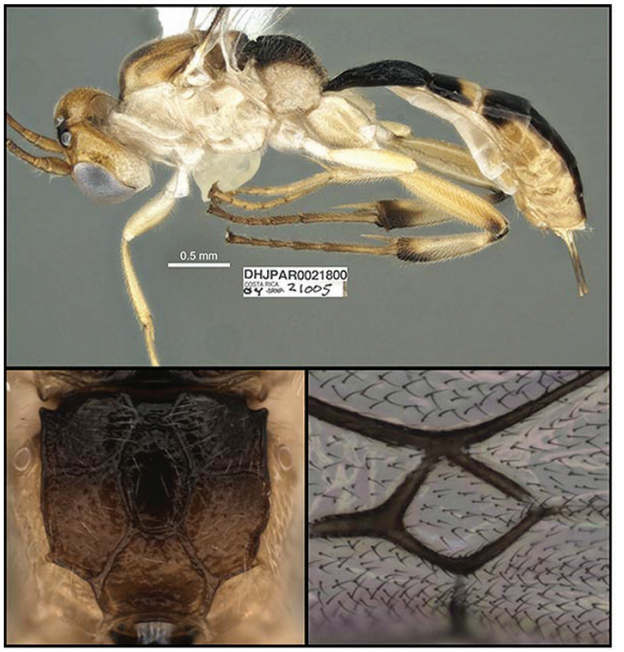

Fig. 55. *M. cuatrocuatro* holotype male.

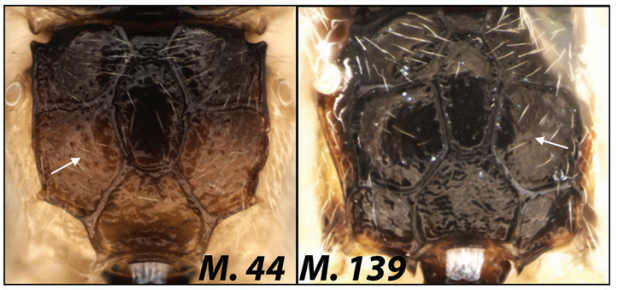

Fig. 56. Comparisons of *M. cuatrocuatro* with its nearest neighbor, *M. unotresnueve.*

Mesochorus cuatrocinco
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:4DD715E6-D3F9-42E8-BF59-6CC9A96EC11C

Diagnostics: Fig. 57.
Consensus barcode (8 specimens).
TATTTTATACTTTATTTTTGGCATATGATCCGGAATAATTGGYTCATCAATAAGCTTTATTATTCGAATAGAATTAGGA
AACCCTGGTTATTTAATTAATAATGATCAAATTTATAATTCATTAGTTACTTCTCACGCATTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAACTGAATAATCCCTTTAATAATCGGAGCTCCTGACATAGCTTTCC
CACGTATAAATAATATAAGATTTTGACTACTACCCCCTTCAATTTCTCTTTTATTATTAAGAAGAATTACCCATAAA
GGAACTGGTACAGGATGAACGGTATATCCTCCATTATCATTAAATATTAGACACGAAGGAATATCTGTTGATTTATC
TATTTTTTCATTACATTTAGCAGGAATATCTTCAATTATAGGAGCTATTAATTTTATTACAACAATTTTAAATATAC
GAGTAATAAATACTTCTTTAGACCAAATATCATTATTTGTRTGATCAATTTTAATTACAACAATTCTTTTACTYTTAG
CAGTTCCAGTTTTAGCAGGAGCTATTACAATATTATTATCTGATCGAAATTTAAATACATCTTTTTTTGATCCATCAG
GAGGRGGAGATCCTATYCTTTATCAACATTTATTT

BOLD data: BIN: BOLD:AAK7554.
Nearest neighbor: *M. unounoseis*, BOLD:ACK4344, 11.71% (p-dist).
Holotype ♀: DHJPAR0038404, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Sendero Juntas, 10.90661, -85.28784, 400 m, eclosion date 01/09/2010, caterpillar collection date 12/24/2009 (CNC). GenBank accession code HQ549148.
Holotype host data: Hyperparasitoid of *Hyposoter* INB-13 (Ichneumonidae), which is a primary parasitoid of *Anacrusis nephrodes* (Tortricidae) feeding on *Palicourea berteroana* (Rubiaceae). A single *Mesochorus* eclosed.
Other host data: *Prasmodon* (Braconidae: Microgastrinae), *Alabagrus* (Braconidae: Agathidinae), *Hyposoter* (Ichneumonidae: Campopleginae), *Eiphosoma* (Ichneumonidae: Cremastinae). All are solitary primary parasitoids, and each produced a sole *Mesochorus* specimen.

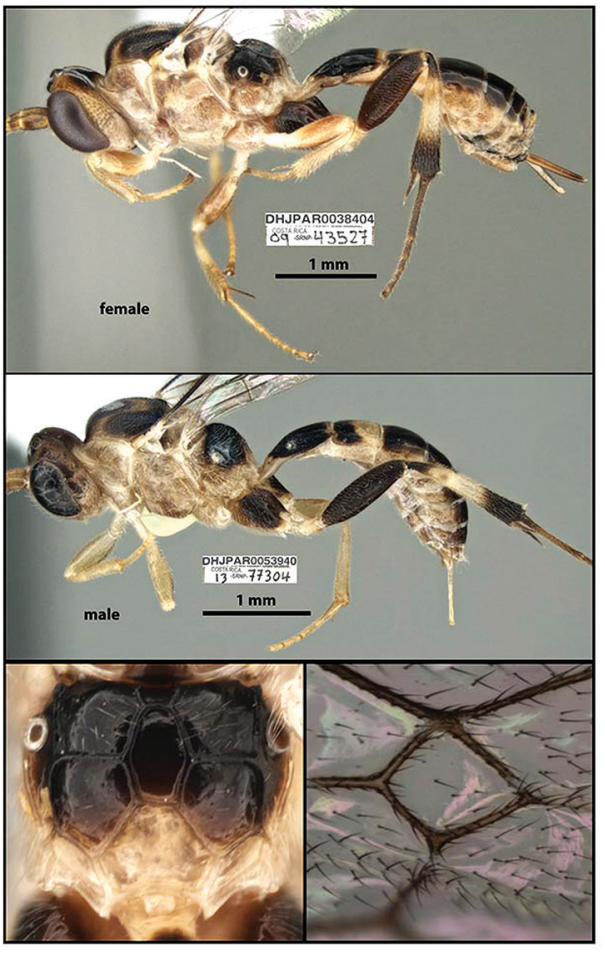

Fig. 57. *M. cuatrocinco* holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus cuatroseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:B8EF8D2D-5884-41EC-BD02-55E02598A37F

Diagnostics: Fig. 58.
Consensus barcode (8 specimens).
AATTTTATATTTTATTTTTGGTATATGAGCTGGAATAATTGGTTCATCAATAAGAATAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACATCTCATGCTTTTATCATAATTTTTTTTA
TAGTAATACCAATTATAATTGGAGGTTTTGGAAATTGAATAGTACCATTAATAATTGGTGCACCAGATATA
GCTTTCCCTCGTATAAATAATATAAGTTTTTGATTATTACCRCCTTCAATTATATTATTATTATTAAGAGGAATTTGT
CAAAAAGGTGTTGGTACAGGTTGAACAATTTATCCTCCTTTATCTTTAAATATTAGTCATGAAGGTTTATCWGTA
GATTTATCAATTTTTTCATTACATTTAGCTGGGATATCTTCWATTATAGGAGCAATTAATTTTATTACAAC
TATTTTAAATATGCGAATTYTAAAAACTTCTTTTGATCAAATATCTTTATTTGTATGATCAATTCTAATTACAACA
ATTTTATTATTATTAGCTGTYCCAGTTTTAGCCGGTGCTATTACTATATTATTATCAGATCGAAATTTAAATACTT
CATTTTTTGATCCATCAGGAGGAGGAGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAK7558.
Nearest neighbor: *M. cuatrosiete*, BOLD:AAK7559, 3.8% (p-dist).
Holotype ♀: DHJPAR0050159, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Quebrada Garcia, 10.86069, -85.42558, 495 m, eclosion date 10/07/2012, caterpillar collection date 09/23/2012 (CNC). GenBank accession code OM237770.
Holotype host data: Hyperparasitoid of *Apanteles felixcarmonai* (Braconidae: Microgastrinae), which is a primary parasitoid of *Phostria latiapicalis* (Crambidae) feeding on *Chimarrhis parviflora* (Rubiaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Apanteles* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

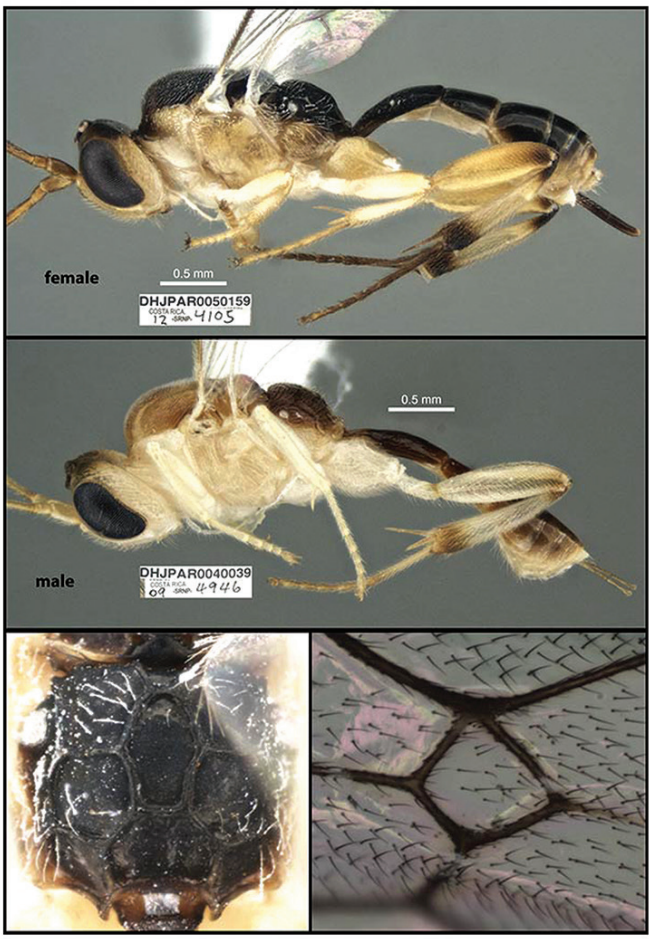

Fig. 58. *M. cuatroseis* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus cuatrosiete
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:7B444BE6-4DAE-4184-B824-B9486A6D8EDF

Diagnostics: Fig. 59.
Consensus barcode (5 specimens).
AATTTTATATTTTATTTTTGGTATATGAGCTGGTATAATTGGATCATCTATAAGAATAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGTTTTGGAAATTGAATAGTACCATTAATAATTGGTGCACCAGATATGGCTTTCC
CWCGAATAAACAATATAAGTTTTTGATTATTACCACCTTCAATTATAYTATTACTATTAAGAGGAATTTGTCAAAAA
GGTGTTGGTACAGGTTGAACAGTTTATCCTCCTTTATCTTTAAATRTTAGTCATGAAGGTTTATCAGTAGATTTATCA
ATTTTTTCTTTACATTTAGCTGGRATATCTTCTATTATAGGGGCAATTAATTTTATTACAACAATTTTAAATATACGA
ATTTACAAAACTTCTTTTGATCAAATATCTTTATTTGTTTGATCAATTYTAATTACAACAATTTTATTATTATTAGCT
GTCCCAGTTTTAGCTGGTGCAATTACTATATTATTATCTGAYCGAAATTTAAATACTTCATTTTTTGAYCCATCAGGAG
GAGGWGAYCCAATTTTATAYCAACATTTATTT

BOLD data: BIN: BOLD:AAK7559.
Nearest neighbor: *M. cuatroseis*, BOLD:AAK7558, 3.8% (p-dist).
Holotype ♂: DHJPAR0021758, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Rio Blanco Abajo, 10.90037, -85.37254, 500 m, eclosion date 02/28/2002, caterpillar collection date 02/14/2002 (CNC). GenBank accession code OM237770.
Holotype host data: Hyperparasitoid of *Macrocentrus gustavogutierrezi* (Braconidae: Macrocentrinae), which is a primary parasitoid of *Asturodes fimbriauralis* (Crambidae) feeding on *Colubrina spinosa* (Rhamnaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Apanteles*, *Papanteles* (Braconidae: Microgastrinae), *Chelonus* (Braconidae: Cheloninae). All rearings produced a single *Mesochorus* specimen.

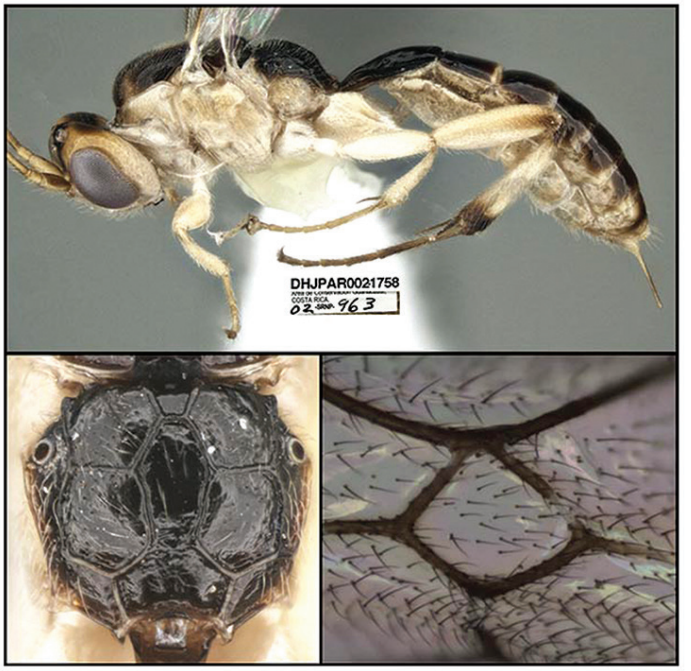

Fig. 59. *M. cuatrosiete,* holotype male.

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Mesochorus cuatroocho
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:35868C71-6C75-442E-820A-DDE20B03DC5A

Diagnostics: Fig. 60.
Consensus barcode (4 specimens).
TATTTTATACTTTATTTTTGGTATATGATCCGGAATAATTGGCTCTTCAATAAGAATAATTATTCGTATAGA
ATTAGGTAAYCCAGGATTTTTAATTAATAATGACCAAATTTATAATTCATTTGTTACTTCACATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTCGGAAATTGAATAATTCCTTTAATAATTGGTGCCCCAGA
TATAGCATTCCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCCTCAATTATATTACTTTTATTAAGAAGAATTT
GTCAAAAAGGAGTAGGAACAGGATGAACTGTTTATCCCCCTTTATCACTTAATATAAGTCATGAAGGATTATCAGTA
GATTTATCAATTTTCTCATTACATTTAGCAGGAATATCTTCAATTATAGGAGCAGTAAATTTTATTACAACTATTATTAA
TATACGTATTTATAAAACATCATTTGATCAAATATCTTTATTTGTTTGATCAATTCTAATTACAACAATTYTATTATTAC
TAGCTGTACCTGTATTAGCTGGYGCAATCACTATATTATTATCTGATCGTAATTTAAATACATCATTTTTTGATCCATCA
GGAGGTGGAGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAK7574.
Nearest neighbor: *M. nuevenueve*, BOLD:ABX5838, 3.53% (p-dist).
Holotype ♂: DHJPAR0051420, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Camino Rio Francia, 10.90425, -85.28651, 410 m, eclosion date 01/08/2013, caterpillar collection date 12/14/2012 (CNC). GenBank accession code OM237732.
Holotype host data: Hyperparasitoid of *Eiphosoma* maculicoxaDHJ32 (Ichneumonidae: Cremastinae), which is a primary parasitoid of *Ategumia* lotanalisDHJ07 (Crambidae) feeding on *Aciotis caulialata* (Melastomataceae). A single *Mesochorus* specimen eclosed.
Other host data: *Eiphosoma* (Ichneumonidae: Cremastinae). All rearings produce a single *Mesochorus* specimen.

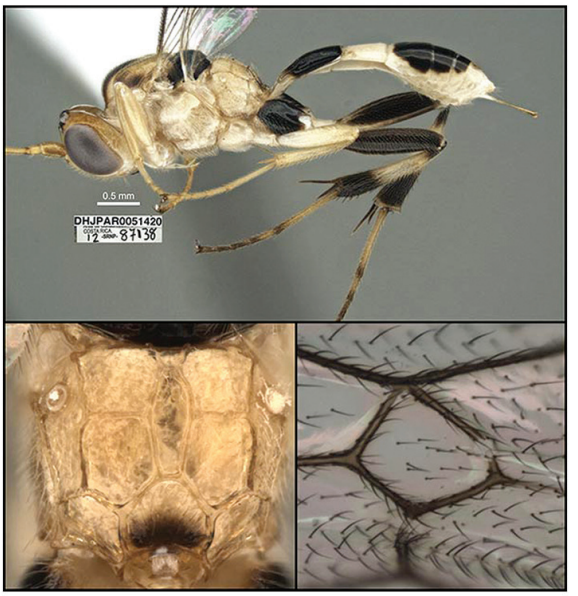

Fig. 60. *M. cuatroocho,* holotype male.

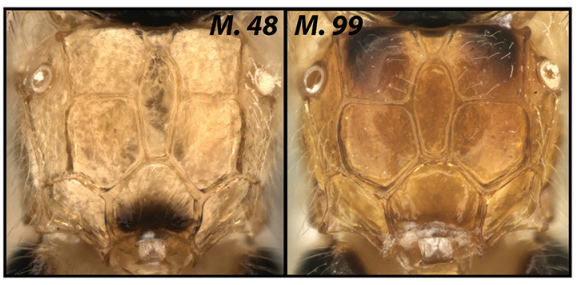

Fig. 61. Comparisons of the propodea of two species of *Mesochorus* (*M. cuatroocho and M. nuevenueve*) whose COI barcodes code for identical amino acids. Note the colors and the shapes of the median areolae, the areola is narrower and longer in *M. cuatroocho*.

Mesochorus cuatronueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:AEDC8037-15AA-4D52-BA65-54411911D21E

Diagnostics: Fig. 62.
Holotype barcode.
AATTTTATATTTTATTTTTGGAATATGAGCAGGAATAATTGGTTCATCAATAAGAATAATTATTCGTATAGA
ATTAGGTAATCCTGGATTTTTAATTAATAATGACCAAATTTATAATTCTTTTGTAACATCTCATGCTTTTATTA
TAATTTTTTTTATAGTAATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTTCCATTAATAATTGGAGCAC
CAGATATAGCCTTTCCTCGAATAAATAATATAAGATTCTGATTATTACCACCATCAATTATATTATTATTATTAAGTA
GAATTTGTCAAAAAGGAGTAGGAACTGGTTGAACAATTTATCCCCCTTTATCATTAAATGTAAGACATGAAG
GATTATCTGTTGATTTATCAATTTTTTCATTACATCTAGCTGGAATATCATCAATTATAGGGGCAATTAATTTTATTA
CAACAATTTTAAATATACGTATTTTAAAAACATCATTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATCA
CAACTATTTTATTATTATTAGCAGTTCCAGTTTTAGCTGGTGCAATTACTATATTATTATCTGATCGAAATCTAAA
TACTTCTTTTTTTGACCCATCAGGAGGTGGAGATCCAATTTTATACCAACATTTATT

BOLD data: BIN: BOLD:AAM1067.
Nearest neighbor: *M. unodoscuatro*, BOLD:ACW5260, 4.87% (p-dist).
Holotype ♀: DHJPAR0038216, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Sendero Huerta, 10.93050, -85.37223, 527 m, eclosion date 11/21/2009, caterpillar collection date 11/01/2009 (CNC). GenBank accession code HQ548865.
Holotype host data: Hyperparasitoid of *Apanteles raulacevedoi* (Braconidae: Microgastrinae), which is a primary parasitoid of gelJanzen01 Janzen180 (Gelechiidae) feeding on *Heliocarpus appendiculatus* (Malvaceae).
One *Mesochorus* specimen eclosed.
Other host data: None.

Fig. 62. *M. cuatronueve,* holotype female.

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Mesochorus cincocero
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:53D3F298-B6B2-4216-AE78-5E3EB36FE89A

Diagnostics: Fig. 63.
Consensus barcode (4 specimens).
AATTTTATATTTTATTTTTGGAATATGATCAGGAATAATTGGATCATCTTTAAGAATAATTATTCGTATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCACATGCTTTTATTA
TAATTTTTTTTATAGTAATACCAATTATAATTGGAGGTTTTGGTAATTGATTAATTCCATTAATAATTGGAGCTC
CAGATATAGCTTTCCCTCGTATAAATAATATAAGATTTTGATTACTTCCTCCTTCAATTATGTTATTATTATTAAGA
GGAATTTGCCAAAAAGGAGTAGGAACAGGATGAACTGTTTATCCACCATTATCATTAAATGTAAGTCATGAAG
GAATATCAGTAGATTTATCAATTTTTTCATTACATCTTGCTGGAATATCATCAATTATAGGTTCAATTAATTTTATTA
CAACAATTATAAATATACGAATTTTAAATACATCTTTAGATCAAATATCTTTATTTGTCTGATCAATTTTAATTAC
TACAATTTTATTATTATTAGCAGTTCCAGTTTTAGCAGGTGCAATTACTATATTATTATCTGATCGTAATCTAAA
TACTTCTTTCTTTGATCCATCAGGTGGAGGAGATCCAATTTTATACCAACACTTATTT

BOLD data: BIN: BOLD:AAM1074.
Nearest neighbor: *M. sietenueve*, BOLD:AAX4050, 5.93% (p-dist).
Holotype ♂: DHJPAR0040089, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Jardin Estrada, 10.86546, -85.39694, 722 m, eclosion date 01/29/2010, caterpillar collection date 01/15/2010 (CNC). GenBank accession code JQ574588.
Holotype host data: Hyperparasitoid of *Apanteles zeneidabolanosae* (Braconidae: Microgastrinae), which is a primary parasitoid of *Lethata trochalosticta* (Depressariidae) feeding on *Syzygium aromaticum* (introduced) (Myrtaceae). Multiple *Mesochorus* specimens eclosed.
Other host data:
Apanteles (Braconidae: Microgastrinae), *Chelonus* (Braconidae: Cheloninae). Multiple *Mesochorus* eclosed from all rearings.

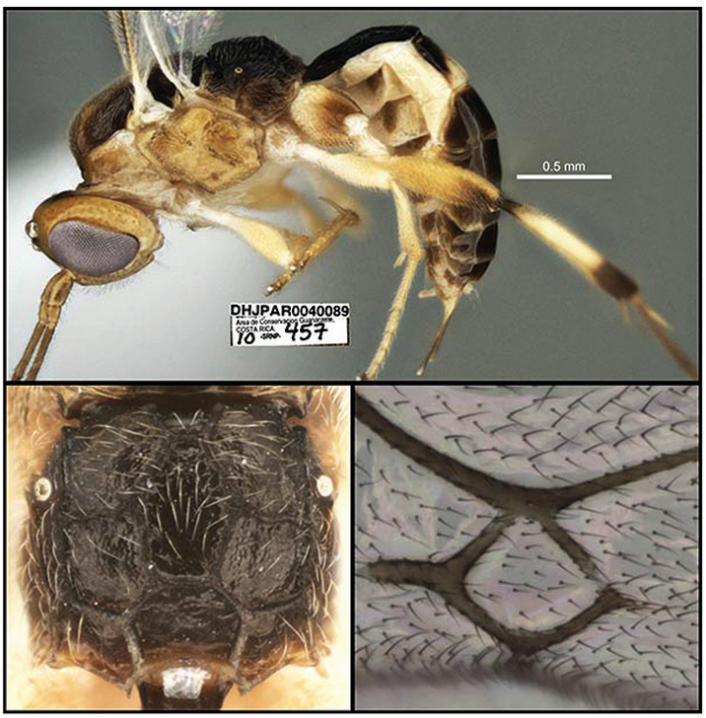

Fig. 63. *M. cincocero,* holotype male.

Mesochorus cincouno

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:83EA6809-1706-4BCC-B935-CFDDB36ACC54

Diagnostics: Fig. 64.

Consensus barcode (5 specimens).

AATTTTATATTTTATTTTTGGAATATGGGCCGGAATAATTGGCTCATCAATAAGAATAATTATCCGAATAGAATTAG
GAAATCCTAGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCTCATGCTTTTATTATAATCTTTTT
CATAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCACCAGATATA
GCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCACCTTCAATTATATTATTACTACTAAGTGGAATTT
GTCAAAAAGGTATAGGAACAGGATGAACTGTTTACCCACCATTATCATTAAATATTAGACATGAAGGATTAT
CAGTTGATTTTTCAATTTTTTCATTACATTTAGCAGGAATATCCTCAATTATAGGAGCAATTAATTTTATCACAA
CAATTTTAAATATACGAATTTTAAAAACATCTTTAGATCAGATATCTTTATTCGTTTGATCTATTTTAATCACAACA
ATTTTATTATTATTAGCAGTACCAGTTTTAGCTGGTGCAATTACAATATTATTATCTGATCGAAATTTAAATACTT
CATTTTTTGACCCATCAGGAGGAGGGGATCCTATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAM1111.

Nearest neighbor: *M. trestres*, BOLD:AAF0671, 6.63% (p-dist).

Holotype ♀: DHJPAR0039469, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Mismo, 10.98758, -85.41967, 680 m, eclosion date 04/12/2010, caterpillar collection date 03/10/2010 (CNC). GenBank accession code HQ926200.

Holotype host data: Hyperparasitoid of *Chelonus melaniamunozae* (Braconidae: Cheloninae), which is a primary parasitoid of gelJanzen01 Janzen758 (Gelechiidae) feeding on *Coccoloba porphyrostachys* (Polygonaceae). A single *Mesochorus* specimen eclosed.

Other host data: *Chelonus* (Braconidae: Cheloninae). All rearings produced a single *Mesochorus* specimen.

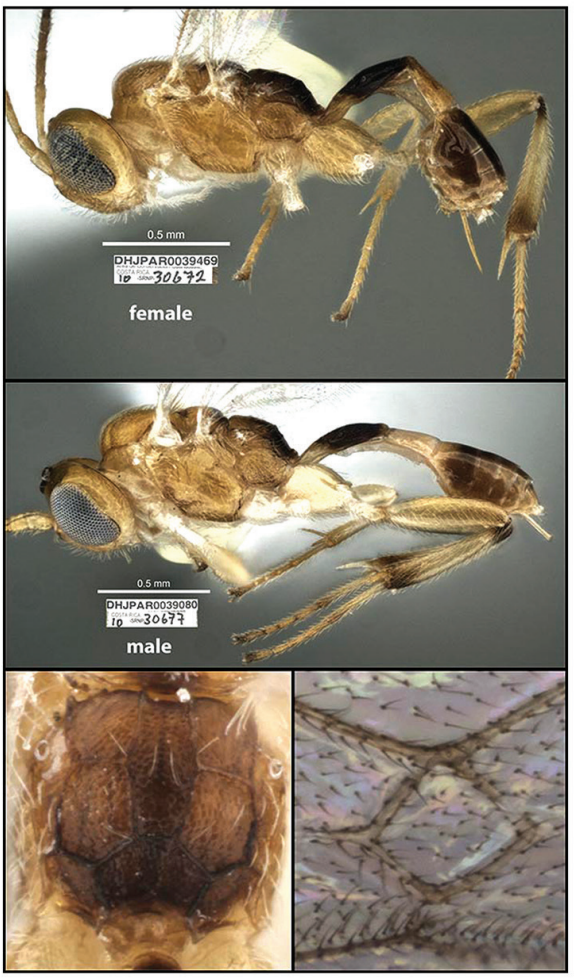

Fig. 64. *M. cincouno* holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus cincodos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:3C163111-6FEC-41D2-A660-3E0993A2E179

Diagnostics: Fig. 65.
Holotype barcode.
TGTATTATATTTTATTTTTGGAATTTGAGCTGGAATAATTGGATCAGCAATAAGATTGATCATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAACTCATTTGTAACAGCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCTATTATAATTGGAGGATTTGGAAATTGATTAGTACCCTTAATAATTGGGGCTCCTGATATAGCATTCC
CACGAATAAATAATATAAGATTCTGATTATTGCCTCCTTCATTAATATTATTATTATTAAGAAGAATTATTAATAAA
GGAGTAGGAACAGGCTGAACTGTATACCCCCCATTATCATTAAATTTAAGACATGAAGGAATATCAGTAGATTT
GTCAATTTTTTCATTACATTTAGCAGGTATATCTTCAATTATAGGAGCAGTAAATTTTATTACTACAATTTTAAATA
TACATTTATTTGGGATATCTTTAGATCAATTATCATTATTTACATGATCAATTATTGTCACTACAATTTTATTATTATTGG
CAGTTCCAGTTTTAGCAGGAGCAATTACAATATTATTAACTGATCGAAATTTAAATACATCATTTTTTGACCCATCTG
GAGGGGGGGATCCTATTCTTTATCAACATTTATTT

BOLD data: BIN: BOLD:AAM1690.
Holotype ♀: DHJPAR0038387, Área de Conservación Guanacaste, Guanacaste, Sector Mundo Nuevo, Vado Miramonte, 10.77175, -85.43400, 305 m, eclosion date 02/13/2010, caterpillar collection date 01/23/2010 (CNC). GenBank accession code HQ549133.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi57 (Braconidae: Microgastrinae), which is a primary parasitoid of *Agaraea minuta* (Erebidae) feeding on *Costus scaber* (Costaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

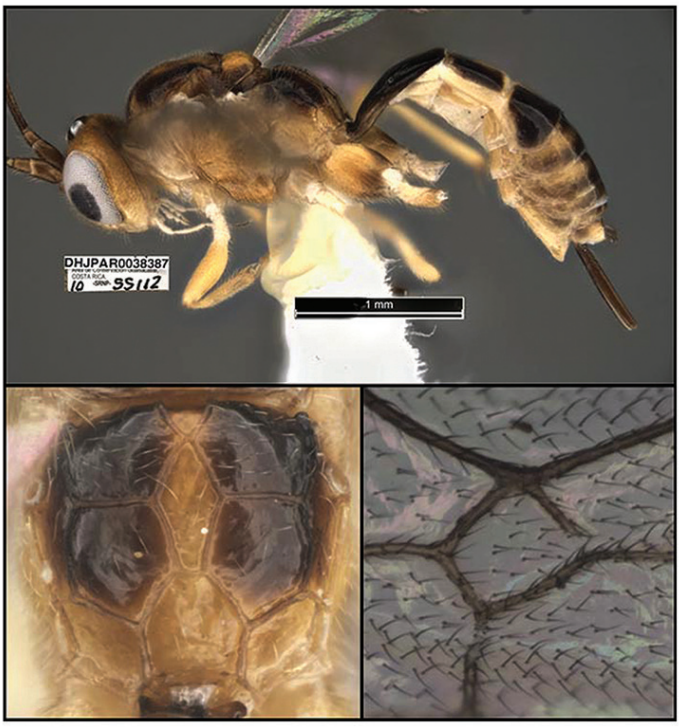

Fig. 65. *M. cincodos,* holotype female.

Mesochorus cincotres

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:1209C8A0-586C-4D86-BFBD-668529693318

Diagnostics: Fig. 66.
Consensus barcode (3 specimens).
TATTTTATATTTTATTTTTGGTATATGATCAGGAATAATTGGATCATCAATAAGATTAATTATTCGAATAGA
ATTAGGGAATCCTGGATTTTTAATTAATAATGAYCAAATTTATAATTCTTTTGTCACAGCCCATGCTTTTATCA
TAATTTTTTTTATAGTTATACCTATTATAATTGGAGGATTTGGTAATTGAATAGTTCCTTTAATAATTGGAGCACCA
GATATAGCTTTTCCTCGAATAAATAATATAAGTTTTTGATTATTACCMCCTTCAATTATATTATTATTGTTAAGAAGA
ATTTGTCAGAAAGGAGTTGGAACTGGATGAACTGTTTATCCCCCTTTATCATTAAATAGAAGYCATGAAGGATT
GGCAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGTATATCTTCTATTATAGGAGCAGTTAATTTTATTACAA
CAATTTTAAACATACGTRTAGTTGGATCTTCTTTAGATCAAATATCTTTATTTGTTTGATCAATTAAAATTACAACA
ATTTTATTATTATTAGCTGTCCCTGTTTTAGCAGGAGCAATTACAATATTATTAACTGATCGTAATTTAAATACAA
CATTTTTTGACCCTTCAGGAGGAGGTGACCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAM1692.
Nearest neighbor: *M. unotresuno*, BOLD:ADA1951 2.81% (p-dist). Forewing areolet sessile apically in *M. cincotres, petiolate in M. unotresuno* (Fig. 67).
Holotype ♀: DHJPAR0040561, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Leonel, 10.99637, -85.40195, 510 m, eclosion date 07/13/2010, caterpillar collection date 06/26/2010 (CNC). GenBank accession code JF863322.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi214 (Braconidae: Microgastrinae), which is a primary parasitoid of *Paectes* foviferaDHJ02 (Euteliidae) feeding on *Protium ravenii* (Burseraceae). A single *Mesochorus* specimen eclosed.
Other host data: *Diolcogaster, Glyptapanteles* (Braconidae: Microgastrinae). One rearing produced a sole *Mesochorus* and the other produced multiple *Mesochorus* specimens.

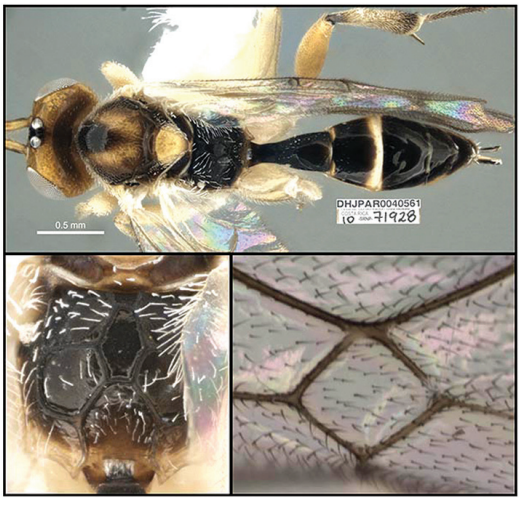

Fig. 66. *M. cincotres,* holotype female.

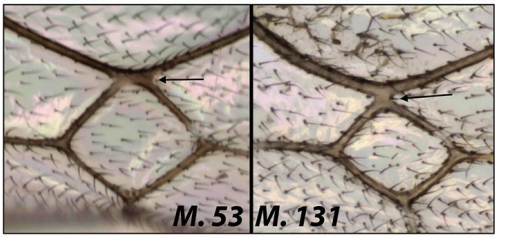

Fig. 67. Comparisons of *M. cincotres* with its nearest neighbor, *M. unotresuno.*

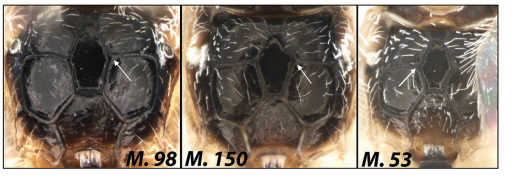

Fig. 68. Comparisons of the propodea of three species of *Mesochorus* (*M. nueveocho, M. unocincocero and M. cincotres*) whose COI barcodes code for identical amino acids. Note the shapes of the median areolae.

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Mesochorus cincocuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:72884B3A-1130-42BD-AF23-42E8E126F48F

Diagnostics: Fig. 69.
Consensus barcode (2 specimens).
AATTTTATATTTTATTTTTGGGATATGATCAGGAATAATTGGATCTTCAATAAGATTAATTATTCGAATAGAATTAGGA
AACCCCGGATTTTTAATTAATAATGACCAAATTTATAATTCTTTTGTGACAGCTCATGCATTTATTATAATTTTTTTTA
TAGTAATACCAATCATAATTGGTGGATTTGGAAACTGAATAGTACCCTTAATAATTGGAGCTCCTGATATA
GCTTTCCCTCGAATAAACAATATAAGATTTTGGTTATTACCCCCATCAATTATATTATTATTATTAAGAAGAATTT
GCCAAAAAGGTGTAGGGACAGGATGAACAGTTTACCCTCCTTTATCATTAAACAGAAGACATGAAGGATTTT
CAGTAGATTTATCAATTTTCTCTCTACACTTAGCTGGTATATCATCAATTATAGGTGCCGTAAATTTTATTACAA
CAATTTTAAATATACGTATTATTGGATCATCAATTGACCAAATATCTTTATTTGTTTGATCAATCAAAATTACAACA
ATTTTATTATTATTAGCTGTACCAGTTCTTGCAGGAGCAATTACTATATTATTAACAGATCGAAATTTAAATACAA
CATTTTTTGACCCTTCAGGAGGAGGGGACCCAATTTTATACCAACATCTATTT

BOLD data: BIN: BOLD:AAM1693.
Nearest neighbor: *Mesochorus* sp. undescribed**,** BOLD:AAX4067, 9.46% (p-dist).
Holotype ♀: DHJPAR0038400, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Manguera, 10.99590, -85.39842, 470 m, eclosion date 11/24/2009, caterpillar collection date 11/08/2009 (CNC). GenBank accession code HQ549144.
Holotype host data: Hyperparasitoid of *Triraphis billmclarneyi* (Braconidae: Rogadinae), which is a primary parasitoid of zygjanzen01 Janzen23 (Zygaenidae) feeding on *Doliocarpus multiflorus* (Dilleniaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Triraphis* (Braconidae: Rogadinae). A single *Mesochorus* specimen eclosed.

Fig. 69. *M. cincocuatro* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus cincocinco

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:FABF829F-164F-400E-BBBB-1D48F5039494

Diagnostics: Fig. 70.
Consensus barcode (2 specimens).
AATTTTATATTTTATTTTTGGAATATGATCAGGAATAATTGGATCATCTTTAAGAATAATTATTCGTATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATGCTTTTGTCACATCACATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATCATAATTGGAGGTTTTGGAAATTGATTAATTCCTTTAATAATTGGTGCACCAGATATA
GCTTTTCCTCGTATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATACTATTATTATTAAGAGGAATTTGT
CAAAAAGGTGTAGGAACAGGTTGAACTATTTATCCTCCTTTATCATTAAATTTAAGACATGAAGGATTATCTGTT
GATTTATCAATTTTTTCTTTACATCTTGCTGGCATATCATCAATTATAGGATCAATTAATTTTATTACAACAATTTTTAA
TATACGAATTTTAAAAACATCTTTAGATCAAATATCTTTATTTGTTTGATCAATCTTAATTACAACAATTTTATTAC
TATTAGCAGTTCCAGTTTTAGCAGGTGCAATTACTATATTATTATCAGATCGAAATTTAAATACTTCTTTTTTTGATC
CATCAGGTGGAGGAGATCCAATTCTATATCAACATCTATTT

BOLD data: BIN: BOLD:AAM1703.
Nearest neighbor: *M. sietenueve* BOLD:AAX4050 4.81% (p-dist).
Holotype ♀: DHJPAR0051899, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Jardin Estrada, 10.86546, -85.39694, 722 m, eclosion date 03/01/2013, caterpillar collection date 02/12/2013 (CNC). GenBank accession code OM237679.
Holotype host data: Hyperparasitoid of *Apanteles christianzunigai* (Braconidae: Microgastrinae), which is a primary parasitoid of *Stenoma* Janzen11 (Depressariidae) feeding on *Desmopsis schippii* (Annonaceae). One *Mesochorus* specimen eclosed.
Other host data: *Apanteles christianzunigai* (Braconidae: Microgastrinae). One *Mesochorus* specimen eclosed.

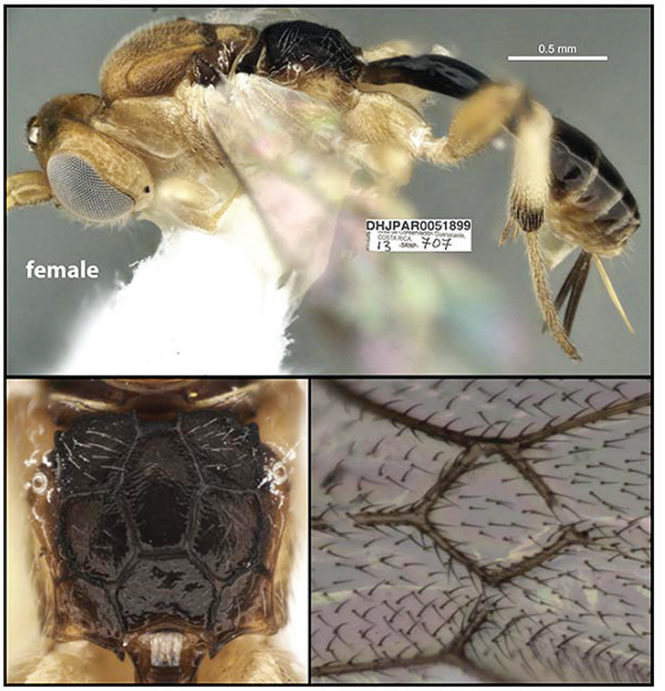

Fig. 70. *M. cincocinco,* holotype female.

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Mesochorus cincoseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:5B10BC14-9170-46D7-A811-C6BF3FD24533

Diagnostics: Fig. 71.
Consensus barcode (3 specimens).
TATTTTATATTTTATTTTTGGTATATGGGCAGGAATAATTGGTTCTTCAATAAGAATGATCATTCGTATAGAATTAGGA
AATCCTGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCACATGCTTTTATTATAATTTTCTTTA
TAGTTATACCTATTATAATTGGTGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCTCCTGATATAGCTTTCC
CACGAATAAATAATATAAGATTTTGATTATTACCACCATCAATTATATTATTATTATTAAGAGGAATTTGTCAAAAA
GGTGTTGGTACAGGATGAACAGTTTACCCACCTTTATCATTAAATGTTAGACATGAAGGATTATCARTAGATTTAT
CAATTTTTTCTTTACATTTAGCTGGTATATCTTCAATTATAGGAGCAATTAATTTTATTACAACAATCTTAAATATAC
GAATTTTAAAAACATCTTTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATCACAACAATTTTATTACTTTTAG
CAGTCCCAGTTTTAGCTGGTGCTATTACAATATTATTATCAGATCGTAACTTAAATACTTCTTTTTTTGACCCTTCA
GGTGGTGGAGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAN2491.
Nearest neighbor: *M.unocerocinco* BOLD:ACC1150, 5.31% (p-dist).
Holotype ♀: DHJPAR0039413, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Sendero Albergue Crater, 10.84886, -85.32810, 980 m, eclosion date 05/20/2010, caterpillar collection date 05/07/2010 (CNC). GenBank accession code HQ926168.

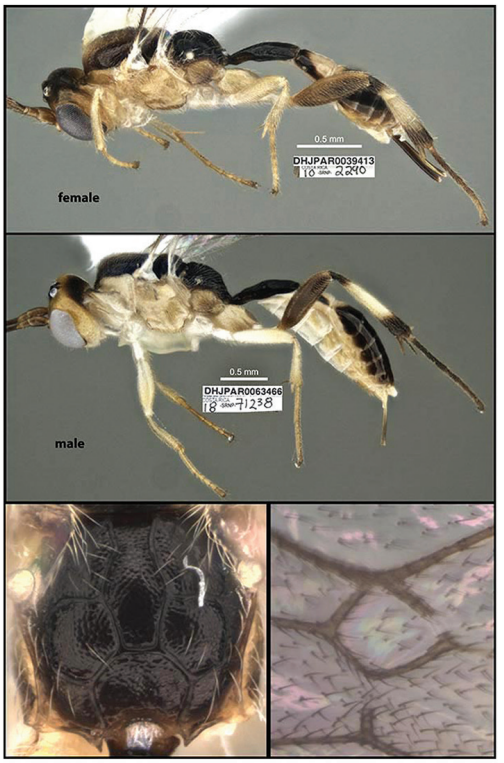

Fig. 71. *M. cincoseis* holotype female and male paratype. Unlabeled images are of the holotype.

Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield251 (Braconidae: Microgastrinae), which is a primary parasitoid of *Lamprosema* Janzen340 (Crambidae) feeding on *Paullinia capreolata* (Sapindaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Hypomicrogaster* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

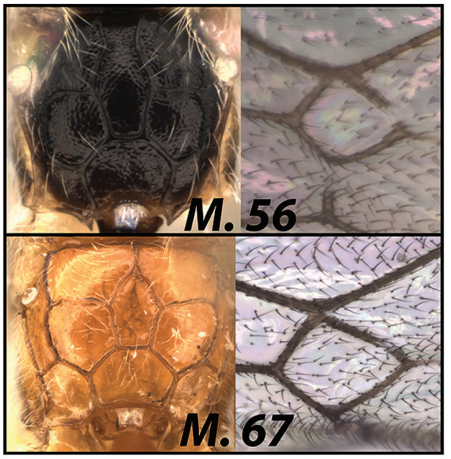

Fig. 72. Comparisons of two species of *Mesochorus* (*M. cincoseis* and *M. seissiete*) whose COI barcodes code for identical amino acids.

Mesochorus cincosiete
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:52F9F324-878C-459C-AD83-152F5BE26A3B

Diagnostics: Fig. 73.
Holotype barcode.
AGTATTATACTTCATTTTTGGTATATGAGCTGGAATAATTGGATCATCAATAAGATTAATAATTCGCCTAGA
ACTTGGAAATCCTGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACTGCACATGCTTTTGTAA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTCGGAAATTGATTAATTCCTCTAATAATTGGAGCTCCT
GATATAGCTTTCCCCCGAATAAATAATATAAGATTTTGACTATTACCTCCTTCATTAACTTTATTAATTTTAAGAA
GAGTTACTCACAAAGGAGTTGGAACAGGATGAACCGTCTACCCACCTCTATCTTTAAATTCTAGTCATGAAGGA
ATGTCTGTAGATTTATCTATTTTTTCTTTACATTTAGCAGGTATATCCTCAATTATAGGGGCTATTAATTTTATTAC
TACTATTTTAAATATACGATGCACAGGAACATCTTTAGATCAAATATCATTATTTACTTGATCAATAAAAATTACA
ACCATTTTACTACTATTAGCAGTACCAGTATTAGCAGGAGCAATTACAATATTACTGGCAGACCGAAACTTAAA
TACTTCTTTTTTTGATCCTTCAGGAGGAGGAGACCCAATTTTATATCAACACTTATTT

BOLD data: BIN: BOLD:AAQ0213.
Holotype ♀: DHJPAR0040562, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Laguna, 10.98880, -85.42336, 680 m, eclosion date 07/08/2010, caterpillar collection date 06/09/2010 (CNC). GenBank accession code JF863323.
Holotype host data: Hyperparasitoid of *Eucelatoria* Janzen09 (Tachinidae: Exoristinae), which is a primary parasitoid of uraJanzen01 Janzen05 (Uraniidae) feeding on *Bertiera bracteosa* (Rubiaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

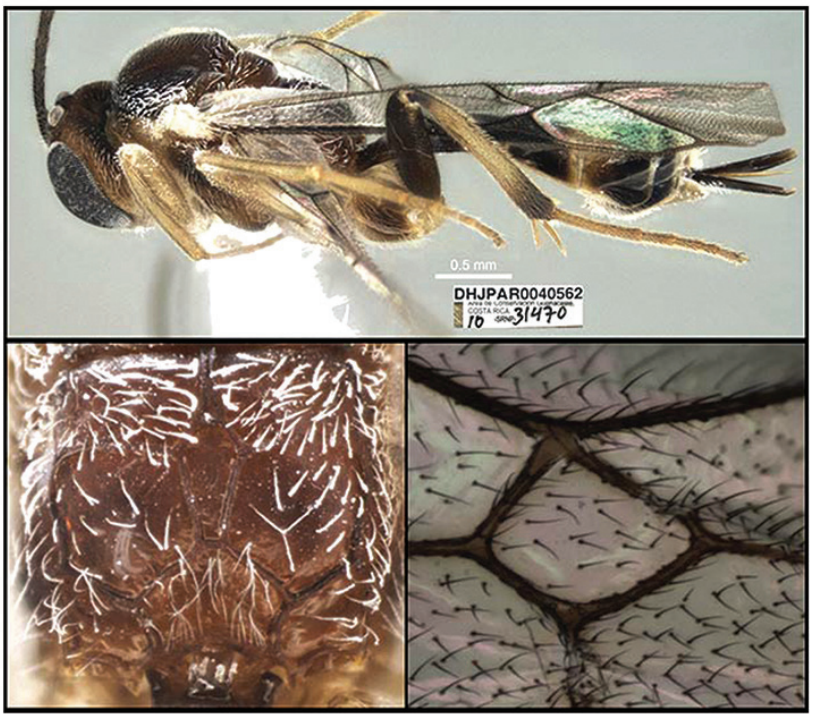

Fig. 73. *M. cincosiete,* holotype female.

Mesochorus cincoocho
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:1F1CF952-8B28-474C-954E-1F61D9D7BED9

Diagnostics: Fig. 74.
Consensus barcode (3 specimens).
TATTTTATATTTTATTTTTGGAATATGRTCAGGAATAATTGGTTCTTCTATAAGATTAATTATTCGAATAGA
ACTTGGTAATCCAGGATTTCTAATTAATAATGATCAAATTTATAATTCATTTGTTACTTCTCATGCATTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTTCCTTTAATAATTGGTGCACCA
GATATAGCCTTCCCTCGAATAAATAATATAAGGTTTTGATTATTGCCCCCATCAATTTCATTACTTTTATTAAGAA
GAATTTGTCAAAAAGGTGTAGGAACAGGATGAACAGTTTACCCCCCATTATCATTAAATATAAGACATGAAGGAT
TRTCTGTAGACCTTTCAATTTTTTCTTTACACCTTGCAGGAATATCTTCAATTATAGGAGCAGTTAATTTTATTAC
TACAATTTTAAATATACGAATTATAAAAACATCTTTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAA
CAATTTTATTATTATTAGCCGTTCCAGTATTAGCTGGTGCTATTACAATATTATTAACAGATCGTAACTTAAATACAT
CATTTTTTGATCCATCAGGAGGTGGTGATCCTATTTTATATCAACATTTATTC

BOLD data: BIN: BOLD:AAT8847.
Nearest neighbor: *M. unocerouno*, BOLD:ABY4235, 2.24% (p-dist). The shapes of the forewing areolets differ (Fig. 75).
Holotype ♀: DHJPAR0039097, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Flecha, 10.94741, -85.31501, 491 m, eclosion date 03/13/2010, 02/03/2010 (CNC). GenBank accession code HQ549550.

Holotype host data: Hyperparasitoid of *Apanteles luisgaritai* (Braconidae: Microgastrinae), which is a primary parasitoid of *Desmia* Solis19 (Crambidae) feeding on *Psychotria jimenezii* (Rubiaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Apanteles* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

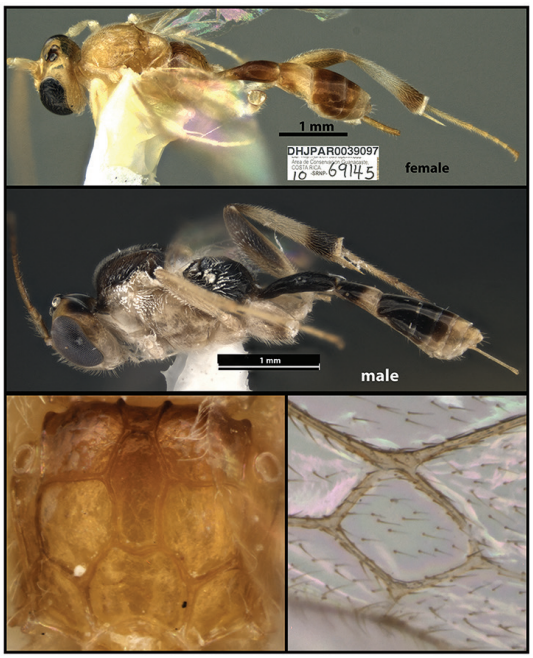

Fig. 74. *M. cincoocho* holotype female and male paratype. Unlabeled images are of the holotype.

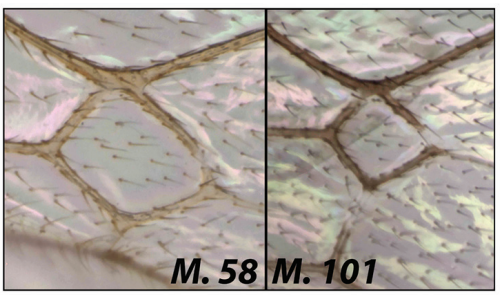

Fig. 75. Comparisons of *M. cincoocho* with its nearest neighbor, *M. unocerouno.*

Mesochorus cinconueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:8FA82DC6-8A7B-4795-AC48-43241F39CA4D

Diagnostics: Fig. 76.
Consensus barcode (10 specimens).
AATTTTATATTTTATTTTCGGAATTTGAGCTGGAATAATTGGATCTTCTATAAGATTAATTGTTCGAATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACAGCTCACGCATTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGRGGATTTGGAAATTGATTAATTCCTTTAATAATTGGAGCCCCT
GATATAGCATTTCCTCGAATAAATAATATAAGATTTTGATTACTACCRCCTTCAATTATATTATTATTATTAAGAA
GAATTATTAATAAAGGAGTAGGAACAGGATGAACAGTTTATCCCCCCTTATCTTTAAATATAAGACATGAAGGTA
TATCTGTTGATTTATCAATTTTTGCTTTACATTTAGCTGGTATATCCTCAATTATAGGGGCAGTAAATTTTATYAC
CACTATTTTAAATATACATTTAATTGGTATAACAATAGATCAATTGTCTTTATTTACTTGATCAATTAAGATTACA
ACAATTTTATTATTATTAGCAGTACCAGTTTTAGCTGGRGCTATTACAATATTATTAACTGACCGAAATTTAAA
TACTTCCTTTTTTGATCCATCAGGAGGRGGAGACCCTATTCTTTATCARCATTTATTT

BOLD data: BIN: BOLD:AAT8854.
Nearest neighbor: *M. unodos*, BOLD:AAC6097, 6.57% (p-dist).
Holotype ♀: DHJPAR0041672, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Quebradona, 10.99102, -85.39539, 475 m, eclosion date 01/17/2011, caterpillar collection date 12/23/2010 (CNC). GenBank accession code JQ575454.
Holotype host data: Hyperparasitoid of *Parapanteles* Whitfield213 (Braconidae: Microgastrinae), which is a primary parasitoid of *Napaea beltiana* (Riodinidae) feeding on Orchidaceae 22039 (Orchidaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Parapanteles* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

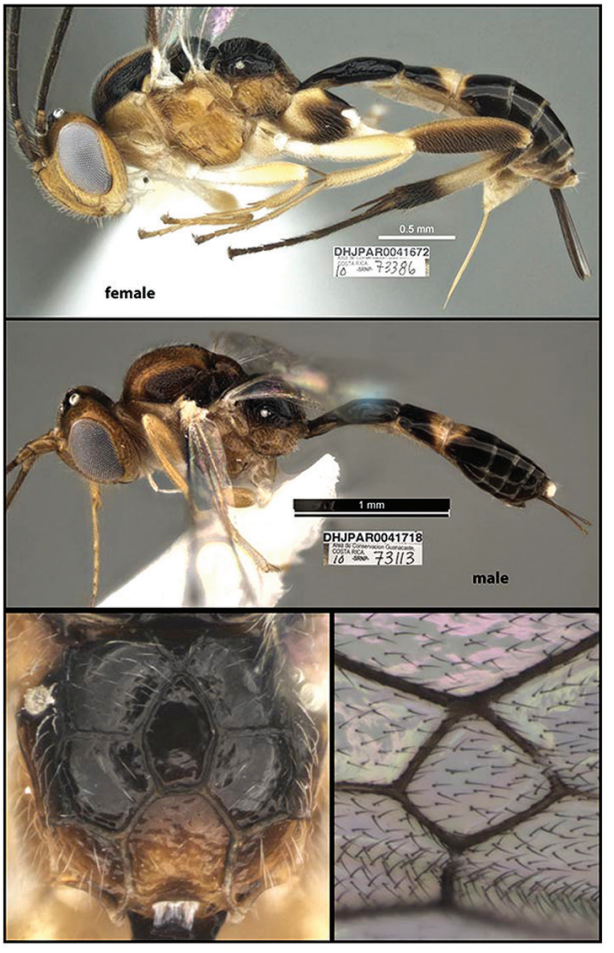

Fig. 76. *M. cinconueve* holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus seiscero

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:9AC6DF9F-5D15-474F-B0EE-46EDEE09AC26

Diagnostics: Fig. 77.
Consensus barcode (2 specimens).
AATTTTATATTTTATTTTTGGTTTATGAGCAGGAATAGTAGGAGCTTCAATAAGAATAATTATTCGTATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAACTCTTTTGTTACATCACATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCACCAGATATAGCTTTCC
CACGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTATTAAGAGGAATTTGTCAAAA
AGGTGTTGGAACTGGATGAACAGTTTATCCACCACTATCATTAAATATTAGTCATGAAGGTTTATCAGTTGATC
TATCAATTTTTTCATTACATTTAGCTGGTATATCATCAATTATAGGAGCAATTAATTTTATTACAACAATTTTAAATA
TACGTATTTTAAAATCATCATTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAACAATTTTATTATTATTA
GCAGTTCCAGTTTTAGCTGGTGCAATTACTATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATCCATCAG
GAGGTGGTGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN:BOLD:AAT9024.
Holotype ♀: DHJPAR0041540, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Amonias, 11.04249, -85.40339, 390 m, eclosion date 02/01/2011, caterpillar collection date 01/12/2011 (CNC). GenBank accession code OM237746.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield09 (Braconidae: Microgastrinae), which is a primary parasitoid of *Desmia* benealisDHJ02 (Crambidae) feeding on *Drymonia serrulata* (Gesneriaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Hypomicrogaster* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

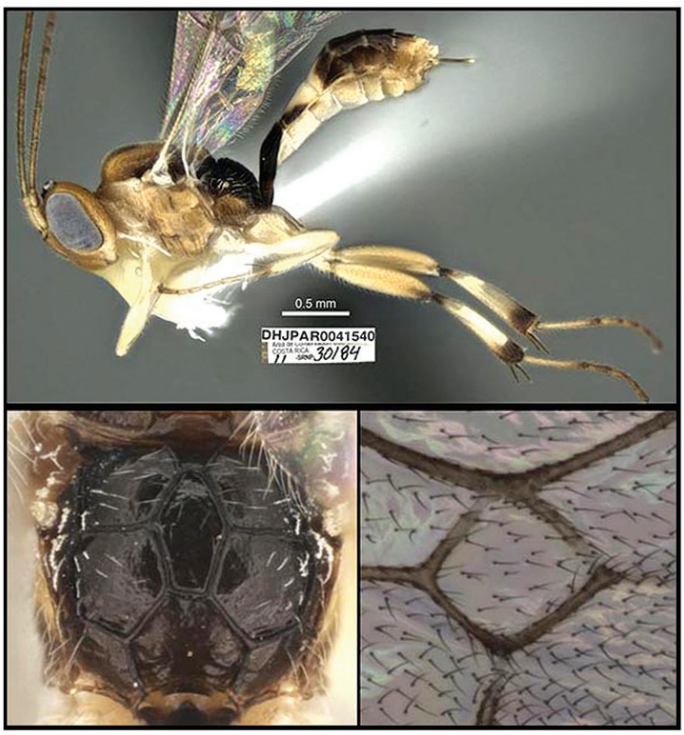

Fig. 77. *M. seiscero,* holotype.

Mesochorus seisuno

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:7AA9AC3E-F334-4FF8-A0BB-F0C2FC4DB9B2

Diagnostics: Fig. 78.

Holotype barcode.

AATTTTATATTTTATTTTTGGTATATGAGCTGGAATAATTGGTTCATCAATAAGAATAATTATTCGAATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCACATGCTTTTATTA
TAATTTTTTTTATGGTTATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCACCA
GATATAGCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCATCAATTATATTATTATTATTAAGAAGA
ATTTGTCAAAAAGGTATAGGAACTGGTTGAACAGTTTATCCTCCATTATCATTAAATATTAGTCATGAAGGGTTAT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGAATATCTTCAATTATAGGTGCTATTAACTTTATTACAAC
TATTTTAAATATACGAATTTTAAAAACATCTTTTGATCAAATATCATTATTTGTATGATCAATTTTAATTACAAC
TATTTTATTATTATTAGCTGTTCCAGTTTTAGCAGGTGCAATTACAATATTACTTTCAGATCGAAATTTAAACACTT
CATTTTTTGACCCATCAGGTGGAGGTGATCCAATTTTATATCAACATTTATTT

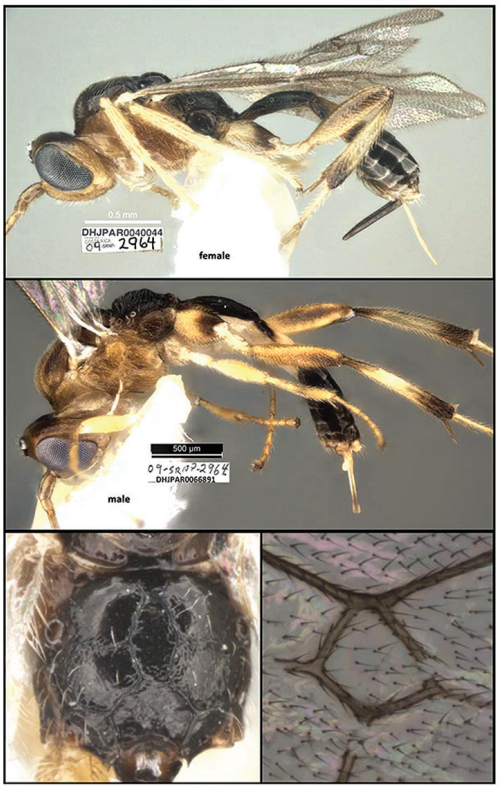

Fig. 78. *M. seisuno,* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066891) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, which was barcoded. They both have the same rearing/caterpillar record, 09-SRNP-2964, that can be recovered from the Janzen/Hallwachs website.

BOLD data: BIN: BOLD:AAT9233.
Nearest neighbor: *M. nueveseis*, BOLD:ABX4997, 2.4% (p-dist). The shapes of the forewing areolets are different (Fig. 79).
Holotype ♀: DHJPAR0040044, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Sendero Corredor, 10.87868, -85.38963, 620 m, eclosion date 07/05/2009, caterpillar collection date 06/25/2009 (CNC). GenBank accession code OM237731.
Holotype host data: Hyperparasitoid of *Aparteles* Whitfield13 (Braconidae: Microgastrinae), which is a primary parasitoid of *Desmia octomaculalis* (Crambidae) feeding on *Notopleura aggregata* (Rubiaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: None.

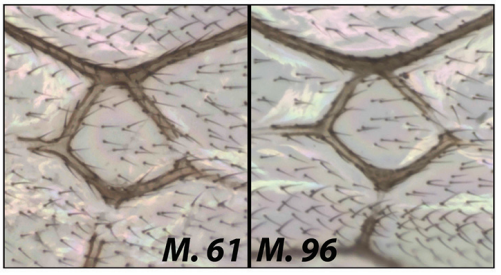

Fig. 79. Comparisons of *M. seisuno* with its nearest neighbor, *M. nueveseis.*

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Mesochorus seisdos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:77CF7D8D-B4D0-4AA8-B193-F919617D7F62

Diagnostics: Fig. 80.
Holotype barcode.
AGTTTTATATTTCATTTTTGGGATTTGAGCAGGAATAATTGGATCATCTATAAGATTAATTATTCGAATAGAATTAGGA
AACCCTGGATATTTAATTAACAATGACCAAATTTATAATTCATTCGTTACAGCTCACGCATTTATTATAATTTTTTTTA
TAGTTATACCTATTATAATCGGCGGATTTGGAAATTGATTAGTCCCTTTAATAATTGGGGCCCCAGATATAGCATTCC
CACGAATAAACAATATAAGATTTTGATTATTACCACCTTCATTAATATTATTATTATTAAGAAGAATTATTAATAAA
GGGGTAGGAACAGGATGAACTGTTTACCCCCCATTATCATTAAATATTAGCCATGAAGGAATATCAGTTGATTTAT
CAATTTTTTCTTTACATTTAGCAGGAATATCTTCAATCATAGGAGCAATTAATTTTATTACTACAATTTTAAATA
TACATTTAAATGGAATAACTTTTGATCAATTATCATTATTTACATGATCAATTAAAATTACAACTATTCTTTTATTATT
GGCAGTTCCTGTTCTAGCTGGAGCAATTACTATATTATTAACAGACCGAAATTTAAATACCTCATTTTTTGACCCTT
CAGGGGGGGGGGACCCAATTCTTTACCAACATTTATTT

BOLD data: BIN: BOLD:AAW4583.
Nearest neighbor: *M. unodosocho,* BOLD:ACZ6907, 9.8% (p-dist).
Holotype ♂: DHJPAR0042078, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Conguera, 10.91589, -85.26631, 420 m, eclosion date 12/22/2010, caterpillar collection date 11/30/2010 (CNC). GenBank accession code JQ575767.
Holotype host data: Hyperparasitoid of *Meteorus* Zitani01DHJ08 (Braconidae: Euphorinae), which is a primary parasitoid of noctJanzen01 Janzen10-44548 (Noctuidae) feeding on *Gleichenia pectinata* (Gleicheniaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

Fig. 80. *M. seisdos,* holotype male.

Mesochorus seistres

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:E6B331BB-FC63-4E4A-AD09-97287FCBEAA4

Diagnostics: Fig. 81.
Holotype barcode.
TATTTTATATTTTATTTTTGGTATATGATCAGGAATAATTGGATCATCAATAAGATTAATTATCCGAATAGAATTAGGA
AATCCAGGATTTTTGATTAATAATGACCAAATTTATAATTCTTTTGTTACAGCCCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCCCCTGATATAG
CATTCCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTTTTATTATTAAGAAGAATTA
GACAAAAAGGGGTAGGAACTGGATGAACAGTTTACCCTCCTTTATCATTAAATAGAAGTCATGAAGGATTTG
CAGTTGATTTATCAATTTTCTCTTTGCATTTAGCTGGTATATCATCAATTATAGGTGCAATTAATTTTATTACTAC
TATTTTAAATATACGTGTTACAGGATCTTCCTTAGATCAAATATCTTTATTTGTTTGATCTATTAAAATTACAACA
ATTTTATTATTATTAGCAGTTCCAGTTTTAGCTGGAGCAATTACAATATTATTAACTGATCGAAATTTAAATACA
ACTTTTTTTGATCCTTCAGGAGGAGGGGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX3997.
Nearest neighbor: *M. unotresuno*, BOLD:ADA1951, 7.19% (p-dist).
Holotype ♂: DHJPAR0040555, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Medrano, 11.01602, -85.38053, 380 m, eclosion date 07/28/2010, caterpillar collection date 07/10/2010 (CNC). GenBank accession code JQ574960.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi68 (Braconidae: Microgastrinae), which is a primary parasitoid of *Scotura* leucophlepsDHJ05 (Notodontidae) feeding on *Rinorea deflexiflora* (Violaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Dolichogenidea* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

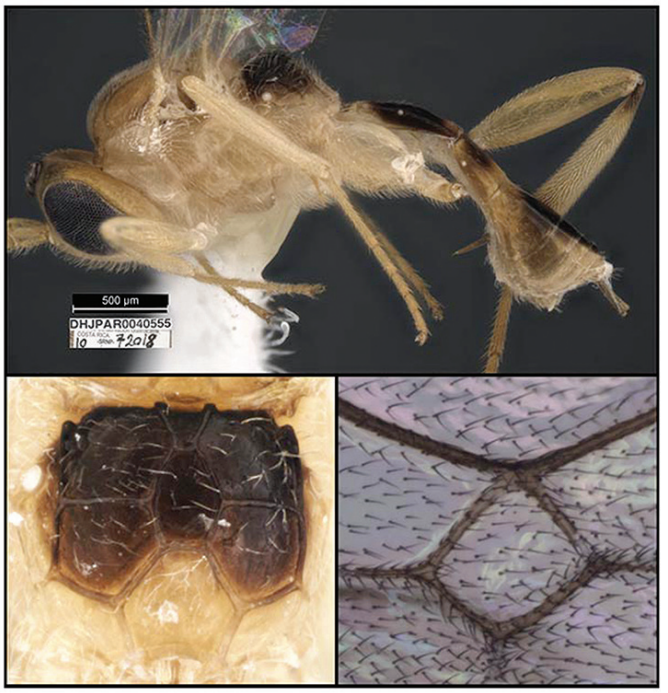

Fig. 81. *M. seistres,* holotype male.

Revista de Biología Tropical, ISSN: 2215-2075 Vol. 71(S2): e53316, agosto 2023 (Publicado Ago. 24, 2023)

Mesochorus seiscuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:B31521BB-E295-447D-AE16-9417E9532EF7

Diagnostics: Fig. 82.
Holotype barcode.
AATTTTATATTTTATTTTTGGTATATGATCTGGAATAATTGGTTCTTCTATAAGAATAATTATTCGAATAGA
ATTAGGTAACCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACTTCTCATGCTTTTATTA
TAATTTTTTTTATAGTAATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCTTTAATAATTGGGGCCC
CAGATATAGCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCTTCAATTATATTATTATTATTAAGAG
GAATTTGTCAAAAAGGTGTAGGTACTGGTTGAACAGTTTATCCACCTTTATCATTAAATATTAGTCATGAAGGA
ATATCAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGTATATCTTCAATTATAGGTGCAATTAATTTCATTA
CAACAATTTTAAATATACGAATTTATAAAACAACTTTTGATCAAATATCATTATTTGTTTGATCAATTTTAATTAC
TACAATTTTATTATTATTAGCAGTTCCAGTTTTAGCAGGTGCTATTACTATATTATTATCAGATCGAAATTTAAA
TACTTCCTTTTTTGATCCTTCTGGAGGTGGTGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4004.

Holotype ♂: DHJPAR0040552, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Sendero Parcelas, 10.90777, -85.29137, 375 m, eclosion date 08/08/2010, caterpillar collection date 05/25/2010 (CNC). GenBank accession code JQ574958.
Holotype host data: Hyperparasitoid of *Apanteles raulacevedoi* (Braconidae: Microgastrinae), which is a primary parasitoid of gelJanzen01 Janzen407 (Gelechiidae) feeding on *Clibadium eggersii* (Asteraceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

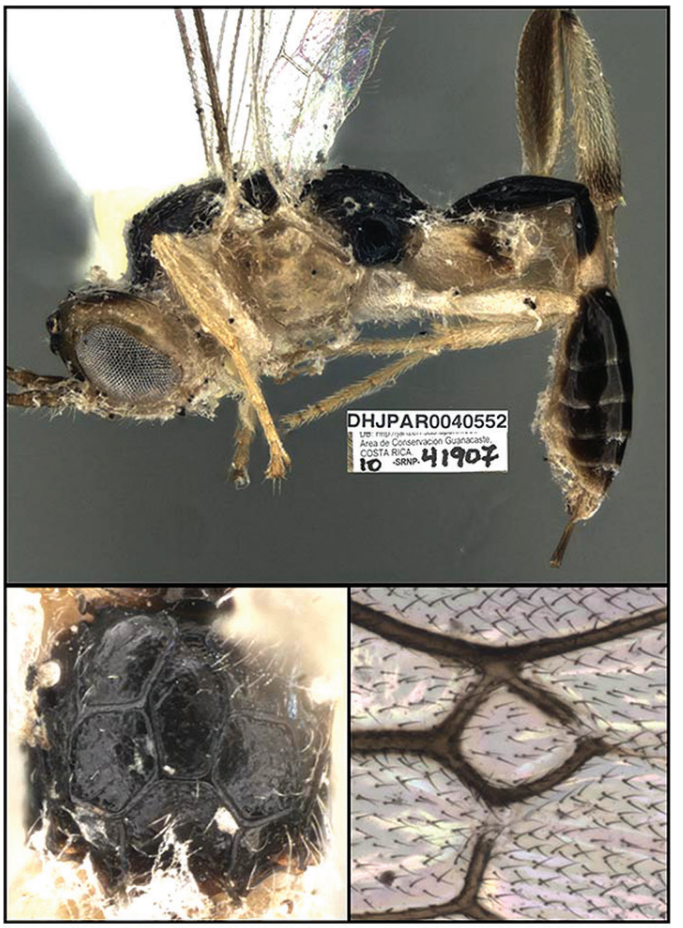

Fig. 82. *M. seiscuatro,* holotype male.

Mesochorus seiscinco
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:26414353-68FC-49CC-B918-C0D5AD544C55

Diagnostics: Fig. 83.
Holotype barcode.
AATTTTATATTTTATTTTTGGCATATGATCTGGAATAATTGGATCTTCAATAAGATTAATTATTCGTATAGAATTA
GGTACCCCTGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACTTCTCATGCATTTATTA
TAATTTTTTTTATAGTTATACCTATTATAATTGGCGGATTTGGTAATTGAATAGTTCCATTAATAATTGGAGCTCCTGA
TATAGCATTTCCACGTATAAATAATATAAGATTTTGATTACTACCCCCTTCAATTATATTTCTTTTATTAAGAGGTATTT
GTCAAAAAGGCGTTGGCACTGGTTGAACTGTTTATCCCCCCTTATCATTAAATGTTAGTCATGAAGGTTTAT
CAGTTGATTTATCTATTTTTTCTTTACATTTAGCTGGTATATCATCAATTATAGGTGCTGTAAATTTTATTACAAC
TATTTTAAATATACGAATTTATAAAACATCTTTAGATCAAATATCTTTATTTGTATGATCAATTTTAATTACAAC
TATTTTATTACTTTTAGCTGTTCCTGTATTAGCTGGAGCAATTACTATATTATTATCAGATCGTAATTTAAATACTT
CATTTTTTGATCCATCAGGGGGTGGTGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4006.
Nearest neighbor: *M. unocerocinco*, BOLD:ACC1150, 9% (p-dist).
Holotype ♂: DHJPAR0040036, Área de Conservación Guanacaste, Guanacaste, Sector Horizontes, Vado Esperanza, 10.78938, -85.55098, 85 m, eclosion date 08/01/2009, caterpillar collection date 06/18/2009 (CNC). GenBank accession code OM237728.
Holotype host data: Hyperparasitoid of *Cardiochiles gerardochavesi* (Braconidae: Cardiochilinae), which is a primary parasitoid of epipaJanzen01 Janzen15DHJ02 (Pyralidae) feeding on *Coccoloba caracasana* (Polygonaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

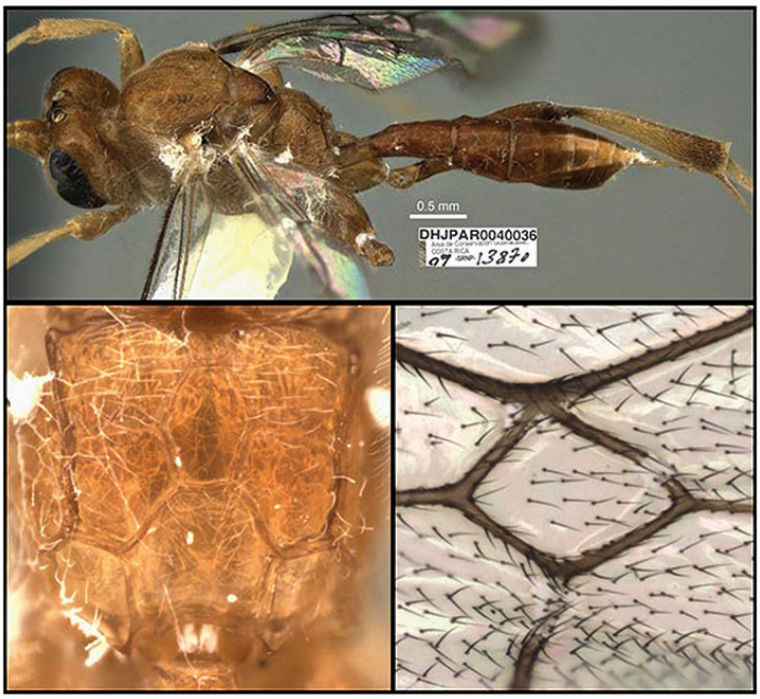

Fig. 83. *M. seiscinco,* holotype male.

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Mesochorus seisseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:CE4F65A5-D828-447A-8DB1-63C45EA1D233

Diagnostics: Fig. 84.
Consensus barcode (3 specimens).
TATTTTATATTTTATATTTGGAATATGAGCTGGAATAATTGGTTCATCAATAAGAATAATTATTCGTATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTCGTTACATCACATGCTTTTATTA
TAATTTTTTTTATAGTAATACCTATTATAATTGGTGGTTTTGGAAATTGAATAATTCCATTAATAATTGGAGCTCCA
GATATAGCTTTCCCTCGAATAAATAATATAAGATTTTGATTACTACCCCCTTCAATCATATTACTTTTATTAAGAGGA
ATTTGTCAAAAAGGTGTTGGTACTGGTTGAACAGTTTATCCTCCTTTATCATTAAATATTAGACATGAAGGTTTAT
CAGTTGATTTATCAATTTTTTCTCTACATTTAGCTGGAATATCATCAATTATAGGGGCAATTAATTTTATCACAAC
TATTTTAAATATACGAATTTTAAAAACATCTTTAGATCAAATATCTTTATTTACTTGATCTATTTTAATTACAAC
TATTTTATTATTATTAGCAGTTCCAGTACTAGCTGGTGCAATTACTATATTACTTTCTGATCGAAATCTAAATACTT
CATTTTTTGACCCGTCAGGAGGTGGTGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4009.
Nearest neighbor: *M. nueveseis*, BOLD:ABX4997, 6.42% (p-dist).
Holotype ♀: DHJPAR0047219, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Finca Esmeralda, 10.93548, -85.25314, 123 m, eclosion date 01/15/2012, caterpillar collection date 01/01/2012 (CNC). GenBank accession code OM237707.
Holotype host data: Hyperparasitoid of *Apanteles* Janzen77 (Braconidae: Microgastrinae), which is a primary parasitoid of *Antaeotricha* Janzen66 (Depressariidae) feeding on *Zygia longifolia* (Fabaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Dolichogenidea*, *Apanteles* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

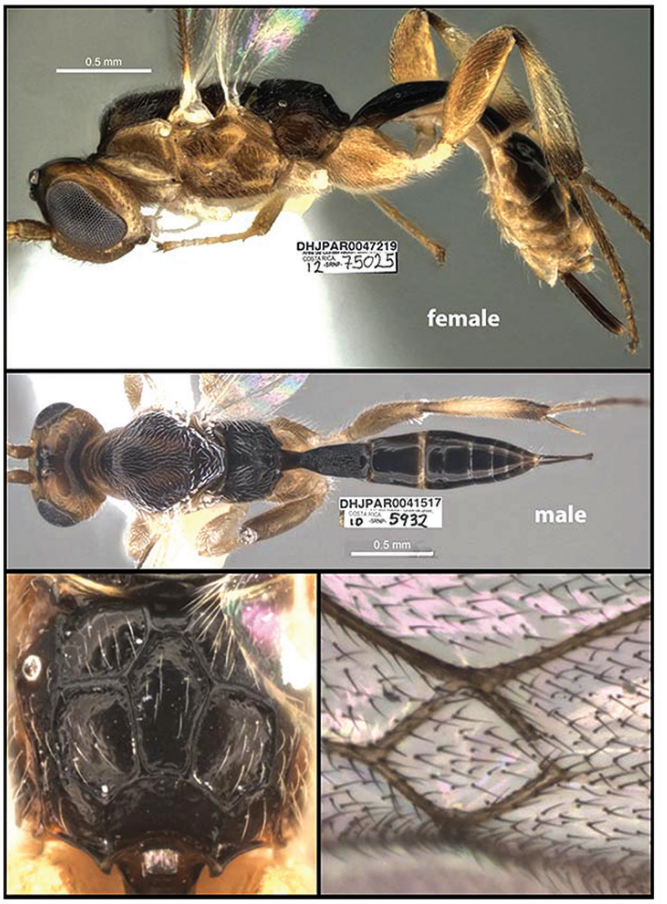

Fig. 84. *M. seisseis,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus seissiete

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:C4493919-3184-41FC-A41B-7BD8A6F1FFD1

Diagnostics: Fig. 85.
Holotype barcode.
AATTTTATATTTTATTTTTGGAATATGAGCTGGTATGATTGGTTCATCAATAAGAATAATTATTCGTATAGAATTAGGA
AACCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTCACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGTGGATTTGGTAATTGAATAATTCCTTTAATAATTGGAGCACCAGATATA
GCCTTTCCTCGTATAAATAATATAAGATTTTGATTATTGCCCCCTTCAATTATACTATTATTATTAAGAGGAATTT
GTCAAAAAGGAGTTGGGACTGGTTGAACAGTTTATCCTCCTTTATCTTTAAATGTAAGACATGAAGGTTTATCT
GTTGATTTATCAATTTTTTCATTACATTTAGCAGGTATATCATCAATTATAGGAGCAATTAATTTTATTACAACA
ATTTTAAATATACGTATTTTAAAAACTTCATTAGATCAAATATCTTTGTTTGTTTGATCAATTTTAATTACAACA
ATTTTATTATTATTAGCTGTTCCAGTTTTAGCTGGGGCAATTACTATACTTCTTTCTGATCGAAATTTAAATACTT
CATTTTTTGATCCATCAGGAGGAGGAGACCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAX4010.
Nearest neighbor: *M. nuevecero*, BOLD:AAY4749, 4.51% (p-dist).
Holotype ♀: DHJPAR0040558, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Medrano, 11.01602, -85.38053, 380 m, eclosion date 07/22/2010 caterpillar collection date 07/07/2010 (CNC). GenBank accession code JQ574962.
Holotype host data: Hyperparasitoid of *Apanteles raulacevedoi* (Braconidae: Microgastrinae), which is a primary parasitoid of *Phostria cyrisalis* (Crambidae) feeding on *Goethalsia meiantha* (Malvaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

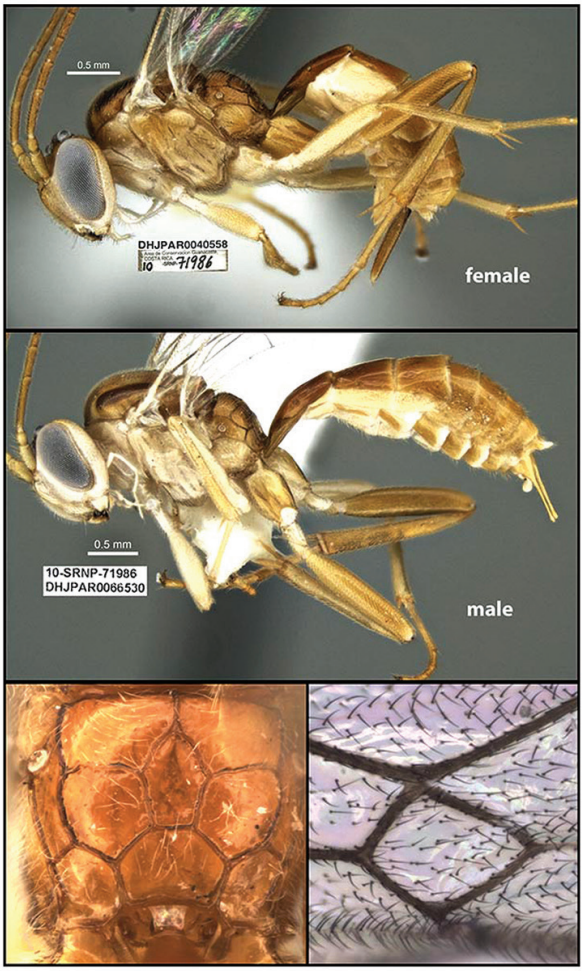

Fig. 85. *M. seissiete,* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066530) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, which was barcoded. They both have the same rearing/caterpillar record, 10-SRNP-71986, that can be recovered from the Janzen/Hallwachs website.

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Mesochorus seisocho

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:387C4F0F-83DD-45C7-B39D-E9335BE59DF6

Diagnostics: Fig. 86.
Holotype barcode.
TTCTATATTTTATTTTTGGTATATGAGCTGGAATAATTGGTTCTTCAATAAGTATAATTATTCGTATAGAATTGGGGA
ATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGTTTTGGAAATTGAATAATTCCATTAATAATTGGTGCCCCTGACATA
GCTTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTAATAAGAAGAATTT
GTCAAAAAGGTGTTGGAACAGGATGAACAGTATATCCTCCATTATCATTAAATATTAGACATGAAGGTTTATCT
GTTGATTTATCAATTTTTTCTTTACATTTAGCTGGAATATCATCAATTATAGGAGCTATTAATTTTATTACAACA
ATTTTAAATATACGAATTTATAAAACATCATTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAACA
ATTTTATTATTATTAGCAGTACCAGTTTTAGCAGGTGCAATTACAATATTATTAAGTGATCGAAATTTAAATACAT
CATTTTTTGACCCTTCTGGTGGTGGTGA

BOLD data: BIN: BOLD:AAX4030.
Nearest neighbor: *M. unodossiete*, BOLD:ACW7619, 6.35% (p-dist).
Holotype ♂: DHJPAR0020401, Área de Conservación Guanacaste, Guanacaste, Sector Mundo Nuevo, Porton Rivas, 10.75864, -85.37269, 570 m, eclosion date 11/25/2005, caterpillar collection date, 11/10/2005 (CNC). GenBank accession code JF793184.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield20 (Braconidae: Microgastrinae), which is a primary parasitoid of spiloJanzen01 Janzen41 (Crambidae) feeding on *Iresine latifolia* (Amaranthaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: None.

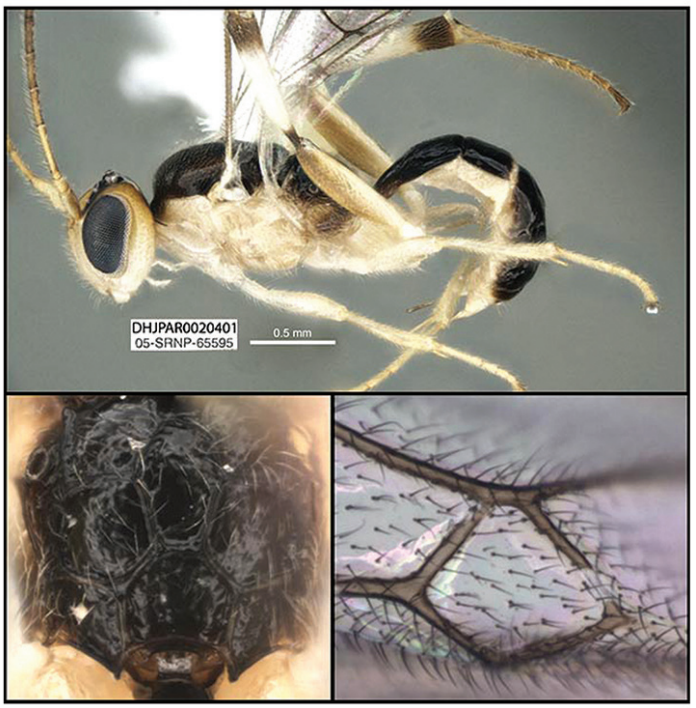

Fig. 86. *M. seisocho,* holotype male.

Mesochorus seisnueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:5EE9302E-8A9A-48E6-ADDD-25392A1CBF7A

Diagnostics: Fig. 87.
Consensus barcode (3 specimens).
ATTTTATATTTTATTTTTGGATTATGAGCAGGAATAATTGGAGCTTCAATAAGAATAATTATTCGAATAGA
ATTAGGRAATCCTGGATTTTTAATTAATAATGATCAAATTTATAACTCTTTTGTTACATCCCATGCCTTTATTA
TAATTTTTTTTATAGTTATACCTATTATAATTGGTGGATTTGGAAATTGAATAATTCCATTAATAATTGGRGCCCCA
GATATAGCCTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCATCAATTTTATTATTATTAWTAAGAA
GAATTTGTCAAAAAGGAGTAGGAACAGGTTGAACAGTTTAYCCTCCTTTATCTTTAAATATTAGACATGAAG
GRTTATCTGTTGATTTATCAATTTTTTCCCTTCATTTAGCAGGTATATCTTCAATTATAGGAGCAATTAATTTTATTA
CAACAATTATAAATATACGAATTTTAAAAACATCYTTAGACCAAATATCATTATTTGTATGATCAATTTTWATTACAA
CAATTTTATTATTATTAGCAGTTCCAGTTTTAGCTGGTGCAATTACAATATTACTTTCTGATCGAAATTTAAATACTT
CATTTTTTGATCCATCTGGAGGAGGTGATCCAATCTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4031.
Nearest neighbor: *M. dosuno*, BOLD:AAE3978, 7.33% (p-dist).
Holotype ♀: DHJPAR0012207, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Sendero Albergue Crater, 10.84886, -85.32810, 980 m, eclosion date 7/10/2006, caterpillar collection date 06/21/2006 (CNC). GenBank accession code JF793185.
Holotype host data: Hyperparasitoid of *Glyptapanteles* Janzen5048 (Braconidae: Microgastrinae), which is a primary parasitoid of *Phastia* alcimedeICG02 (Notodontidae) feeding on *Miconia conomicrantha* (Melastomataceae). Multiple *Mesochorus* specimens eclosed.
Other host data: None.

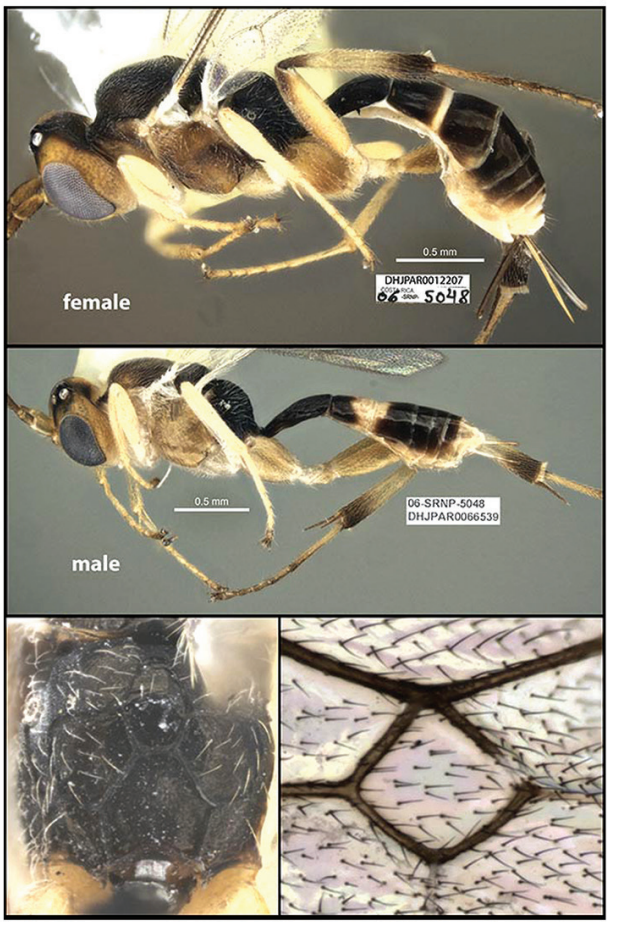

Fig. 87. *M. seisnueve,* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066539) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, which was barcoded. They both have the same rearing/caterpillar record, 06-SRNP-5048, that can be recovered from the Janzen/Hallwachs website.

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Mesochorus sietecero

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:5B993FF8-F1F1-4C71-978F-7193B4CAE94D

Diagnostics: Fig. 88.
Holotype barcode.
ATTTTATATTTTATTTTTGGAATATGAGCAGGTATAATTGGATCATCAATAAGAATAATTATTCGTATAGAATTAGGA
AATTCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCCCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTACCATTAATAATTGGAGCACCAGATATAG
CATTTCCTCGAATAAATAATATAAGATTTTGATTACTCCCTCCTTCAATTATATTATTACTATTAAGAAGAATTTGT
CAAAAAGGTGTGGGAACTGGTTGAACAGTTTATCCACCATTATCATTAAATATTAGTCATGAAGGACTTTCAGTT
GATTTATCAATTTTTTCTTTACATTTAGCTGGTATATCTTCAATTATAGGAGCAATTAATTTTATTACTACA
ATTTTAAATATACGTATTATAAGTACTTCATTAGATCAAATAACATTATTTGTATGATCAATTTTAATCACAACA
ATTTTATTATTATTAGCAGTTCCAGTTTTAGCAGGAGCAATTACTATATTACTTTCAGATCGAAATTTAAATACTT
CATTTTTTGATCCTTCAGGNGGNGGAGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAX4033.
Nearest neighbor: *M. nueve*, BOLD:AAC2766, 5.32% (p-dist).
Holotype ♀: DHJPAR0020367, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Mismo, 10.98758, -85.41967, 680 m, eclosion date 06/28/2006, caterpillar collection date (CNC). GenBank accession code JF793189.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield50 (Braconidae: Microgastrinae), which is a primary parasitoid of *Paragonia* crurariaDHJ02 (Geometridae) feeding on *Hiraea reclinata* (Malpighiaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

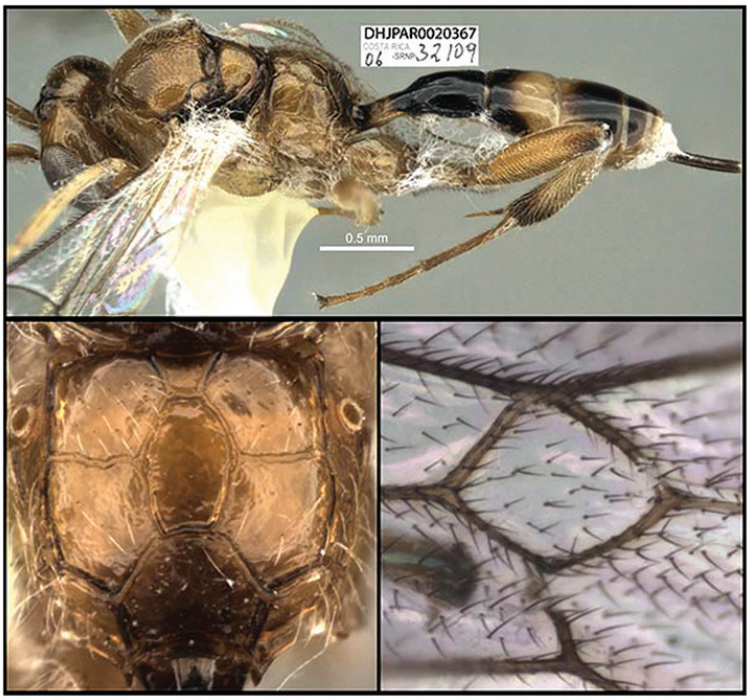

Fig. 88. *M. sietecero,* holotype female.

Mesochorus sieteuno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:EA621DF7-4A9C-4FDE-AFE2-F05C199CB3B7

Diagnostics: Fig. 89.
Consensus barcode (4 specimens).
AATTTTATATTTTATTTTTGGAATATGAGCAGGAATAATTGGTTCTTCAATAAGAATAATTATTCGATTAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCACATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCTTTAATAATTGGTGCAC
CAGATATAGCTTTTCCCCGAATAAATAATATAAGATTTTGATTATTACCACCTTCAATTATATTATTATTATTAAGT
GGAATTTGTCAAAAAGGAGTTGGAACTGGTTGAACAGTTTATCCTCCTTTATCATTAAATATAAGTCATGAAG
GATTATCTGTTGATTTATCAATTTTTTCATTACATTTARCTGGAATATCTTCAATTATAGGAGCTATTAATTTTATTA
CAACAATTTTAAATATACGTATTTTTAAAACATCATTTGATCAAATATCTTTATTCGTTTGATCAATTTTAATTACAA
CAATTTTATTATTATTAGCAGTACCCGTTTTAGCTGGTGCAATTACTATATTACTCTCTGATCGAAATTTAAATACTT
CATTTTTTGACCCATCAGGAGGTGGAGATCCTATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAX4034.
Nearest neighbor: *M. seiscero*, BOLD:AAT9024, 6.25% (p-dist).
Holotype ♀: DHJPAR0021753, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Pasmompa, 11.01926, -85.40997, 440 m, eclosion date 03/04/2005, caterpillar collection date 02/05/2005 (CNC). GenBank accession code JF793192.
Holotype host data: Hyperparasitoid of *Apanteles freddyquesadai* (Braconidae: Microgastrinae), which is a primary parasitoid of *Gorgythion begga pyralina* (Hesperiidae) feeding on *Banisteriopsis muricata* (Malpighiaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Apanteles* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

Fig. 89. *M. sieteuno,* holotype female.

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Mesochorus sietedos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:9131CD0D-706B-4FD0-8758-E3FF8AC8F78B

Diagnostics: Fig. 90.
Consensus barcode (4 specimens).
AATTTTATATTTTATTTTTGGAATATGAGCAGGAATAATTGGAGCTTCTATAAGTATAATTATTCGAATAGA
ATTAGGAAATCCAGGATTTTTAATTAACAATGATCAAATTTATAATTCTTTTGTTACATCACATGCTTTTATTA
TRATTTTTTTTATAGTTATACCTATTATAATTGGAGGATTTGGAAATTGAATAATCCCATTAATAATTGGAGCTC
CAGATATAGCTTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTTTATTATTATTATTAAGA
GGTATTTGTCAAAAAGGAGTAGGAACTGGTTGAACAGTCTACCCCCCCATTATCATTAAATATAAGTCATGAAG
GATTATCAGTTGATTTATCTATTTTTTCTTTACACTTAGCAGGAATATCATCAATTATAGGAGCAATTAATTTTATTA
CAACAATTTTAAATATACGAATTTTAAAAACATCTTTAGACCAAATATCTTTATTTGTTTGATCAATTTTAATTACAA
CAATTTTATTATTATTAGCAGTTCCAGTTTTAGCTGGTGCAATTACAATATTATTATCAGATCGAAATTTAAATACTT
CATTTTTTGATCCATCAGGAGGAGGTGATCCTATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4035.
Nearest neighbor: *M. ochocinco*, BOLD:AAX4065, 5.61% (p-dist).
Holotype ♀: DHJPAR0061695, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Pasmompa, 11.01926, -85.40997, 440 m, eclosion date 04/14/2017 caterpillar collection date 04/03/2017 (CNC). GenBank accession code OM237685.
Holotype host data: Hyperparasitoid of *Glyptapanteles ilarisaaksjarvi* (Braconidae: Microgastrinae), which is a primary parasitoid of *Condica funerea* (Noctuidae) feeding on *Neurolaena lobata* (Asteraceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Glyptapanteles* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

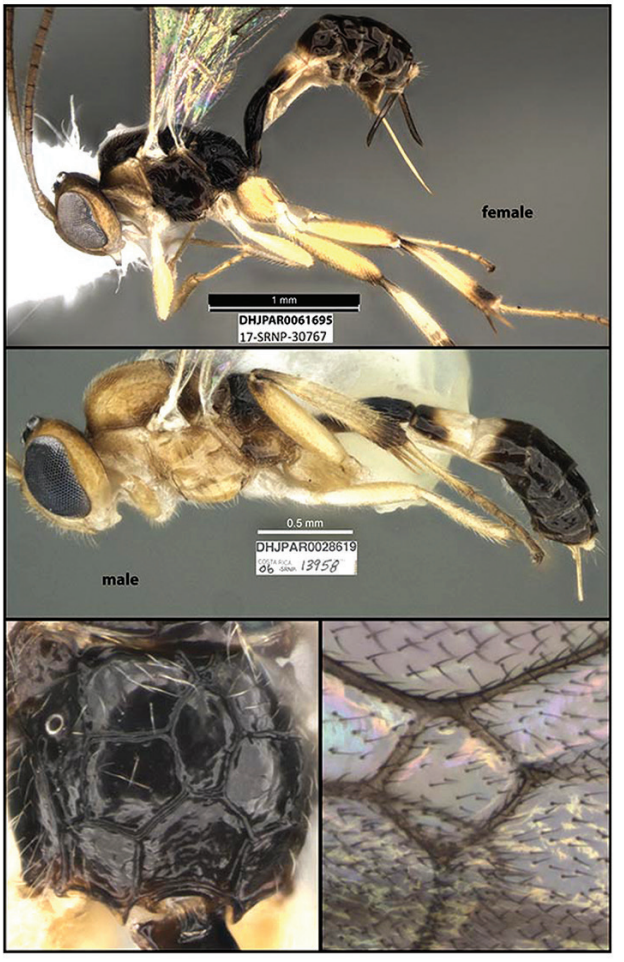

Fig. 90. *M. sietedos,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus sietetres
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:07B675B2-E3D1-4AC1-BB55-8709F80A08FA

Diagnostics: Fig. 91.
Holotype barcode.
ATTTTATATTTTATTTTTGGTATATGAGCTGGAATAATTGGATCATCAATAAGAATAATTATTCGTATAGAATTAGGA
AACCCTGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGTGGATTTGGTAATTGAATAGTACCATTAATAATTGGTGCTCCAGATATAG
CATTTCCTCGAATAAATAACATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTAATAAGTGGAATTTGT
CAAAAAGGTGTTGGAACTGGATGAACAGTTTATCCTCCATTATCATTAAATATTAGACATGAAGGTTTATCTGTT
GATTTATCAATTTTTTCCCTACATTTAGCAGGTATATCTTCAATTATAGGAGCAATTAATTTTATTACAACTATTTTAA
ATATACGAATTTTAAAATCATCACTTGATCAAATATCATTATTTGTTTGATCAATTTTAATTACTACTATTTTAC
TACTATTAGCAGTACCAGTTTTAGCTGGTGCTATTACTATATTATTATCGGATCGTAATTTAAATACTTCATTTTTT
GATCCTTCAGGCGGAGG

BOLD data: BIN: BOLD:AAX4037.
Holotype ♂: DHJPAR0021749, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Rotulo, 11.01355, -85.42406, 510 m, eclosion date 01/05/2017, caterpillar collection date 03/04/2006 (CNC). GenBank accession code JF793193.
Holotype host data: Hyperparasitoid of mgJanzen01 Janzen1194 (Braconidae: Microgastrinae), which is a primary parasitoid of *Idaea* Janzen11 (Geometridae) feeding on *Mimosa watsonii* (Fabaceae). One *Mesochorus* specimen eclosed.
Other host data: None.

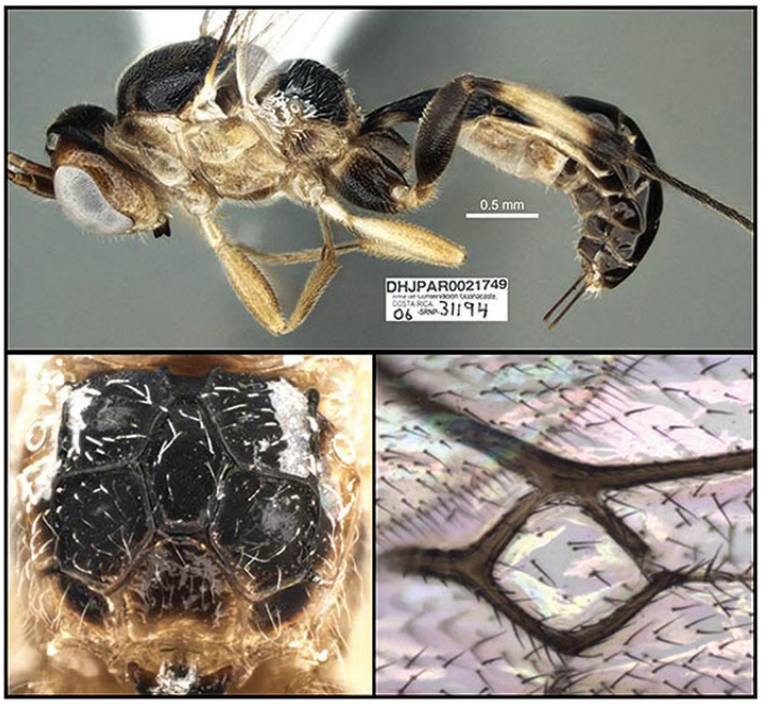

Fig. 91. *M. sietetres,* holotype male.

Revista de Biología Tropical, ISSN: 2215-2075 Vol. 71(S2): e53316, agosto 2023 (Publicado Ago. 24, 2023)

Mesochorus sietecuatro

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:68B030E7-256B-4245-AB82-72874FB8FA00

Diagnostics: Fig. 92.

Consensus barcode (2 specimens).

AATTTTATATTTTATTTTTGGAATATGATCAGGTATAATTGGATCATCAATAAGATTAATTATTCGTATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACAGCTCATGCTTTTGTTATAATTTTTTTTA
TAGTAATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTACCATTAATAATTGGAGCCCCAGATATAG
CATTCCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTATTAAGAAGAATTTGT
CAAAAAGGTGTTGGAACAGGATGAACTGTTTATCCTCCTTTATCTTTAAATAGAAGTCATGAAGGATTTG
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGAATATCATCTATTATAGGTGCAGTAAATTTTATTACAAC
TATTTTTAATATACGAGTTATAGGTTCTTCATTAGATCAAATATCTTTATTTGTTTGATCAATTAAAATTACAACA
ATTTTATTATTATTAGCTGTTCCTGTATTAGCAGGTGCTATTACTATATTATTAACTGATCGAAATTTAAATACA
ACTTTTTTTGATCCTTCAGGAGGTGGTGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4038.

Holotype ♀: DHJPAR0061552, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Manguera, 10.99590, -85.39842, 470 m, eclosion date 07/06/2017, caterpillar collection date 06/17/2017 (CNC). GenBank accession code OM237758.

Holotype host data: Hyperparasitoid of *Diolcogaster* Choi08 (Braconidae: Microgastrinae), which is a primary parasitoid of *Antapistis* Poole10 (Erebidae) feeding on *Anthurium ochranthum* (Araceae). Multiple *Mesochorus* specimens eclosed.

Other host data: *Diolcogaster* (Braconidae: Microgastrinae).

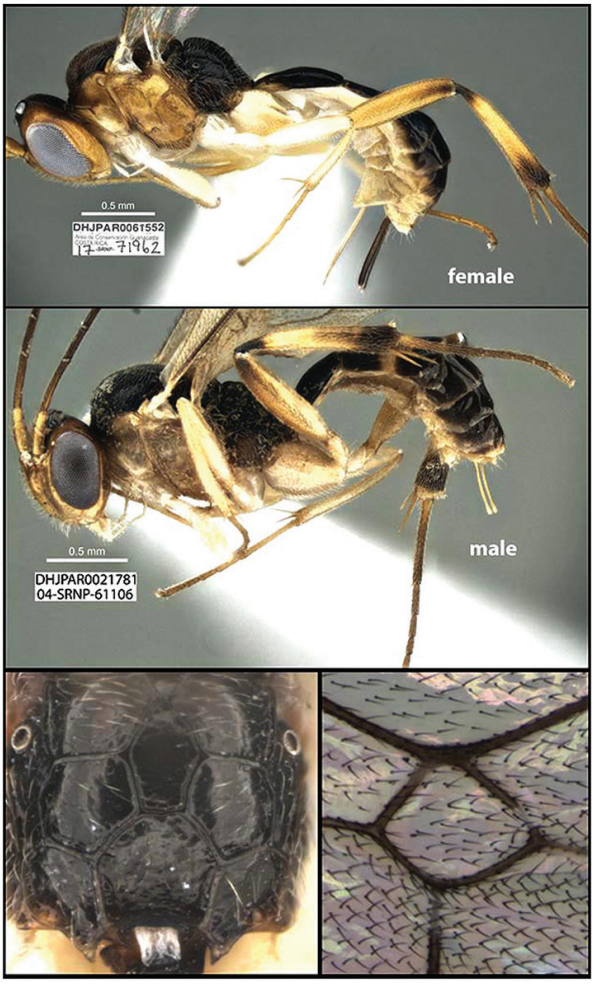

Fig. 92. *M. sietecuatro,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus sietecinco
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:3BD691D0-6F87-4A82-AE6B-380AEB43E362

Diagnostics: Fig. 93.
Consensus barcode (3 specimens).
AATTTTATACTTTATTTTTGGTATTTGAGCAGGAATAATTGGATCAGCAATAAGCTTAGTTATTCGAATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACAGCTCATGCATTTGTTA
TAATTTTTTTTATAGTTATACCGGTAATAATTGGAGGATTTGGAAATTGATTAATTCCACTAATAATTGGGGCCCCT
GATATAGCATTCCCTCGAATAAATAATATAAGATTTTGACTATTACCTCCCTCATTATTATTATTAATATTAAGAA
GAATTATTAATAAAGGAGTAGGAACAGGATGAACTGTTTATCCCCCATTATCATTAAATTCAAGGCATGAAGGTA
TATCTGTAGATTTATCAATTTTCTCTTTACATTTAGCTGGAATATCTTCAATTATAGGAGCTGTAAATTTTATTAC
TACAATTTTTAATATACATTTATATGGAATGTCATTAGATCAATTATCCTTATTTACATGATCAATTATAATTACTA
CAATTTTATTATTATTAGCAGTTCCAGTTTTAGCTGGAGCAATTACAATATTATTAACTGATCGAAATCTAAA
TACTTCTTTTTTTGACCCATCAGGAGGGGGAGACCCAATTCTTTACCAACATTTATTT

BOLD data: BIN: BOLD:AAX4039.
Nearest neighbor: *M. unocuatro*, BOLD:AAC8600, 6.89% (p-dist).
Holotype ♀: DHJPAR0045508. Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Carica, 10.99284, -85.42936, 660 m, eclosion date 06/30/2011, caterpillar collection date 06/03/2011 (CNC). GenBank accession code OM237759.
Holotype host data: Hyperparasitoid of *Glyptapanteles sydneycameronae* (Braconidae: Microgastrinae), which is a primary parasitoid of *Pachygonidia drucei* (Sphingidae) feeding on *Doliocarpus multiflorus* (Dilleniaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Glyptapanteles sydneycameronae* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

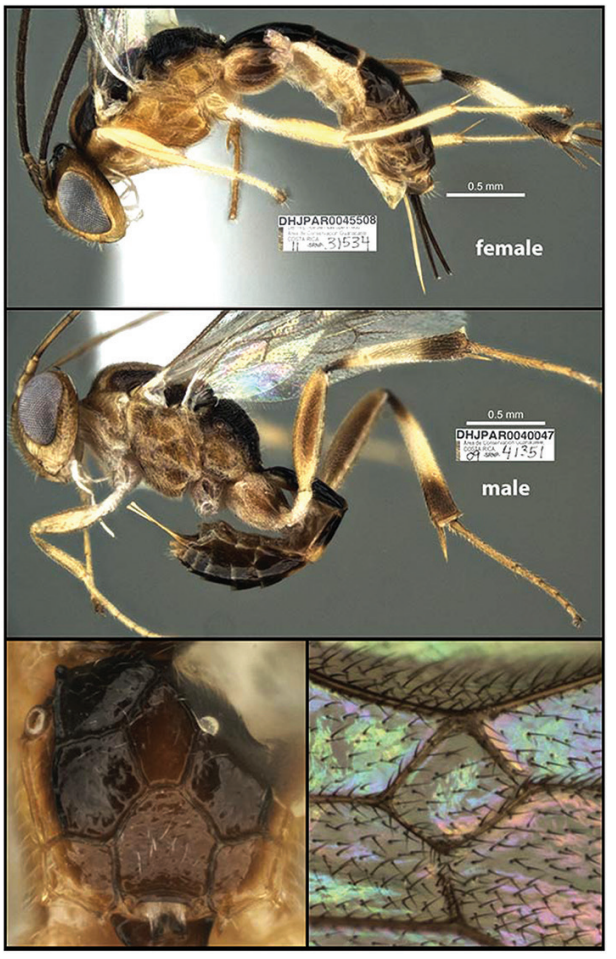

Fig. 93. *M. sietecinco,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus sieteseis

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:8D7C7905-7AE4-417F-B9DD-E8113403A738

Diagnostics: Fig. 94.
Holotype barcode.
ATTTTATACTTTATTTTTGGTATGTGAGCAGGAATAATTGGTTCTTCAATAAGAATAATTATTCGTATAGA
ATTAGGTAACCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACTTCACATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCTCCAGA
TATAGCATTTCCTCGAATAAATAACATAAGATTTTGACTATTACCCCCTTCAATTATATTACTTTTATTAAGAAGAATTT
GTCAAAAGGGAGTAGGAACAGGATGAACTGTTTATCCCCCTTTATCCCTTAATGTAAGTCATGAAGGATTATCAGTA
GATTTATCAATTTTTTCATTACATTTAGCAGGGATATCTTCAATTATAGGGGCCGTAAATTTTATTACAACTATTATTAA
TATACGTATTAATAAAACATCATTTGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAACAATTTTATTAC
TATTAGCTGTACCTGTACTAGCAGGAGCAATTACTATATTATTATCTGATCGTAATTTAAATACATCATTTTTTGATC
CATCTGGAGGAGGGGACCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4045.
Nearest neighbor: *M. cinco*, BOLD:AAB3993, 2.89% (p-dist). The dimensions of the central propodeal areolae and the medioposterior areolae are different (see Fig. 12, associated with *M. cinco*).
Holotype ♂: DHJPAR0020560, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Cabanya, 10.87703, -85.23077, 340 m, eclosion date 06/17/2007, caterpillar collection date 05/26/2007 (CNC). GenBank accession code JF793174.
Holotype host data: Hyperparasitoid of *Eiphosoma* Janzen14 (Ichneumonidae), which is a primary parasitoid of *Pilocrocis purpurascens* (Crambidae) feeding on *Pentagonia donnellsmithii* (Rubiaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

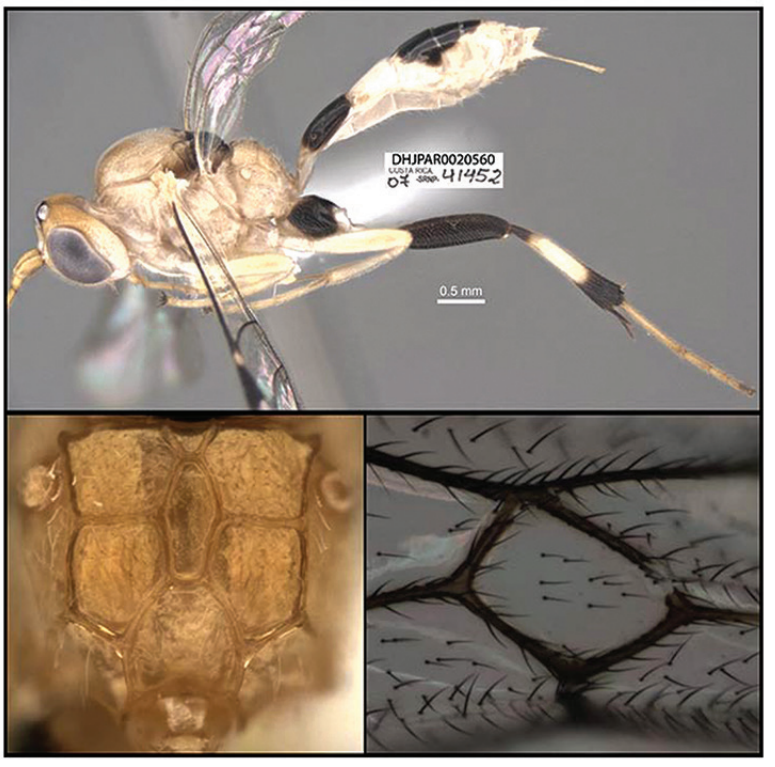

Fig. 94. *M. sieteseis*, holotype male.

Mesochorus sietesiete

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:6E924A90-33E9-4F2F-B9B9-B2ED158AD93A

Diagnostics: Fig. 95.
Consensus barcode (3 specimens).
TATTTTATATTTTATTTTTGGRATTTGAGCTGGGATAATTGGATCTTCAATAAGATTAATTATCCGAATAGA
ATTAGGGAATCCTGGATTTTTAATTAACAATGACCAAATTTATAATTCAATTGTAACTGCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCTATTATAATCGGAGGATTTGGAAATTGATTAATTCCTTTAATAATTGGAGCACCT
GATATAGCATTCCCCCGAATAAATAATATAAGATTTTGATTACTACCTCCTTCATTATCATTATTATTATTGAGAAGA
ATTATTAATAAAGGAGTAGGAACAGGATGAACAGTATACCCYCCTTTATCCTTAAATGTAAGACATGAAGGGA
TATCTGTAGATTTATCAATTTTTTCACTACATTTAGCAGGAATATCTTCTATTATAGGTGCGGTAAATTTTATTAC
TACAATTTTAAATATACATTTATTAGGTATAACAATAGATCAGTTATCATTATTTACTTGATCAATTAAAATTACA
ACAATTTTATTATTATTAGCAGTCCCTGTATTAGCAGGAGCAATTACTATATTATTAACTGATCGTAATTTAAA
TACATCTTTTTTTGATCCTTCAGGAGGAGGGGATCCAATTTTATACCAACACTTATTC

BOLD data: BIN: BOLD:AAX4046.
Nearest neighbor: *M. dosocho*, BOLD:AAF0566, 9.13% (p-dist).
Holotype ♀: DHJPAR0021742, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Sendero Danta, 10.86059, -85.37914, 890 m, eclosion date 0/25/2005, caterpillar collection date 10/08/2005 (CNC). GenBank accession code JF793164.
Holotype host data: Hyperparasitoid of *Glyptapanteles jamesrobertsoni* (Braconidae: Microgastrinae), which is a primary parasitoid of *Antapistis* Poole09 (Erebidae) feeding on *Psychotria graciliflora* (Rubiaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Microcharops* (Ichneumonidae: Campopleginae). A single *Mesochorus* specimen eclosed.

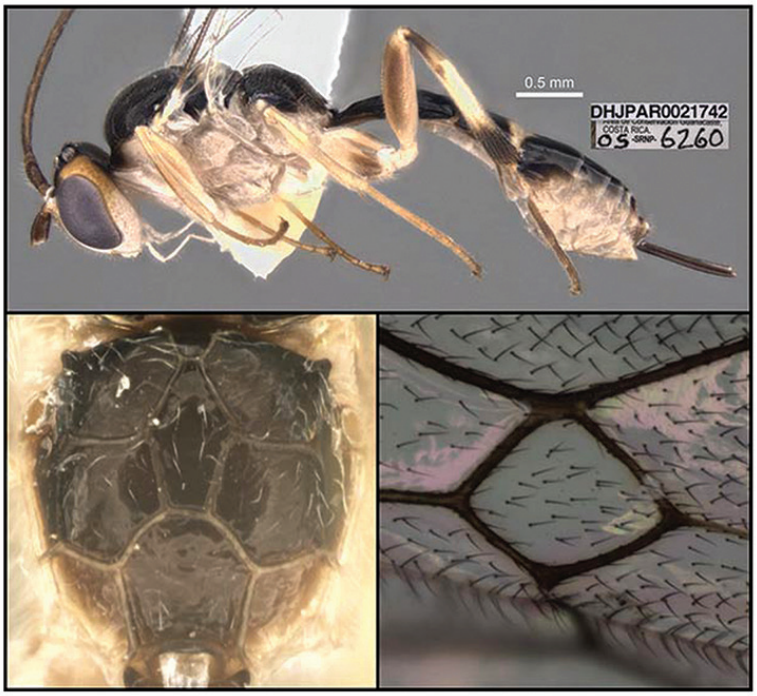

Fig. 95. *M. sietesiete,* holotype female.

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Mesochorus sieteocho
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:4AA2EFFA-D8BA-4541-B067-ABB8891BC20E

Diagnostics: Fig. 96.
Holotype barcode.
TATTTTATATTTTATTTTTGGTATTTGAGCCGGAATAATTGGATCAGCAATAAGATTAATCATTCGAATAGA
ATTAGGTAATCCGGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACTGCACATGCATTCATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGAAATTGATTAGTACCATTAATAATTGGTGCCCCT
GATATGGCATTTCCACGAATAAATAATATAAGATTTTGGTTATTACCACCGTCACTTATATTATTATTATTGAGAAGA
ATTATTAACAAAGGTGTTGGAACAGGATGAACTGTATATCCACCTTTATCATTAAATATAAGTCATGAAGGTATATCT
GTAGATTTATCAATTTTTTCATTACATTTAGCAGGAATATCTTCAATTATAGGAGCAGTTAATTTTATTACCACAATTA
TAAATATACATTTATTAGGAATATCATTAGATCAATTATCATTATTTACTTGATCAATTTTCATTACAACAATTTTAC
TATTACTGGCAGTGCCAGTTTTAGCAGGGGCTATTACAATATTACTAACTGACCGAAATTTAAATACATCATTTTTT
GACCCTTCGGGGGGTGGAGATCCTATTCTATATCAACATTTATTC

BOLD data: BIN: BOLD:AAX4047.
Nearest neighbor: *M. dosnueve*, BOLD:AAF0585, 7.23% (p-dist).
Holotype ♀: DHJPAR0040084, Área de Conservación Guanacaste, Guanacaste, Sector Del Oro, Chon, 11.04788, -85.45266, 280m. eclosion date 01/01/2010, caterpillar collection date 11/17/2009 (CNC). GenBank accession code JQ574585.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield46 (Braconidae: Microgastrinae), which is a primary parasitoid of *Psaliodes* Janzen03 (Geometridae) feeding on *Bolbitis portoricensis* (Dryopteridaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: None.

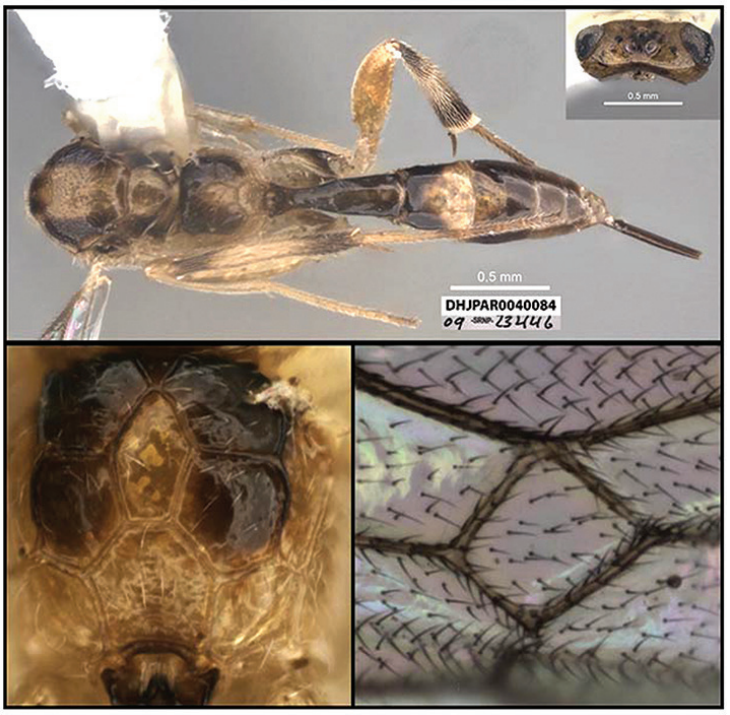

Fig. 96. *M. sieteocho,* holotype female.

Mesochorus sietenueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:763D7405-4561-4833-BF12-4C88BC021A9C

Diagnostics: Fig. 97.
Holotype barcode.
AATTTTATATTTTATTTTTGGAATATGATCAGGGATAATTGGATCATCTTTAAGTATAATTATTCGTATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCACATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGTTTTGGAAATTGATTAATTCCTTTAATAATTGGAGCAC
CAGATATAGCTTTCCCTCGTATAAATAATATAAGATTTTGACTATTACCCCCTTCAATTATACTATTATTATTAAGA
GGAATTTGCCAAAAAGGTGTAGGGACAGGTTGAACTGTTTATCCTCCTTTATCATTAAATTTAAGACATGAAG
GATTATCCGTAGATTTATCAATTTTTTCATTACATCTTGCTGGAATATCCTCAATTATAGGATCAATCAATTTTATTA
CAACAATTTTAAATATACGAATTTTAAAAACATCCTTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTA
CAACAATTTTATTATTATTAGCAGTTCCAGTTTTAGCTGGTGCAATTACTATATTATTATCAGATCGTAATCTAAA
TACTTCTTTTTTTGATCCTTCAGGGGGAGGAGACCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4050.
Nearest neighbor: *M. cincocinco*, BOLD:AAM1703, 4.81% (p-dist).
Holotype ♀: DHJPAR0035272. Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Rio Areno, 10.91407, -85.38174, 460 m, eclosion date 06/22/2009, caterpillar collection date 05/04/2009 (CNC). GenBank accession code OM237699.
Holotype host data: Hyperparasitoid of *Pseudapanteles mariocarvajali* (Braconidae: Microgastrinae), which is a primary parasitoid of *Stenoma adytodes* (Depressariidae) feeding on *Pouteria reticulata* (Sapotaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

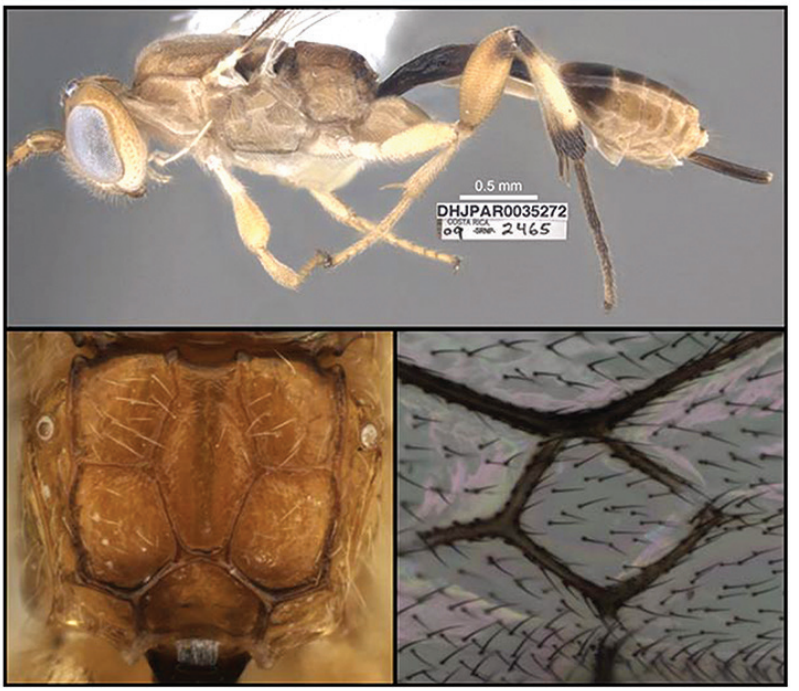

Fig. 97. *M. sietenueve,* holotype female.

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Mesochorus ochocero
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:FAB2EAE3-4A73-44C3-A447-C76C92903FB7

Diagnostics: Fig. 98.
Consensus barcode (11 specimens).
TATTTTATATTTTATTTTTGGAATATGAGCTGGAATAATTGGATCTTCAATAAGAATAATTATTCGAATAGA
ATTAGGAAATTCAGGATTTTTAATTAATAATGATCAAATTTATAACTCTTTTGTTACATCTCATGCTTTTATTA
TAATTTTTTTTATAGTAATACCAATTATAATTGGTGGATTTGGAAATTGAATAATACCTTTAATAATTGGAGCAC
CAGATATGGCCTTTCCTCGAATAAATAATATAAGATTTTGATTACTTCCTCCTTCAATTATATTATTATTATTAAGA
GGAATTTGCCAAAAAGGTGTTGGAACTGGTTGAACAGTTTATCCTCCATTATCTTTAAATATAAGACATGAAG
GATTTTCAGTTGATTTATCAATTTTTTCTTTACATTTAGCTGGTATATCATCAATTATAGGAGCAATTAATTTTATTA
CAACTATTTTAAATATACGAATTATAAAAACATCATTAGATCAAATATCATTATTTRTTTGATCAATTTTAATTACTA
CAATTCTTTTATTATTAGCAGTTCCAGTTTTAGCTGGGGCTATTACTATATTACTCTCTGATCGAAATTTAAATACTT
CATTTTTTGATCCATCAGGAGGAGGAGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4054.
Nearest neighbor: *M. nueve*, BOLD:AAC2766, 5.93% (p-dist).
Holotype ♀: DHJPAR0030574, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Estación Cacao, 10.92691, -85.46822, 1 150 m, eclosion date 04/22/1995, caterpillar collection date 04/18/1995 (CNC). GenBank accession code OM237684.
Holotype host data: Hyperparasitoid of *Microplitis marini* (Braconidae: Microgastrinae), which is a primary parasitoid of *Xylophanes tersa* (Sphingidae) feeding on unidentified plant. Multiple *Mesochorus* specimens eclosed.
Other host data: *Microplitis* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

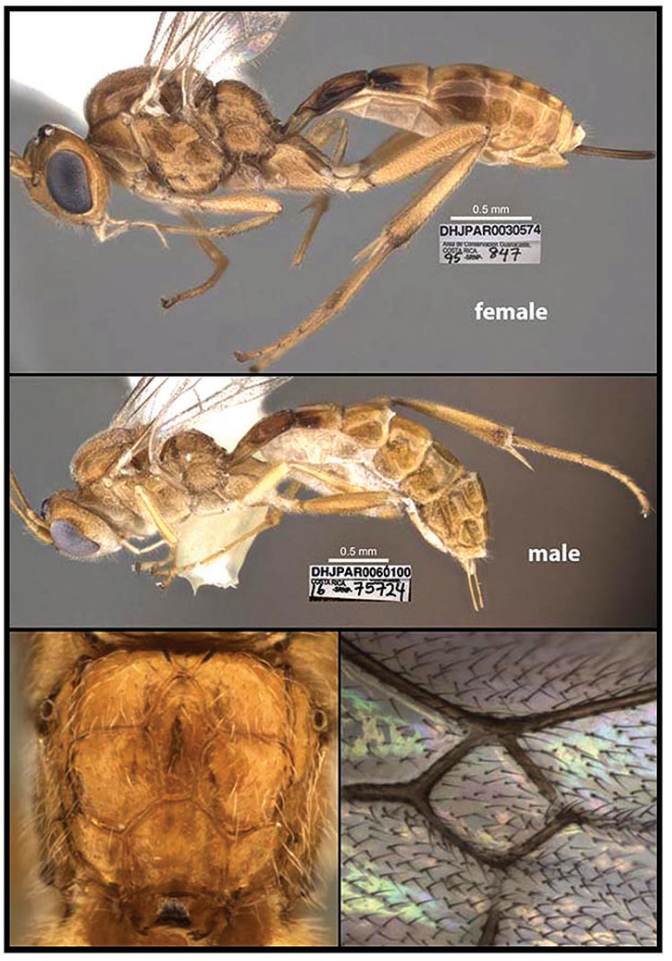

Fig. 98. *M. ochocero,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus ochouno

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:061BE041-BBBB-4C74-8E83-84893BA25A2C

Diagnostics: Fig. 99.
Consensus barcode (3 specimens).
GTTTTATATTTTGTATTTGGTATTTGATCAGGTATAGTAGGTTTATCTATAAGATTGATTATTCGGTTGGA
ATTAGGTAATCCAGGGTATTTAATTAATAATGATCAGATTTATAATTCATTTGTTACTGCTCATGCTTTTGTTA
TAATTTTTTTTATAGTAATACCAGTTTTAATTGGGGGCTTTGGAAATTGACTTGTACCATTAATGATTGGTGCACCT
GATATAGCATTCCCTCGAATAAATAATATAAGATTTTGGTTATTACCCCCTTCATTAATATTATTAATAATAAGA
GGTTTAGTKTATAARGGGGTAGGTACGGGTTGAACAGTATATCCCCCATTATCACTTAATGTTGGTCATGAAGGTA
TATCAGTAGATTTATCAATTTTTTCTTTACATTTGGCAGGTATATCATCTATTATAGGGGCTATTAATTTTATTACA
ACAATTTTAAATATACGATTTAATGGTGTGTCTATAGATCAGGTTTCTTTATTTGTTTGATCKTTATTAATTACTG
CAGTTTTAGTATTATTAGCAGTACCAGTGTTAGCGGGTGCAATTACCATATTATTATCAGATCGTAATTTGAATACTT
CATTTTTTGATCCTTCAGGGGGTGGTGATCCAGTTTTGTATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4057.
Nearest neighbor: *M. seiscuatro*, BOLD:AAX4004, 15.55% (p-dist).
Holotype ♀: DHJPAR0012211, Área de Conservación Guanacaste, Guanacaste, Sector Murcielago, Camino Bahia Hachal, 10.93338, -85.72912, 5 m, eclosion date 07/11/2006, caterpillar collection date 06/10/2006 (CNC). GenBank accession code OM237690.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi85 (Braconidae: Microgastrinae), which is a primary parasitoid of *Diastema morata* (Noctuidae) feeding on *Lippia cardiostegia* (Verbenaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Snellenius*, *Diolcogaster* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

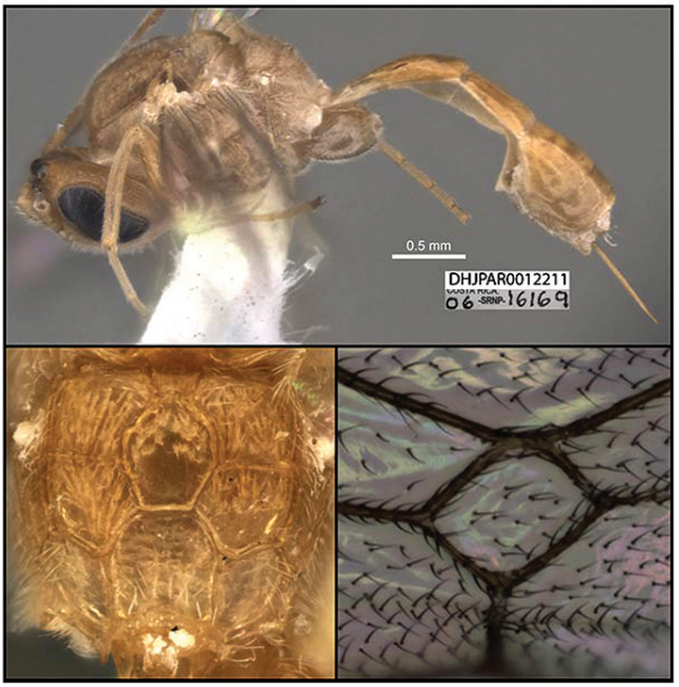

Fig. 99. *M. ochouno,* holotype female.

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Mesochorus ochodos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:4BADE09E-C7CA-4E98-A01D-8E5E350AA199

Diagnostics: Fig. 100.
Holotype barcode.
ATTTTATATTTTATTTTTGGAATATGATCAGGAATAATTGGATCATCTATAAGAATAATCATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCCCATGCTTTCATTATAATTTTTTTTAT
GGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCTCCTGACATA
GCTTTTCCTCGAATAAATAATATAAGATTTTGATTACTTCCTCCTTCAATTATATTATTATTATTAAGTAGAATTT
GTCAAAAAGGAGTTGGAACTGGATGAACAATTTACCCTCCTTTATCATTAAATATTAGTCATGAAGGACTTT
CAGTAGATTTATCAATTTTTTCTTTACATTTAGCTGGAATATCCTCAATCATAGGAGCAATTAACTTTATTACA
ACAATTTTAAATATACGAATTTTAAAAACATCATTAGACCAAATATCTTTATTTGTTTGATCTATTTTAATTAC
TACAATTTTATTATTATTAGCAGTACCAGTTTTAGCTGGGGCTATTACCATATTATTATCAGATCGTAATTTAAA
TACATCTTTTTTTGACCCATCAGGAGGAGGTGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAX4062.
Nearest neighbor: *M. unoseis*, BOLD:AAD0123, 6.59% (p-dist).
Holotype ♂: DHJPAR0020562, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Casa Roberto, 520 m, 11.01095, -85.42094, eclosion date 08/14/2007, caterpillar collection date 08/03/2007 (CNC). GenBank accession code JQ847910.
Holotype host data: Hyperparasitoid of *Dolichogenidea* Janzen40 (Braconidae: Microgastrinae), which is a primary parasitoid of *Cicinnus camarinus* (Mimallonidae) feeding on *Vochysia ferruginea* (Vochysiaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

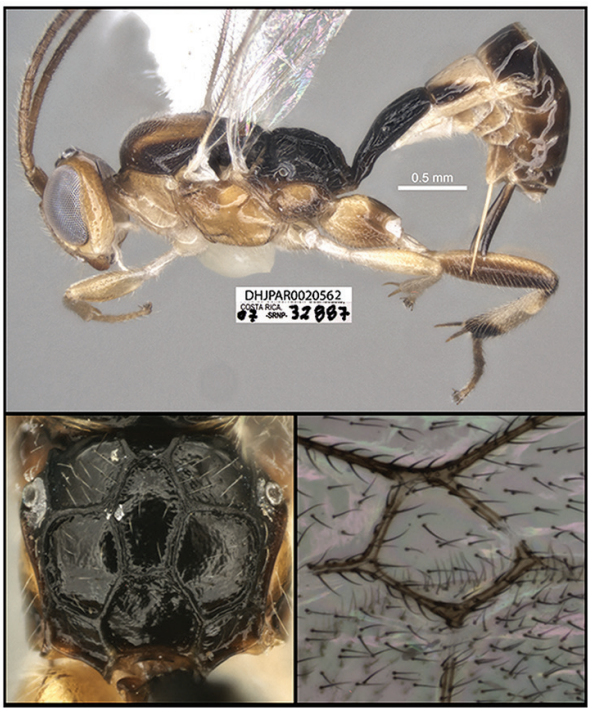

Fig. 100. *M. ochodos,* holotype female.

Mesochorus ochotres
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:122BE60C-DD2B-43A0-9575-1E6610656FE9

Diagnostics: Fig. 101.
Holotype barcode.
GTATTATACTTTATTTTTGGAATATGAGCAGGAATAATTGGATCTTCTATAAGTATAATTATTCGTATAGAATTA
GGAAACCCTGGATTTTTAATTAATAATGATCAAATTTATAACTCTTTTGTTACATCTCACGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTCGGAAATTGATTAATTCCATTAATAATTGGAGCTCCT
GATATGGCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCTTCAATTATATTATTATTATTAAGAA
GAATTTGTCAAAAAGGTGTGGGGACAGGTTGAACAGTTTATCCCCCTTTATCACTAAATATTAGTCATGAAG
GATTATCAGTTGATTTATCAATTTTTTCCTTACATTTAGCTGGTATATCATCAATTATAGGAGCTATTAATTTTATTA
CAACAATTTTAAATATACGAATTTTAAAAACATCTTTAGATCAAATATCTTTATTTGTTTGGTCAATTTTAATTA
CAACAATTTTATTATTATTAGCTGTTCCAGTTTTAGCTGGTGCCATTACAATATTATTATCAGATCGAAATTTAAA
CACTTCTTTTTTTGACCCATCAGGAGGAGGAGACCCTATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4063.
Nearest neighbor: *M. unodossiete*, BOLD:ACW7619, 6.43% (p-dist).
Holotype ♀: DHJPAR0020702, Área de Conservación Guanacaste, Guanacaste, Sector Del Oro, Quebrada Lajosa, 11.03306, -85.42876, 400 m, eclosion date 02/09/2008, caterpillar collection date 01/17/2008 (CNC). GenBank accession code JF793211.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* OVRGDHJ12 (Braconidae: Microgastrinae), which is a primary parasitoid of *Omiodes humeralis* (Crambidae) feeding on *Inga oerstediana* (Fabaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: None.

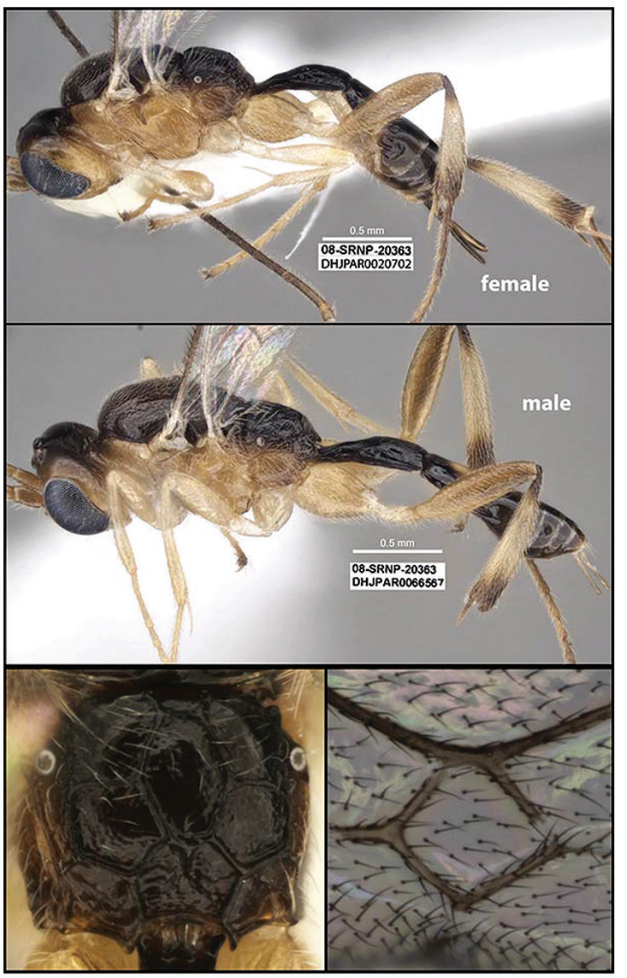

Fig. 101. *M. ochotres,* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066567) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, which was barcoded. They both have the same rearing/caterpillar record, 08-SRNP-20363, that can be recovered from the Janzen/Hallwachs website.

Revista de Biología Tropical, ISSN: 2215-2075 Vol. 71(S2): e53316, agosto 2023 (Publicado Ago. 24, 2023)

Mesochorus ochocuatro

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:8B356692-0088-46C7-B225-C2A247819578

Diagnostics: Fig. 102.
Consensus barcode (2 specimens).
AATTTTATATTTTATTTTTGGAATATGATCAGGAATAATTGGTTCCTCAATAAGAATAATTATTCGCATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGTAATTGAATAATTCCATTAATAATTGGAGCTC
CAGATATAGCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCTTCAATTATATTATTATTATTAAGTA
GAATTTGTCAAAAAGGTATAGGAACTGGATGAACAGTATACCCCCCTTTATCCTTAAATATTAGTCATGAAG
GACTTTCAGTAGATTTATCAATTTTTTCATTACACTTAGCTGGAATATCATCAATTATAGGGGCAATTAATTTCATTA
CAACAATTTTTAATATACGAGTTTTTAAAACATCTTTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTA
CAACAATTTTATTATTATTAGCAGTACCAGTTTTAGCTGGTGCTATTACTATATTATTATCTGATCGTAATTTAAA
TACATCTTTTTTTGATCCATCAGGAGGAGGAGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAX4064.
Nearest neighbor: *M. unoseis*,16 BOLD:AAD0123, 4.49% (p-dist).
Holotype ♀: DHJPAR0020416, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Rio Blanco Abajo, 10.90037, -85.37254, 500 m, eclosion date 04/21/2002, caterpillar collection date 04/04/2002 (CNC). GenBank accession code JF793207.
Holotype host data: Hyperparasitoid of *Apanteles* carloscastilloiDHJ01 (Braconidae: Microgastrinae), which is a primary parasitoid of *Stenoma completella* (Depressariidae) feeding on *Clarisia mexicana* (Moraceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Apanteles* (Braconidae: Microgastrinae). Unknown number of *Mesochorus* specimens eclosed.

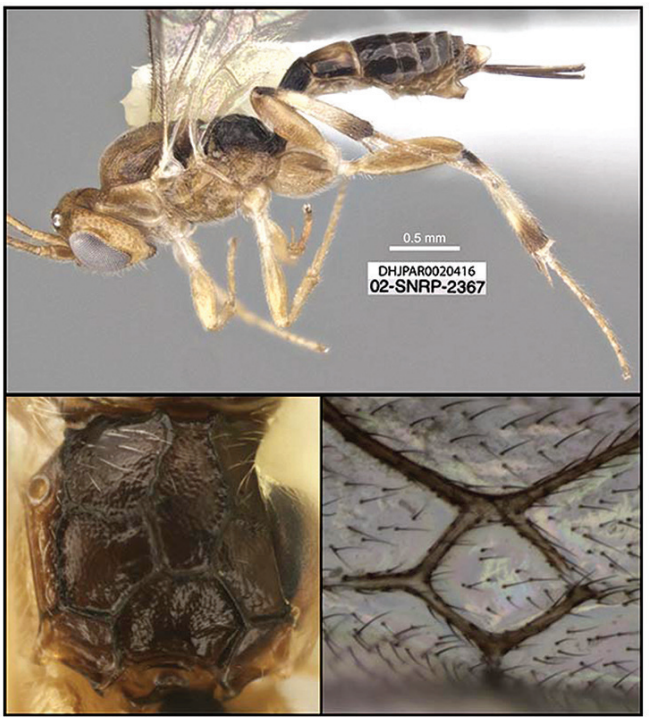

Fig. 102. *M. ochocuatro,* holotype female.

Mesochorus ochocinco
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:9DF2DE19-4EEF-41D1-AAFB-7BC52F30342B

Diagnostics: Fig. 103.
Holotype barcode.
AATTTTATATTTTATTTTTGGTATATGAGCAGGAATAATTGGTGCTTCAATAAGTATAATTATCCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGTTTTGGAAATTGAATAATTCCATTAATAATTGGATCACCAGATATAGCTTTTC
CACGAATAAATAATATAAGATTTTGATTATTACCACCATCAATTTTATTATTATTATTAAGAAATATTTGTCAAAAA
GGTGTAGGTACTGGTTGAACAATTTACCCCCCTTTATCATTAAATGTTAGTCATGAAGGATTATCAGTTGATTTATC
TATTTTTTCTTTACATTTAGCTGGAATATCCTCAATTATAGGAGCAATTAATTTTATTACAACAATTTTAAATATAC
GAATTTCAAAAACATCATTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAACAATTTTATTATTATTAG
CAGTACCAGTTTTAGCTGGTGCTATTACTATATTATTATCAGATCGAAATTTAAATACTTCATTTTTTGATCCATCAG
GAGGAGGTGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAX4065.
Nearest neighbor: *M. unodossiete*, BOLD:ACW7619, 4.97% (p-dist).
Holotype ♀: DHJPAR0051465, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Bullas, 10.98670, -85.38503, 440 m, eclosion date 12/23/2012, caterpillar collection date 12/01/2012 (CNC). GenBank accession code OM237739.
Holotype host data: Hyperparasitoid of *Glyptapanteles* Janzen23 (Braconidae: Microgastrinae), which is a primary parasitoid of *Antiblemma phoenicopyra* (Erebidae) feeding on *Graffenrieda galeottii* (Melastomataceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Glyptapanteles* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

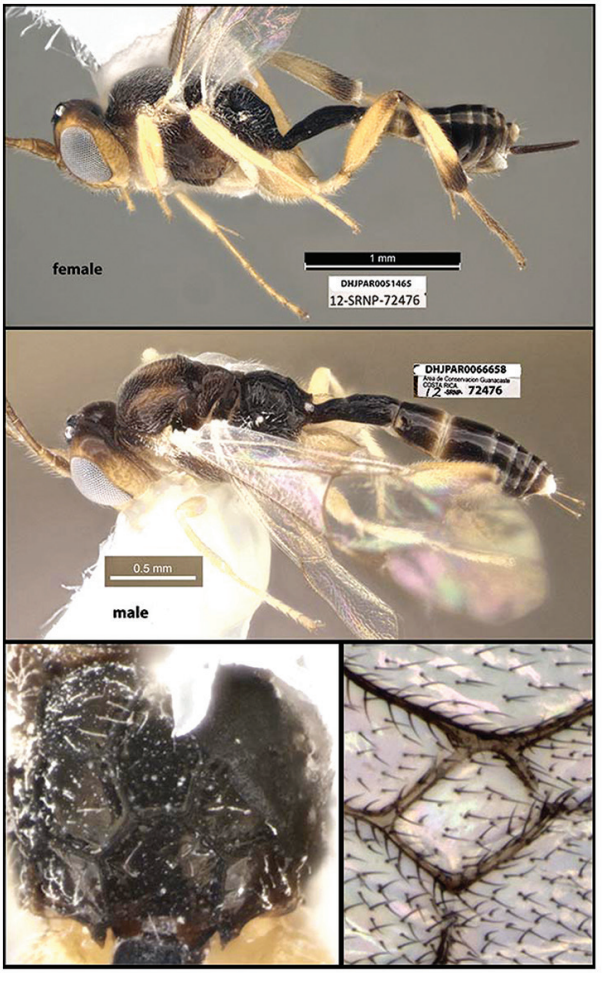

Fig. 103. *M. ochocinco,* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066658) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, which was barcoded. They both have the same rearing/caterpillar record, 12-SRNP-72476, that can be recovered from the Janzen/Hallwachs website.

Mesochorus ochoseis

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:61DE14F7-B37B-473E-9762-9B16AB608DBB

Diagnostics: Fig. 104.
Consensus barcode (2 specimens).
AGTTTTATATTTTATTTTCGGAATATGATCTGGAATAATTGGAGCATCAATAAGAATTATAATTCGATTAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAACTCTTTTGTAACAGCTCATGCATTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTCCCTTTAATAATTGGAGCCCCT
GATATAGCTTTCCCCCGTATAAATAATATAAGATTTTGATTATTACCTCCATCAATTATATTATTATTATTAAGAGGA
ATCTGTCAAAAAGGTGTTGGAACTGGATGAACTGTTTATCCTCCTCTTTCTTTAAATACTAGTCATGAAGGATTA
GCTGTTGATTTATCAATTTTTTCTTTACACTTAGCTGGTATATCTTCAATTATAGGAGCAATTAATTTTATTACAA
CAATTATAAATATACGAATTCATAAAACATCTTTAGATCAAATAACTTTATTTGTTTGATCAATTTTAATCACAACA
ATTTTATTATTACTAGCAGTACCTGTTTTAGCTGGTGCTATCACTATATTACTCTCTGATCGAAATTTAAACACTT
CATTCTTTGATCCTTCTGGAGGAGGAGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAX4066.
Holotype ♀: DHJPAR0051167, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Puente Palma, 10.91630, -85.37869, 460 m, eclosion date 12/13/2012, caterpillar collection date 11/24/2012 (CNC). GenBank accession code OM237696.
Holotype host data: Hyperparasitoid of mgJanzen01 Janzen915 (genus undetermined) (Braconidae: Microgastrinae), which is a primary parasitoid of gelJanzen01 Janzen19 (Gelechiidae) feeding on *Hiraea reclinata* (Malpighiaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

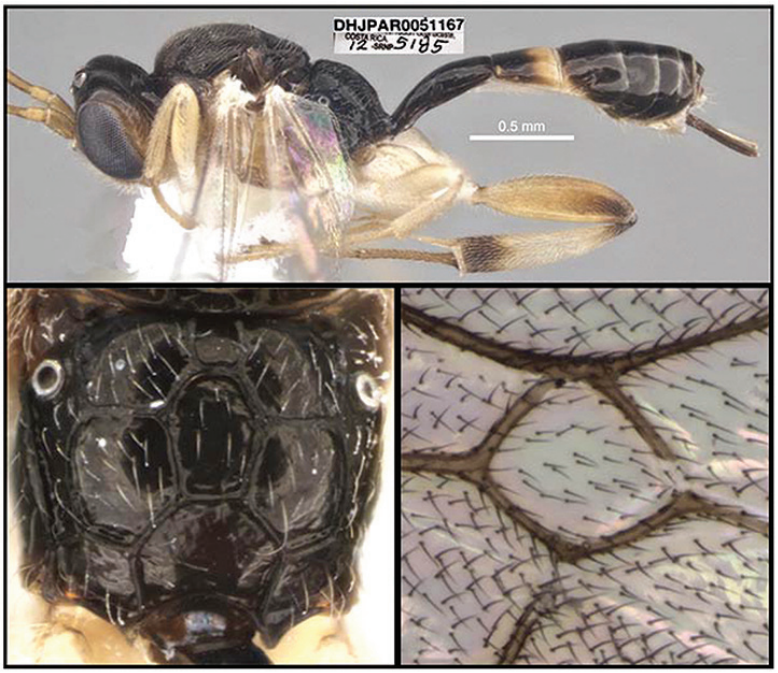

Fig. 104. *M. ochoseis*, holotype female.

Mesochorus ochosiete

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:5D9B7EAB-AF9C-4FFB-AECF-E9E607455E76

Diagnostics: Fig. 105.
Consensus barcode (3 specimens).
AATTTTATACTTTATTTTTGGTATATGAGCGGGAATAATTGGATCATCYATAAGAATAATCATTCGTATAGAATTAG
GAAACCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCACATGCTTTTATTATAATTTTTTT
CATAGTTATGCCAATTATAATTGGTGGATTTGGAAATTGGTTAATTCCTTTAATAATTGGAGCCCCTGATATA
GCTTTCCCTCGTATAAATAATATAAGATTTTGACTATTACCCCCTTCTATTATGTTATTATTACTAAGAGGAATTT
GTCAAAAAGGAGTAGGAACAGGATGAACAGTTTATCCACCATTATCATTAAATATTAGTCATGAAGGTTTAT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCYGGAATATCTTCAATTATGGGAGCTATTAATTTTATTACA
ACAATTTTAAATATACGTATTTTAAAAACATCTTTAGATCAAATATCTTTATTTGTCTGATCAATTTTTATTACA
ACAATTTTATTATTATTAGCAGTACCAGTTTTAGCAGGTGCAATCACAATATTATTATCAGATCGAAATTTAAA
TACTTCTTTTTTTGATCCATCAGGAGGAGGGGATCCAATTTTATATCAACACTTATTT

BOLD data: BIN: BOLD:AAY4694.
Nearest neighbor: *M. nuevecinco*, BOLD:ABX0067, 5.64% (p-dist).
Holotype ♂: DHJPAR0041918, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Quebrada Guarumo, 10.90445, -85.28412, 400 m, eclosion date 11/26/2010, caterpillar collection date 11/04/2010 (CNC). GenBank accession code JQ575647.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield40 (Braconidae: Microgastrinae), which is a primary parasitoid of *Undulambia* Solis02 (Crambidae) feeding on *Alsophila firma* (Cyatheaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Hypomicrogaster* Whitfield40 (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

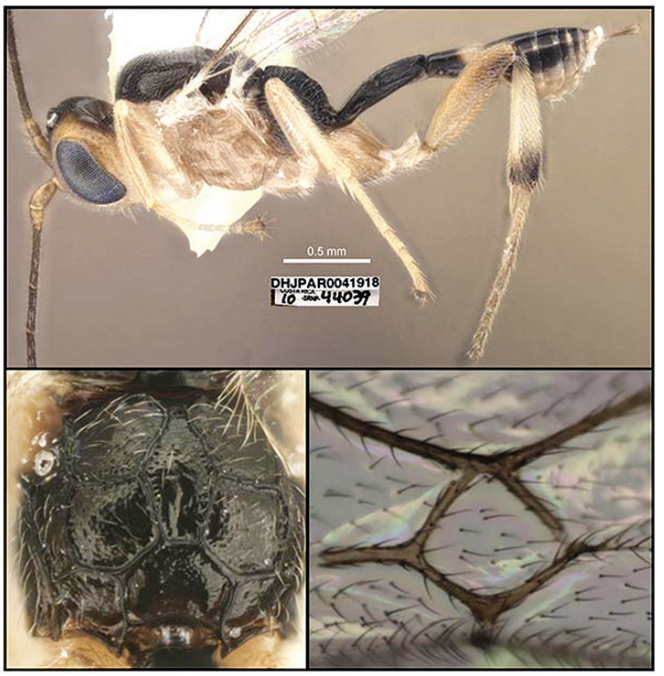

Fig. 105. *M. ochosiete,* holotype male.

Revista de Biología Tropical, ISSN: 2215-2075 Vol. 71(S2): e53316, agosto 2023 (Publicado Ago. 24, 2023)

Mesochorus ochoocho
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:09062083-FCCA-44DA-9273-DB53DACD350F

Diagnostics: Fig. 106.
Consensus barcode (2 specimens).
AATTTTATACTTYMWTTTTGGGATATGGGCAGGAATAGTTGGATCCTCAATAAGATTAATTATTCGTATAGA
ACTTGGAAACCCCGGATTTCTAATTAATAATGATCAAATTTATAATTCATTTGTAACTGCCCATGCTTTTGTAA
TAATTTTTTTTATAGTTATACCTATTATAATCGGAGGATTTGGTAATTGATTAATTCCATTAATAATTGGTGCACCA
GATATAGCATTYCCCCGAATAAATAATATAAGATTTTGATTACTACCACCTTCTATTTTTTTATTAATTTTAAGAA
GAATAATTCATAAAGGTGTTGGGACAGGRTGAACAGTTTATCCCCCTTTATCATTAAATTCAAGACATGAAGGTA
TATCRGTTGATTTATCAATTTTTTCTCTTCATTTAGCGGGTATATCTTCAATTATAGGAGCTATTAATTTTATTA
CAACTATCCTAAATATACGATGTTTAAGAACATCATTAGATCAAATRTCATTATTTACTTGATCAATAAAAATTACA
ACAATTTTATTACTTTTAGCAGTTCCAGTTCTTGCTGGAGCAATTACTATATTATTAACAGATCGAAATTTAAA
TACTTCCTTTTTTGATCCTTCAGGTGGGGGAGATCCTATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AAY4745.
Holotype ♀: DHJPAR0041379, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Sendero Derrumbe, 10.92918, -85.46426, 1 220 m, eclosion date 09/30/2010, caterpillar collection date 08/31/2010 (CNC). GenBank accession code JQ575220.
Holotype host data: Hyperparasitoid of *Diradops* poirenaDHJ01 (Ichneumonidae: Banchinae), which is a primary parasitoid of *Trauaxa lua* (Erebidae) feeding on *Tabernaemontana robinsonii* (Apocynaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

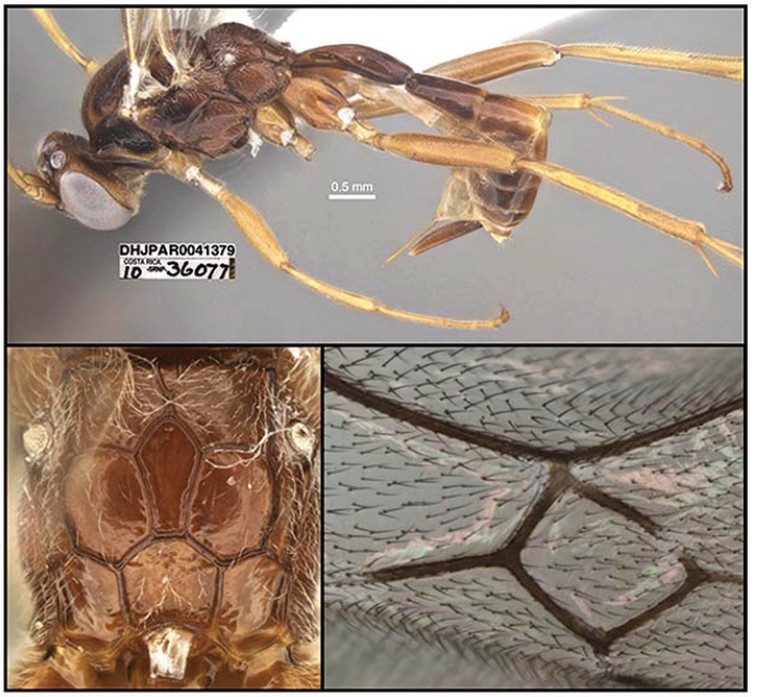

Fig. 106. *M. ochoocho,* holotype female.

Mesochorus ochonueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:E170ECED-B86F-47F1-AFB0-5444C64F42AE

Diagnostics: Fig. 107.
Consensus barcode (5 specimens).
AATTTTATATTTTATTTTTGGTATATGRTCAGGAATAATTGGATCATCTATAAGAATAATTATTCGAATAGA
ATTAGGTAATCCTGGATTTCTAATTAATAATGATCAAATTTATAATTCTTTTGTTACAGCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCACCT
GATATAGCTTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCTTCAATTATATTATTATTATTAAGAAGA
ATTTGTCAAAAAGGTGTAGGAACAGGATGAACAGTTTATCCCCCTTTATCATTAAATACTAGACATGAAGGATTAT
CAGTTGATTTGTCAATTTTCTCTTTACATTTAGCTGGTATGTCATCAATTATAGGAGCAATTAATTTTATTACAAC
TATTATTAATATACGTATTAATAAATCAACATTAGATCAAATATCATTATTTGTTTGATCAATTTTAATCACAACAATTC
TATTATTATTAGCTGTACCAGTTTTAGCTGGAGCAATTACTATATTATTATCTGATCGAAATTTAAATACTTCTTTTTTT
GATCCTTCAGGTGGAGGRGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAY4746.
Nearest neighbor: *M. unodossiete*, BOLD:ACW7619, 6.89% (p-dist).
Holotype ♀: DHJPAR0042488, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Leonel, 10.99637, -85.40195, 510 m, eclosion date 02/11/2011, caterpillar collection date 01/22/2011 (CNC). GenBank accession code OM237723.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi116 (Braconidae: Microgastrinae), which is a primary parasitoid of *Eois* Janzen04 (Geometridae) feeding on *Piper guanacostense* (Piperaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Diolcogaster* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

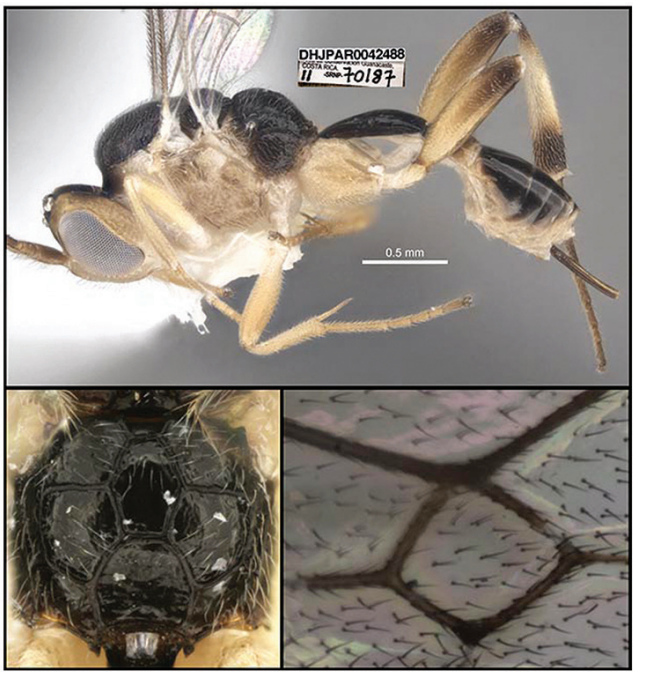

Fig. 107. *M. ochonueve,* holotype female.

Mesochorus nuevecero

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:9B230178-396B-45CA-98CA-EB28E7DBB7E9

Diagnostics: Fig. 108.
Consensus barcode (2 specimens).
RATTTTATATTTTATTTTAGGTATATGAGCTGGTATAATTGGGTCATCAATAAGAATAATTATTCGTATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCCCATGCTTTTATCATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGTAATTGAATAATTCCTTTAATAATTGGGGCACCAGATATA
GCTTTTCCTCGAATAAATAATATAAGATTTTGATTACTACCTCCTTCAATTATATTATTATTATTAAGAGGAATTTGT
CAAAAAGGAGTTGGAACTGGTTGAACAGTTTATCCTCCTTTATCATTAAATGTAAGACATGAAGGTTTATCAGTT
GATTTATTAATTTTTTCATTACATTTAGCAGGTATATCATCAATTATAGGAGCAATTAATTTTATTACAACAATTTTAA
ATATACGGATTTTAAAAACTTCATTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATCACAACAATTTTATTGTT
GCTAGCTGTTCCAGTTTTAGCTGGAGCAATCACTATACTTCTTTCTGATCGAAATTTAAACACTTCATTTTTTGATC
CATCAGGAGGAGGGGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAY4749.
Nearest neighbor: *M. seissiete*, BOLD:AAX4010, 4.51% (p-dist).
Holotype ♀: DHJPAR0041422, Área de Conservación Guanacaste, Guanacaste, Sector San Cristobal, Bosque Transición, 10.86472, -85.41531, 540 m, eclosion date 08/25/2010, caterpillar collection date 08/19/2010 (CNC). GenBank accession code JQ575251.
Holotype host data: Hyperparasitoid of *Eiphosoma* maculicoxaDHJ04 (Ichneumonidae: Cremastinae), which is a primary parasitoid of *Syllepte* Janzen03 (Crambidae) feeding on *Pavonia peruviana* (Malvaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Eiphosoma* (Ichneumonidae: Cremastinae). A single *Mesochorus* specimen eclosed.

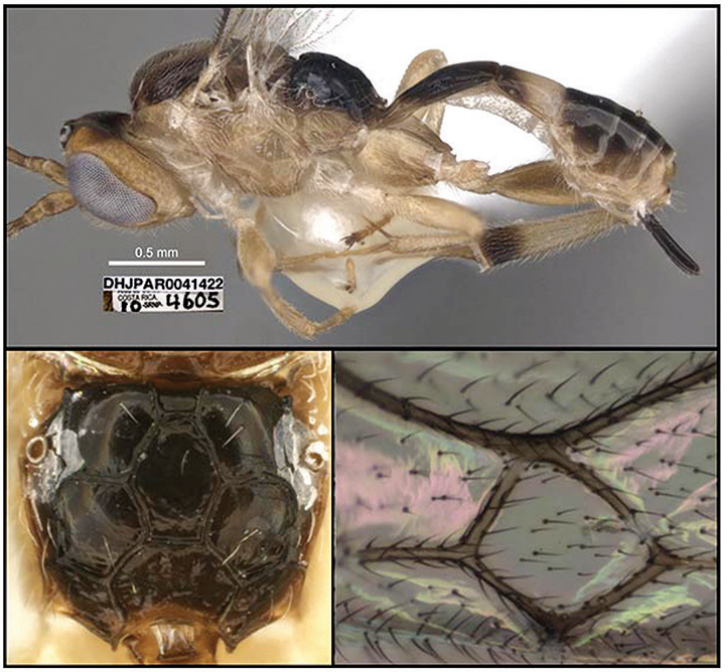

Fig. 108. *M. nuevecero,* holotype female.

Mesochorus nueveuno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:DF4546E4-3697-43B8-B467-C557F89C4431

Diagnostics: Fig. 109.
Consensus barcode (2 specimens).
AATTTTATATTTTATTTTTGGAATCTGAGCCGGAATAATCGGTTCATCTATAAGATTAATTATTCGAATAGA
ATTAGGGAATCCCGGATTCTTAATTAATAATGACCAAATTTATAATTCAATTGTAACAGCCCACGCATTTATTA
TAATTTTTTTTATAGTTATACCAATCATAATTGGAGGATTTGGAAATTGATTAGTACCATTAATAATTGGA
GCCCCTGATATAGCATTCCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCCTCTTTATTATTATTAT
TATTAAGAAGAATTATTAATAAGGGTGTAGGAACGGGATGAACAGTTTACCCCCCTTTATCATTAAACACTA
GGCACGAAGGCATATCAGTAGATTTATCAATTTTTTCCTTACATTTAGCGGGAATATCCTCAATTATGGGAGCT
GTTAATTTTATTACAACTATTTTAAATATAAAATTAAATGGGACATCAATAGATCAAATATCTTTATTTACGTGATCA
ATTAAAATTACAACAATTTTATTACTTTTAGCAGTACCAGTGTTAGCGGGAGCAATTACAATATTATTAACTGATCGA
AATTTAAATACATCTTTTTTCGATCCGTCAGGGGGAGGGGATCCAATTCTTTATCAACATTTATTT

BOLD data: BIN: BOLD:AAY4751.
Nearest neighbor: *M. nuevedos*, BOLD:AAY4752, 7.85% (p-dist).
Holotype ♂: DHJPAR0041419, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Quebradona, 10.99102, -85.39539, 475 m, eclosion date 10/03/2010, caterpillar collection date 09/20/2010 (CNC). GenBank accession code JQ575249.
Holotype host data: Hyperparasitoid of *Diolcogaster* Janzen10 (Braconidae: Microgastrinae), which is a primary parasitoid of *Semaeopus* Janzen08 (Geometridae) feeding on *Virola sebifera* (Myristicaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Diolcogaster* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

Fig. 109. *M. nueveuno,* holotype male.

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Mesochorus nuevedo
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:6FE49C2E-70DD-4A84-B7D5-389677E387F0

Diagnostics: Fig. 110.
Consensus barcode (2 specimens).
AATTTTATATTTTATTTTTGGAATTTGAGCTGGAATAATTGGATCATCAATAAGATTAATTATTCGAATAGA
ATTAGGAAACCCCGGATTCTTAATTAATAATGATCAAATTTATAATTCAATTGTAACAGCTCATGCATTTATTA
TAATTTTTTTTATGGTTATACCAATCATAATTGGTGGATTTGGAAATTGATTAGTACCATTAATAATCGGRGCCCC
CGACATAGCTTTCCCCCGAATAAATAATATAAGATTTTGATTATTRCCYCCTTCTTTATTATTATTATTAATAAGTA
GAATTATTAATAAAGGTGTTGGTACAGGATGAACAGTTTACCCTCCTTTATCATTAAATACTAGTCATGAAGGA
ATATCAGTAGATTTATCAATTTTTTCCTTACATTTAGCAGGAATATCCTCAATTATAGGRGCTGTTAATTTTATTA
CAACCATTTTAAATATAAAATTAAAYGGATCATCAATAGACCAATTATCTTTATTTACATGATCAATTAAAATTACA
ACAATTTTATTACTTTTAGCAGTTCCAGTATTGGCGGGGGCAATTACAATATTACTAACTGATCGAAATTTAAA
TACATCTTTTTTTGATCCRTCAGGAGGAGGTGACCCGATTCTTTACCAGCATTTATTT

BOLD data: BIN: BOLD:AAY4752.
Nearest neighbor: *M. nueveuno*, BOLD:AAY4751, 7.85% (p-dist).
Holotype ♀: DHJPAR0053149, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Palomo, 10.96187, -85.28045, 96 m, eclosion date 06/17/2013, caterpillar collection date 06/02/2013 (CNC). GenBank accession code OM237740.
Holotype host data: Hyperparasitoid of *Venanides* Choi01 (Braconidae: Microgastrinae), which is a primary parasitoid of *Euglyphis asapha* (Lasiocampidae) feeding on *Virola sebifera* (Myristicaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Venanides* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

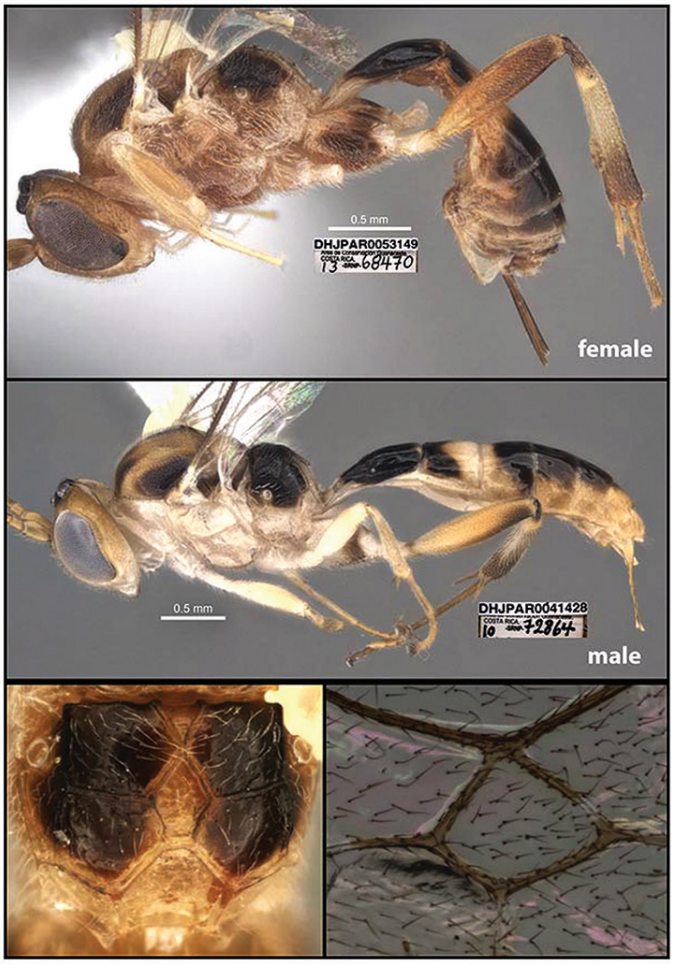

Fig. 110. *M. nuevedos,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus nuevetres
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:FABD516D-B1FF-4327-97D7-7F0BFCEDCF37

Diagnostics: Fig. 111.
Holotype barcode.
AATTCTATATTTTATTTTTGGAATATGAGCAGGAATAATTGGTTCTTCTATAAGTATAATTATTCGAATAGAATTAG
GAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACTTCACATGCTTTTATTATAATTTTTTT
CATAGTAATACCAATTATAATTGGTGGATTCGGAAATTGAATAATTCCATTAATAATTGGAGCTCCTGATATA
GCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCATCAATTATATTATTATTAATAAGTAGAATTTGT
CAAAAAGGAGTAGGAACTGGATGAACAGTATATCCACCATTATCATTAAATATTAGACATGAAGGTTTATCAGTT
GATTTATCAATTTTTTCATTACATTTAGCTGGAATATCTTCAATTATAGGTGCAATTAATTTTATTACAACAATTTTAAA
TATACGAATTTTTAAATCATCTTTAGATCAAATATCTTTATTTGTTTGATCTATTTTAATTACAACTATTTTATTATTATTA
GCAGTTCCAGTATTAGCTGGAGCAATTACTATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATCCATC
CGGTGGAGGTGATCCAATTTTATACCAACACTTATTT

BOLD data: BIN: BOLD:ABA8538.
Nearest neighbor: *M. unotresnueve*, BOLD:ADQ8339, 4.97% (p-dist).
Holotype ♀: DHJPAR0043267, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Laguna, 10.98880, -85.42336, 680 m, eclosion date 05/22/2011, caterpillar collection date 05/04/2011 (CNC). GenBank accession code JQ576160.
Holotype host data: Hyperparasitoid of microgastrine sp. (Braconidae), which is a primary parasitoid of *Macaria approximaria* (Geometridae) feeding on *Cojoba valerioi* (Fabaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: None.

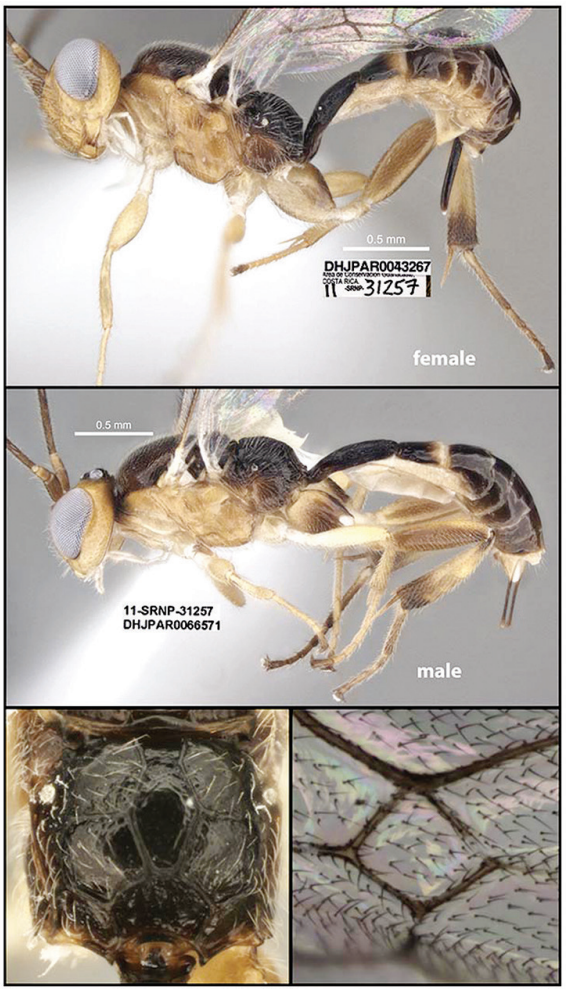

Fig. 111. *M. nuevetres,* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066571) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, which was barcoded. They both have the same rearing/caterpillar record, 11-SRNP-31257, that can be recovered from the Janzen/Hallwachs website.

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Mesochorus nuevecuatro

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:B30002CE-A03A-4CFF-9CE2-FE864E39F74E

Diagnostics: Fig. 112.

Consensus barcode (2 specimens).

AATTTTATATTTTATTTTTGGTATATGATCTGGTATAATTGGATCATCAATAAGAATAATTATTCGAATAGAATTAGGA
AACCCAGGATCATTAATTAATAATGACCAAATTTACAATTCATTTGTTACTTCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGTAATTGAATAGTTCCATTAATAATCGGAGCCCCAGATATA
GCCTTTCCTCGAATAAATAATATAAGATTTTGATTACTACCCCCTTCAATTATATTATTATTATTAAGAGGAATTTGT
CAAAAAGGTGTTGGAACTGGTTGAACAGTATATCCCCCATTATCATTAAATATTAGACATGAAGGATTATCTGTT
GATTTAGCAATTTTTTCATTACATTTAGCTGGTATATCATCAATTATAGGAGCAATTAATTTTATTACAACTATTTTAA
ATATACGAATTTTAAATACATCATTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAACAATTTTATT
GTTATTAGCAGTTCCAGTTTTAGCTGGTGCAATTACAATATTATTATCAGATCGAAATTTAAATACTTCATTTTTT
GATCCATCAGGAGGAGGAGATCCTATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ABA8539.

Holotype ♀: DHJPAR0043261, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Orosilito, 10.98332, -85.43623, 900 m, eclosion date 05/28/2011, caterpillar collection date 05/18/2011 (CNC). GenBank accession code JQ576153.

Holotype host data: Hyperparasitoid of *Aparteles didiguadamuzi* (Braconidae: Microgastrinae), which is a primary parasitoid of *Stenoma* Janzen06 (Depressariidae) feeding on *Ocotea leucoxylon* (Lauraceae). Multiple *Mesochorus* specimens eclosed.

Other host data: *Aparteles* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

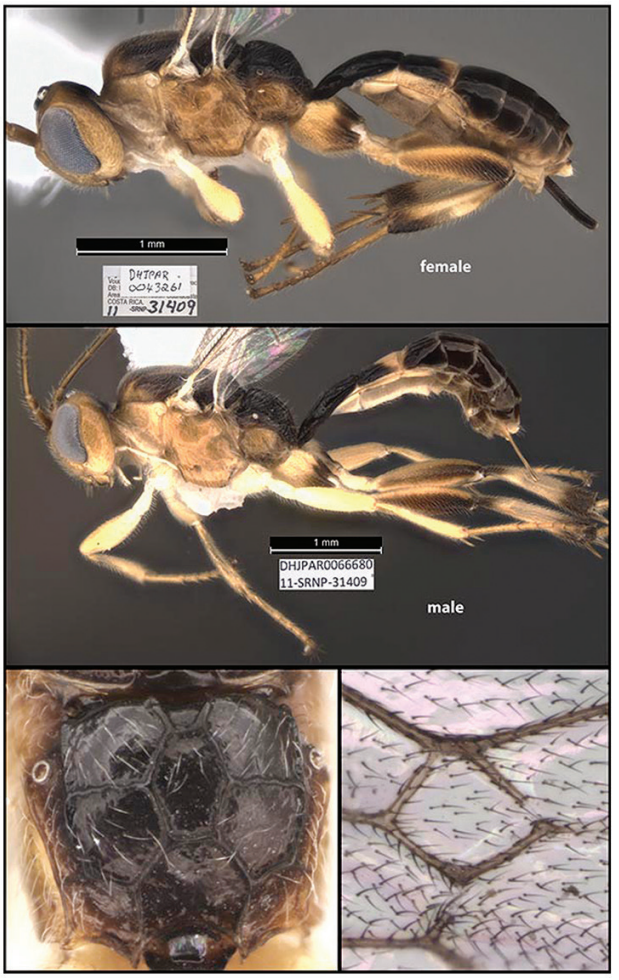

Fig. 112. *M. nuevecuatro,* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066680) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, which was barcoded. They both have the same rearing/caterpillar record, 11-SRNP-31409, that can be recovered from the Janzen/Hallwachs website.

Mesochorus nuevecinco
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:BB56489E-18B9-4946-ABBA-F9DA8D1A583E

Diagnostics: Fig. 113.
Consensus barcode (4 specimens).
AATTTTATATTTCATTTTTGGAATATGAGCAGGAATAATTGGATCATCTATAAGAATAATTATTCGTATAGA
ATTAGGAAACCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGTAATTGAATAGTTCCTTTAATAATTGGAGCCCCT
GATATAGCTTTCCCTCGAATAAATAATATAAGATTTTGATTACTACCACCTTCTATTATATTATTATTATTAA
GAGGAATTTGTCAAAAAGGAGTAGGAACAGGATGAACAGTTTACCCCCCATTGTCATTAAATATTAGT
CATGAGGGGTTATCTGTAGATTTATCAATTTTTTCTCTACATTTAGCTGGAATATCTTCAATTATAGGAGC
TATTAATTTTATTACAACAATTATAAATATACGAATTTTAAAAACATCTTTAGATCAAATATCTTTATTTGTTTGATCA
ATTTTAATTACAACAATTTTATTATTATTAGCAGTCCCAGTTTTAGCAGGTGCAATTACAATATTATTATCAGATCGAA
ATTTAAATACTTCTTTTTTTGATCCATCAGGAGGAGGTGATCCTATTCTATATCAACACTTATTT

BOLD data: BIN: BOLD:ABX0067.
Nearest neighbor: *M. ochosiete*, BOLD:AAY4694, 5.64% (p-dist).
Holotype ♀: DHJPAR0063975, Área de Conservación Guanacaste, Guanacaste, Sector Mundo Nuevo, Quebrada Tibio Perla, 10.76261, -85.42979, 330 m, eclosion date 11/21/2018, caterpillar collection date 10/31/2018 (CNC). GenBank accession code OM237774.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield20 (Braconidae: Microgastrinae), which is a primary parasitoid of *Hahncappsia* BioLep471 (Crambidae) feeding on *Iresine latifolia* (Amaranthaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Hypomicrogaster* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

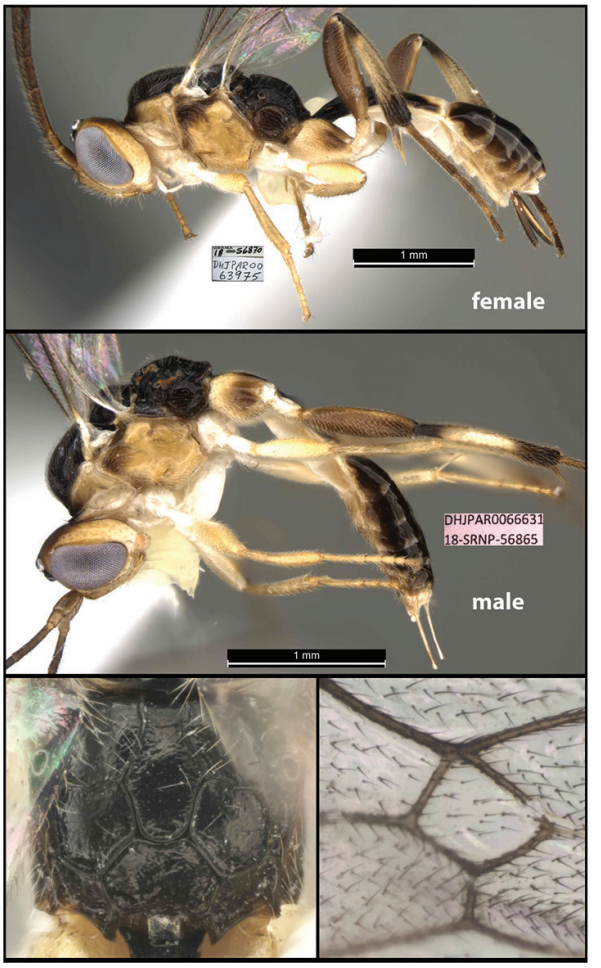

Fig. 113. *M. nuevecinco,* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066631) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as paratype, DHJPAR0063977, which was barcoded. They both have the same rearing/caterpillar record, 18-SRNP-56865, that can be recovered from the Janzen/Hallwachs website.

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Mesochorus nueveseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:E701D574-14F1-430F-9EAD-4845654E7199

Diagnostics: Fig. 114.
Consensus barcode (10 specimens).
AATTTTATATTTTATTTTTGGTATATGGGCTGGAATAATTGGTTCATCAATAAGAATAATTATTCGAATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACATCACATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCACCA
GATATAGCTTTYCCTCGAATAAATAATATAAGATTTTGATTATTACTTCCATCAATTATATTATTATTATTAAGARGA
ATTTGTCAAAAAGGTGTTGGAACTGGTTGAACAGTTTATCCTCCATTATCATTAAATGTTAGACATGAAGGATTAT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGAATATCTTCAATTATAGGTGCTATTAATTTTATTACAAC
TATTTTAAATATACGAATTTTAAAAACATCTTTTGATCAAATATCATTATTTACATGATCAATTTTAATTACAACA
ATTTTATTATTATTAGCTGTTCCAGTTTTAGCAGGTGCAATTACAATATTACTTTCTGATCGAAATTTAAAYACTT
CATTTTTTGATCCATCAGGAGGAGGTGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ABX4997.
Nearest neighbor: *M. unodoscero*, BOLD:ACE9731 1.76% (p-dist). The shape of the propodeal areolae and the propodeal sculpture differ (Fig. 115).
Holotype ♀: DHJPAR0038405, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Leonel, 10.99637, -85.40195, 510 m, eclosion date12/14/2009, caterpillar collection date 11/07/2009 (CNC). GenBank accession code HQ549149.

Holotype host data: Hyperparasitoid of *Aparteles luiscantillanoi* (Braconidae: Microgastrinae), which is a primary parasitoid of *Diacme* BioLep02 (Crambidae) feeding on *Cyathea multiflora* (Cyatheaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Aparteles* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

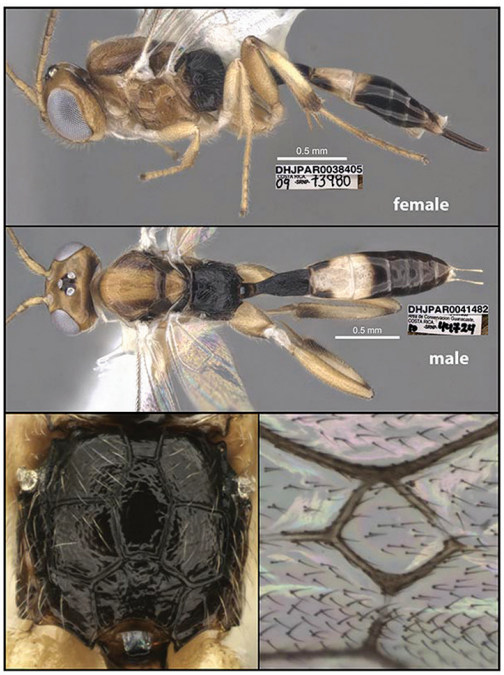

Fig. 114. *M. nueveseis,* holotype female and male paratype. Unlabeled images are of the holotype.

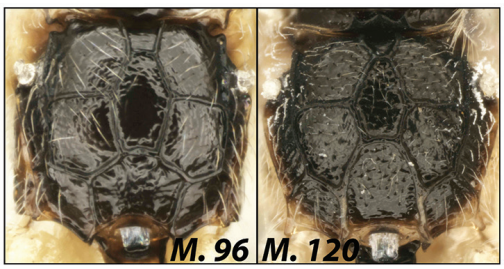

Fig. 115. Comparisons of *M. nueveseis* with its nearest neighbor, *M. unodoscero.*

Mesochorus nuevesiete
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:EA808C19-44F0-48A7-AAAA-661F31AA40B6

Diagnostics: Fig. 116.
Holotype barcode.
TTTATATTTTATTTTTGGTATATGATCAGGTATAATTGGAGCATCAATAAGATTAATTATTCGTATAGATTAG
GAAATCCTGGATATTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACAGCACATGCATTTATTA
TAATTTTCTTTATAGTTATACCTATTATAATTGGAGGATTCGGAAATTGATTAATTCCATTAATAATTGGAGCACCT
GATATAGCTTTCCCTCGAATAAATAATATAAGTTTTTGATTATTACCTCCTTCATTAATATTATTAATTTTTAGTAGA
ATAATTCATAAAGGTGTAGGAACTGGATGAACAGTTTACCCTCCTTTATCTTTAAATATCAGTCATGAAGGAATAT
CAGTAGATTTATCAATTTTCTCTCTTCATCTAGCTGGAATATCATCAATCATAGGGGCTATTAATTTTATTACAACA
ATTTTAAATATACGATTTACAGGATCAACATTAGATCAAATATCTTTATTTTCCTGATCAATTAAAATCACAACA
ATTTTATTATTATTAGCAGTTCCAGTTTTAGCCGGAGCTATCACTATACTTTTAGCTGATCGAAATTTAAATACCT
CATTCTTCGACCCTTCAGGTGGAGGAGATCCAATTTTATACCAACATTTATT

BOLD data: BIN: BOLD:AEJ5580.
Holotype ♀: BIOUG64658-H03, Área de Conservación Pacifico, Central, Puntarenas, Savegre, Quepos, Baru-1, 9.26200, -83.87400, 15 m, Malaise trap, 04/16/2019 (CNC). GenBank accession code OM237692.
Holotype host data: None.
Other host data: None.

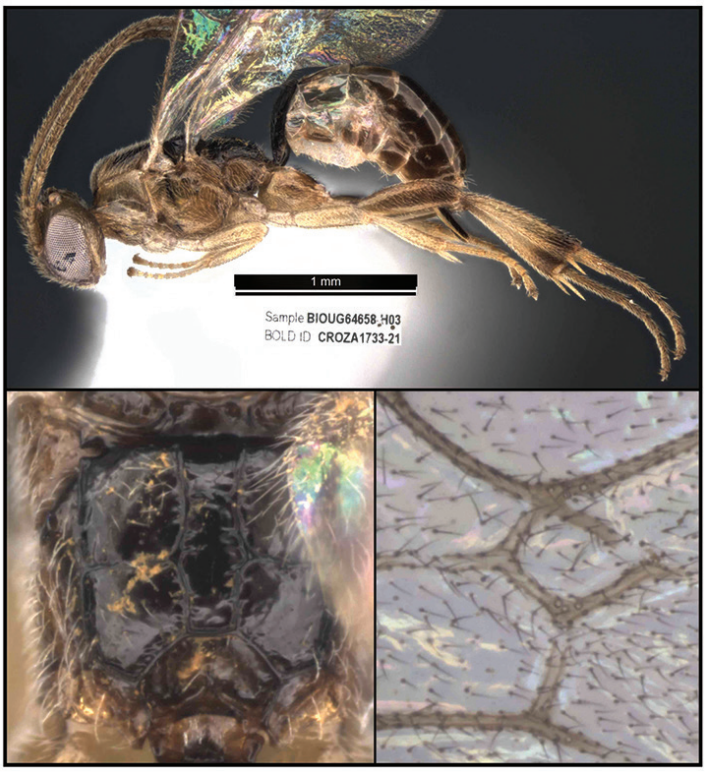

Fig. 116. *M. nuevesiete,* holotype female.

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Mesochorus nueveocho
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:CBAF495D-DE96-4285-AA8D-FDF7F7F2CE99

Diagnostics: Fig. 117.
Consensus Barcode (3 specimens).
TATTTTATATTTTATTTTTGGTATATGATCAGGAATAATTGGTTCATCAATAAGATTAATTATTCGAATAGAGTTA
GGAAACCCTGGATTCTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACAGCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCTATTATAATTGGAGGATTTGGTAATTGAATAGTTCCTTTAATAATTGGAGCTCCA
GATATAGCTTTCCCTCGAATAAATAATATAAGTTTTTGATTATTACCCCCTTCAATTATATTATTATTATTAAGAAGA
ATTTGCCAGAAAGGGGTTGGTACTGGATGAACTGTTTACCCTCCTTTATCATTAAATAGAAGACATGAAGGATTA
GCAGTTGATTTATCAATTTTTTCATTACATTTAGCAGGAATATCTTCTATTATAGGGGCAGTTAACTTTATTACTACA
ATTTTAAATATACGAGTTGTTGGATCTTCTTTAGATCAAATATCTTTATTTGTTTGATCAATTAAAATTACAACAATTC
TATTATTATTAGCTGTTCCTGTTTTAGCAGGGGCAATTACAATATTATTAACTGATCGTAATTTAAATACAACATTTTTT
GATCCTTCAGGAGGAGGGGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:AEI0702.
Nearest neighbor: *M. unocincocero*, BOLD:AEI3256, 1.28% (p-dist). The transverse propodeal carinae hit the central areola of *M. nueveocho* at midheight and well above midheight in *M. unocincocero* (Fig. 118).
Holotype ♀: DHJPAR0020369, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Mismo, 10.98758, -85.41967, 680 m, eclosion date 06/28/2006, caterpillar collection date 06/18/2006 (CNC). GenBank accession code JF793177.
Holotype host data: Hyperparasitoid of *Glyptapanteles johnnoyesi* (Braconidae: Microgastrinae), which is a primary parasitoid of *Deinopa signiplena* (Erebidae) feeding on *Swartzia costaricensis* (Fabaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Glyptapanteles* and *Diolcogaster* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

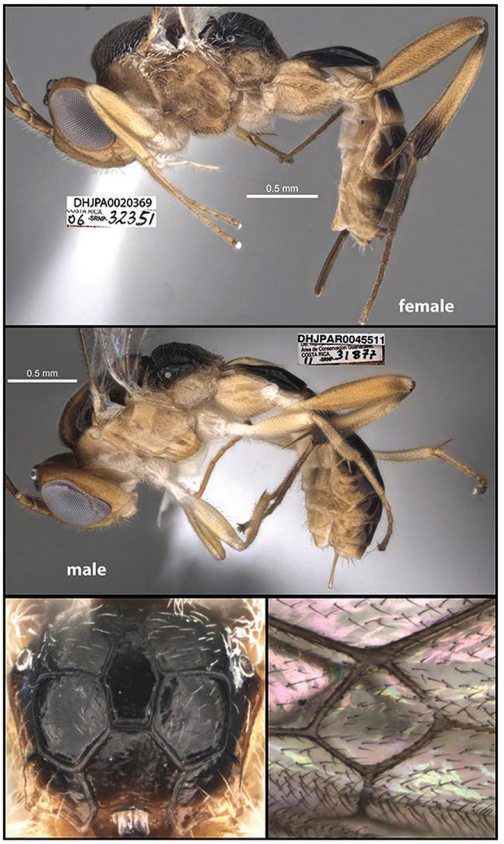

Fig. 117. *M. nueveocho,* holotype female and male paratype. Unlabeled images are of the holotype.

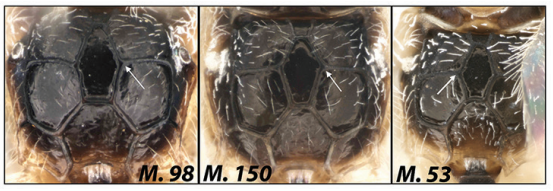

Fig. 118. Comparisons of *M. nueveocho* with its nearest neighbor, *M. unocincocero* and with *M. cincotres*..

Mesochorus nuevenueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:D9501868-1E31-4882-9C7E-949BB9CE2151

Diagnostics: Fig. 119.
Consensus barcode (12 specimens).
TATTTTATATTTTATTTTTGGTATATGATCTGGRATAATTGGCTCTTCAATAAGAATAATTATTCGTATAGA
ATTAGGTAATCCAGGATTTTTAATTAATAATGACCAAATTTATAACTCATTTGTTACTTCACATGCTTTTATTA
TAATCTTTTTTATAGTCATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCTTTAATGATTGGGGCTC
CAGATATAGCATTCCCTCGAATAAATAATATAAGATTTTGATTACTACCCCCTTCAATTATATTACTTTTACTAAGA
AGAATTTGTCAAAAAGGAGTAGGAACAGGATGAACTGTTTATCCCCCTTTATCACTTAATATAAGTCATGAAG
GACTATCTGTAGATTTGTCAATTTTCTCATTACATTTAGCRGGAATATCATCAATTATAGGAGCAGTAAATTTTATTA
CAACTATTATTAATATACGTATTTATAAAACATCATTTGATCAAATATCTCTATTTGTTTGATCAATTCTAATTACAA
CAATTTTATTATTATTAGCTGTACCTGTATTAGCTGGRGCAATCACTATATTATTATCTGATCGTAATTTAAATACAT
CATTTTTTGATCCATCAGGAGGTGGAGACCCAATTTTATACCAACACTTATTT

BOLD data: BIN: BOLD:ABX5838.
Nearest neighbor: *M. cuatroocho*, BOLD:AAK7574, 3.53% (p-dist).
Holotype ♀: DHJPAR0053147, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Sendero Rincon, 10.89620, -85.27769, 430 m, eclosion date 08/19/2013, caterpillar collection date 07/29/2013 (CNC). GenBank accession code OM237751.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield49 (Braconidae: Microgastrinae), which is a primary parasitoid of *Phostria* Janzen05 (Crambidae) feeding on *Palicourea cyanococca* (Rubiaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Eiphosoma* (Ichneumonidae: Cremastinae), *Apanteles*, *Prasmodon* (Braconidae: Microgastrinae), *Macrocentrus* (Braconidae: Macrocentrinae). A single *Mesochorus* specimen eclosed.

Fig. 119. *M. nuevenueve,* holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus unocerocero
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:82CC3DA6-99C3-487F-9B3E-814C3637F065

Diagnostics: Fig. 120.
Consensus barcode (4 specimens).
AATTTTATATTTTATTTTTGGAATATGAGCAGGTATAATTGGCTCGTCAATAAGAATAATTATTCGATTAGA
ATTAGGAAATCCGGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACATCTCATGCGTTTATTA
TAATTTTTTTTATAGTTATGCCAATTATAATTGGTGGTTTTGGAAATTGAATAGTTCCATTAATAATTGGTGCTC
CAGATATAGCATTTCCTCGTATAAATAATATAAGATTTTGATTATTACCACCTTCAATTATATTATTATTATTAAGA
GGAATTTGTCAAAAAGGTGTTGGTACTGGATGAACAGTGTACCCTCCTTTATCATTAAATGTTAGACATGAAG
GATTATCAGTAGATTTATCAATTTTTTCTTTACATTTAGCTGGTATATCYTCAATTATAGGAGCAATTAATTTTATTA
CAACAATTTTAAATATACGTATTTTAAAAACTTCATTTGATCAAATATCTTTATTTGTTTGATCAATTTTAATTAC
TACAATTTTATTATTATTAGCAGTTCCAGTATTAGCTGGTGCAATTACAATATTACTTTCTGATCGAAATTTAAA
TACTTCTTTTTTTGATCCATCTGGAGGAGGTGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ABX6640.
Nearest neighbor: *M. unocincocuatro*, BOLD:AAG8572, 2.4% (p-dist). The central areola of *M. unocerocero* is narrower basally and apically (Fig. 121).

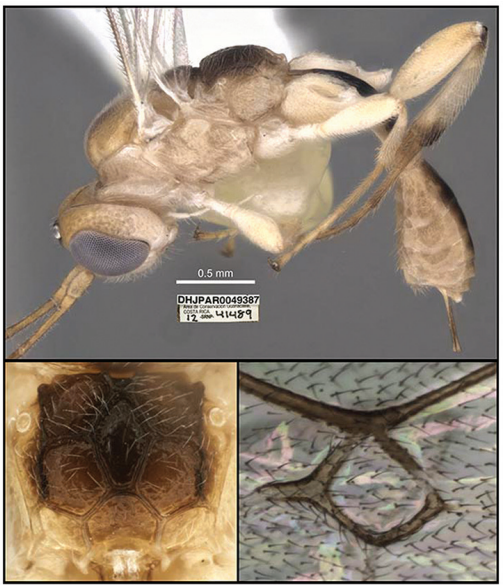

Fig. 120. *M. unocerocero,* holotype male.

Holotype ♂: DHJPAR0049387, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Sendero Venado, 10.89678, -85.27001, 420 m, eclosion date 04/30/2012, caterpillar collection date 04/10/2012 (CNC). GenBank accession code OM237716.
Holotype host data: Hyperparasitoid of *Apanteles* Janzen78 (Braconidae: Microgastrinae), which is a primary parasitoid of *Antaeotricha* Janzen245 (Depressariidae) feeding on *Coccoloba tuerckheimii* (Polygonaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Apanteles* (Braconidae: Microgastrinae) and *Chelonus* (Braconidae: Cheloninae). A single *Mesochorus* specimen eclosed.

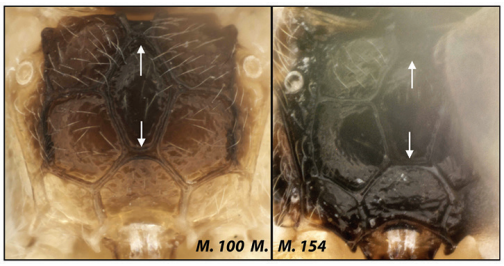

Fig. 121. Comparisons of *M. unocerocero* with its nearest neighbor, *M. unocincocuatro.*

Mesochorus unocerouno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:0D556632-FE72-48A7-8D64-C1950E0C2FAA

Diagnostics: Fig. 122.
Consensus barcode (13 specimens).
TATTTTATATTTTATTTTTGGAATATGATCAGGAATAATTGGTTCTTCTATAAGATTAATTATTCGAATAGA
ACTTGGTAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACTTCTCATGCATTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGTAATTGAATAATTCCTTTAATAATTGGAGCCC
CAGATATAGCCTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCATCAATTTTATTACTTTTATTAAGA
AGAATTTGTCAAAAAGGTGTAGGAACAGGATGAACAATTTACCCCCCATTATCATTAAATGTAAGACATGAAG
GATTATCTGTAGACCTTTCAATTTTTTCTTTACAYCTTGCAGGAATATCTTCAATTATAGGAGCAGTTAATTTTATTAC
TACAATTTTAAATATACGAATTATAAAAACATCTTTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAA
CAATTTTATTATTATTAGCTGTTCCAGTATTAGCTGGTGCTATTACAATATTATTAACAGATCGTAATTTAAATACAT
CATTTTTTGATCCATCAGGAGGTGGTGATCCTATTTTATATCAACATTTATTC

BOLD data: BIN: BOLD:ABY4235.
Nearest neighbor: *M. cincoocho*, BOLD:AAT8847, 2.24% (p-dist). The shapes of the forewing areolets differ (Fig. 75, associated with *M. cincoocho*).
Holotype ♀: DHJPAR0051419, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Sendero Anonas, 10.90528, -85.27882, 405 m, eclosion date 11/21/2012, caterpillar collection date 11/03/2012 (CNC). GenBank accession code OM237680.
Holotype host data: Hyperparasitoid of *Apanteles rosibelelizondoae* (Braconidae: Microgastrinae), which is a primary parasitoid of *Herpetogramma salbialis* (Crambidae) feeding on *Eleutheranthera ruderalis* (Asteraceae). A single *Mesochorus* specimen eclosed.
Other host data: *Alabagrus,* (Braconidae: Agathidinae), *Apanteles, Papanteles, Hypomicrogaster* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

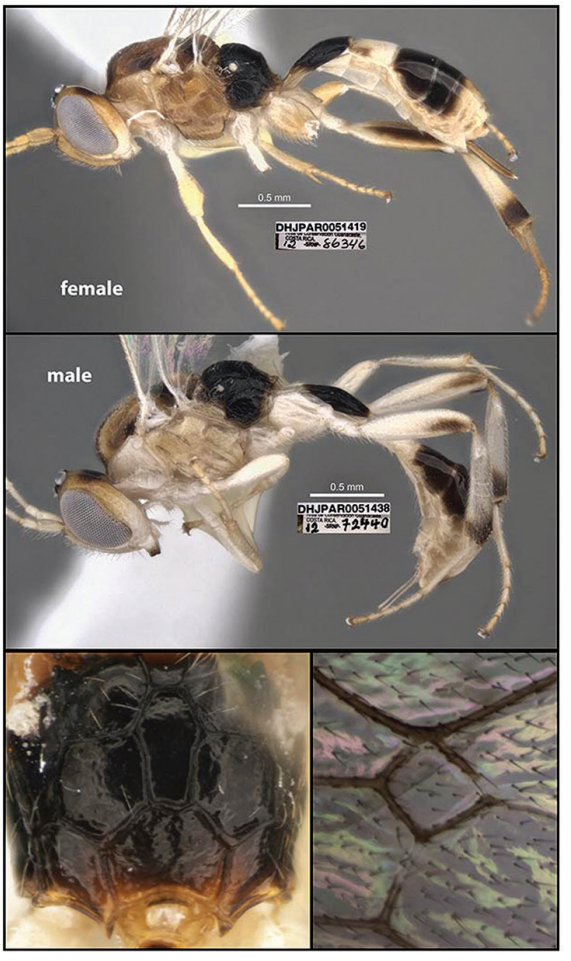

Fig. 122. *M. unocerouno,* holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus unocerodos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:816B8B94-82FF-4A42-97E7-37B25264624F

Diagnostics: Fig. 123.
Consensus barcode (3 specimens).
AATTTTATACTTTATTTTTGGTATATGATCAGGAATAATTGGATCTTCAATAAGAATAATTATTCGTATAGA
ATTAGGAAACCCTGGATTCTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACGTCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCTTTAATAATTGGTGCAC
CAGATATAGCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTGTTAAGA
GGAATTTGTCAAAAAGGTGTAGGAACTGGATGAACAGTATATCCACCATTATCATTAAATATTAGACATGAAG
GATTTTCTGTTGATTTATCAATTTTTTCATTACATTTAGCTGGAATATCATCTATTATGGGTGCAATTAATTTTATTA
CAACTATTATAAATATACGAATTTTAAATACATCTCTTGATCAAATATCTTTATTTACTTGATCTATTTTAATTAC
TACAATTTTATTACTTTTAGCTGTTCCAGTTTTAGCGGGAGCTATTACTATATTATTATCAGATCGTAATTTAAA
TACTTCTTTTTTTGACCCGTCAGGAGGAGGAGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:ACB1637.
Nearest neighbor: *M. trestres*, BOLD:AAF0671, 7.05% (p-dist).
Holotype ♂: DHJPAR0049440, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Flecha, 10.94741, -85.31501, 491 m, eclosion date 06/10/2012, caterpillar collection date 05/24/2012 (CNC). GenBank accession code OM237717.
Holotype host data: Hyperparasitoid of *Aerophilus jessiehillae* (Braconidae: Agathidinae), which is a primary parasitoid of *Dysodia speculifera* (Thyrididae) feeding on *Margaritaria nobilis* (Phyllanthaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Aerophilus* (Braconidae: Agathidinae). A single *Mesochorus* specimen eclosed.

Fig. 123. *M. unocerodos,* holotype male.

Mesochorus unocerotres
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:9846349A-4803-4E4E-8946-D59F0E32B27C

Diagnostics: Fig. 124.
Consensus barcode (4 specimens).
TATTTTATATTTTATTTTTGGAATATGATCAGGAATAATTGGTTCTTCTATAAGAATAATTATTCGCATAGAATT
GGGTAACCCAGGATTTTTAATTAATAATGACCAAATTTATAATTCATTTGTAACATCTCATGCTTTTATTA
TAATTTTTTTTATAGTCATACCAATCATAATTGGAGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCACCAGA
TATAGCATTCCCTCGAATAAATAATATAAGTTTTTGATTATTACCCCCATCAATTATATTACTTTTATTAAGAAGAATTT
GTCATAAAGGTGTAGGAACAGGATGAACAGTTTATCCACCATTATCTTTAAATGTTAGACATGAAGGATTATCAGTA
GATTTATCAATTTTTTCATTACATTTAGCAGGAATATCATCAATTATAGGAGCTGTAAATTTTATTACTACTATTATTAA
TATACGTATTTATAAAACATCTCTAGATCAAATATCTTTATTTGTTTGATCAATCTTTATTACAACAATTTTATTAC
TYTTAGCTGTACCTGTTTTAGCAGGAGCAATTACTATATTATTATCTGATCGTAATTTAAATACATCGTTTTTT
GATCCTTCAGGTGGAGGAGATCCAATTTTATAYCAACATTTATTT

BOLD data: BIN: BOLD:ACC0953.
Nearest neighbor: *M. cinco*, BOLD:AAB3993 6.89% (p-dist).
Holotype ♀: DHJPAR0050033, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Pasmompa, 11.01926, -85.40997, 440 m, eclosion date 07/30/2012, caterpillar collection date 07/12/2012 (CNC). GenBank accession code OM237762.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield09 (Braconidae: Microgastrinae), which is a primary parasitoid of *Desmia* benealisDHJ02 (Crambidae) feeding on *Drymonia serrulata* (Gesneriaceae). Multiple *Mesochorus* specimen eclosed.
Other host data: *Hypomicrogaster, Apanteles* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed from all other rearings.

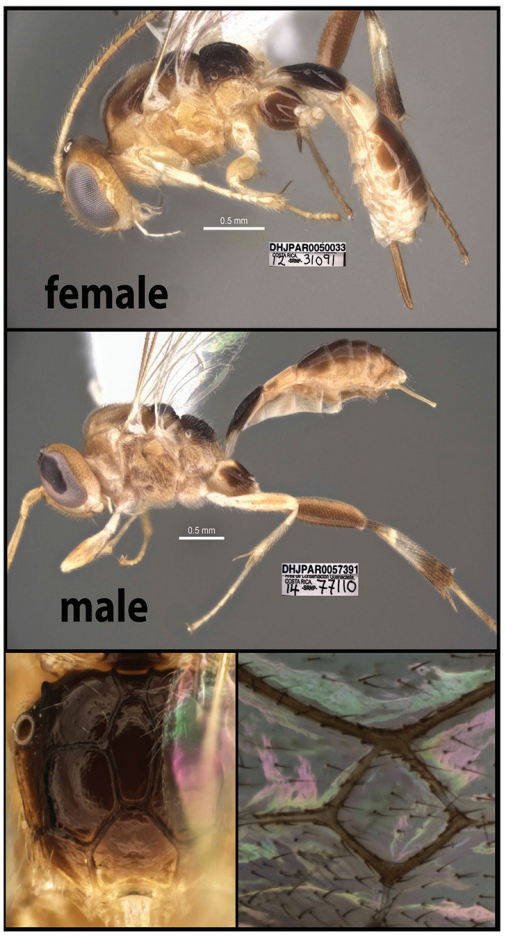

Fig. 124. *M. unocerotres,* holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus unocerocuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:F218D489-3D96-456E-ABB2-6C102E301C44

Diagnostics: Fig. 125.
Consensus barcode (5 specimens).
AGTATTATATTTTATTTTTGGTATATGATCAGGAATAATTGGTTCATCTATAAGAATAATTATTCGAATAGAATTAGG
GAACCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCACATGCYTTTATTATAATTTTTTTTA
TAGTAATACCAATTATAATTGGAGGATTTGGAAATTGACTAGTTCCATTAATAATTGGAGCTCCAGATATAG
CATTCCCTCGAATAAATAATATAAGATTTTGATTATTACCACCTTCAATTATATTATTATTACTAAGAGGAATTT
GTCAAAAAGGAGTAGGAACAGGTTGAACAGTTTATCCTCCTTTATCTTTAAATGTTAGTCATGAAGGATTAT
CAGTTGATTTATCAATTTTTTCATTACATTTAGCAGGAATATCATCAATTATAGGTGCAATTAATTTTATTACA
ACTATTCTAAATATACGAATTTATAAAACATCATTTGATCAAATATCATTATTTATTTGATCAATTTTAATTACTA
CAATTTTATTACTTTTAGCAGTACCAGTTTTAGCTGGAGCTATCACAATATTACTATCTGATCGAAATTTAAA
TACTTCTTTTTTTGATCCCTCTGGAGGAGGTGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ACC1131.
Holotype ♀: DHJPAR0050019, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Sendero Venado, 10.89678, -85.27001, 420 m, eclosion date 10/20/2012, caterpillar collection date 09/14/2012 (CNC). GenBank accession code OM237729.

Holotype host data:
Hyperparasitoid of *Campoplex* NV-02 (Ichneumonidae: Campopleginae), which is a primary parasitoid of *Stenoma* Janzen44 (Depressariidae) feeding on *Tetracera hydrophila* (Dilleniaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Campoplex* (Ichneumonidae: Campopleginae). A single *Mesochorus* specimen eclosed from all rearings.

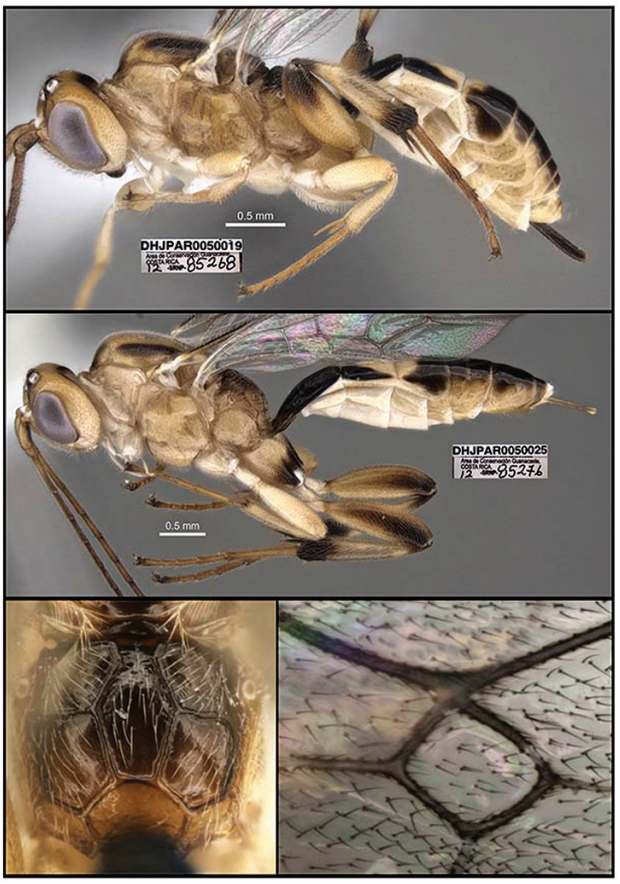

Fig. 125. *M. unocerocuatro,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus unocerocinco

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:3C17A664-939F-4C7F-A3F1-FA81A0ADF71C

Diagnostics: Fig. 126.
Consensus barcode (2 specimens).
TATTTTATATTTTATTTTTGGTATATGAGCAGGAATAATTGGTTCATCTATAAGAATAATTATTCGTATAGAATTAGGA
AATCCTGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCTATTATAATTGGAGGATTTGGAAATTGGATTATTCCATTAATAATTGGAGCTCCTGATATAGCATTTC
CACGAATAAATAATATAAGATTTTGATTACTACCACCATCAATTATATTATTATTATTAAGAAGAATTTGTCAAAAA
GGTGTTGGAACAGGATGAACAGTTTACCCCCCTTTATCATTAAATTTAAGTCATGAAGGATTATCAGTAGATTTAT
CAATTTTTTCTTTACATTTAGCTGGAATATCATCAATTATAGGAGCAATTAATTTTATTACAACAATTTTAAATATAC
GAATTTTAATAACATCTTTTGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAACAATTTTATTACTTTTAG
CAGTTCCAGTTTTAGCTGGTGCTATTACTATATTATTATCAGATCGTAATTTAAATACTTCTTTTTTTGATCCTTCAG
GAGGTGGAGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ACC1150.
Nearest neighbor: *M. cincoseis*, BOLD:AAN2491, 5.31% (p-dist).
Holotype ♂: DHJPAR0056342, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Quebrada Escondida, 10.89920, -85.27486, 420 m, eclosion date 08/18/2012, caterpillar collection date 08/02/2012 (CNC). GenBank accession code OM237711.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Janzen19 (Braconidae: Microgastrinae), which is a primary parasitoid of *Stenoma* Janzen10 (Depressariidae) feeding on *Desmopsis schippii* (Annonaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: None.

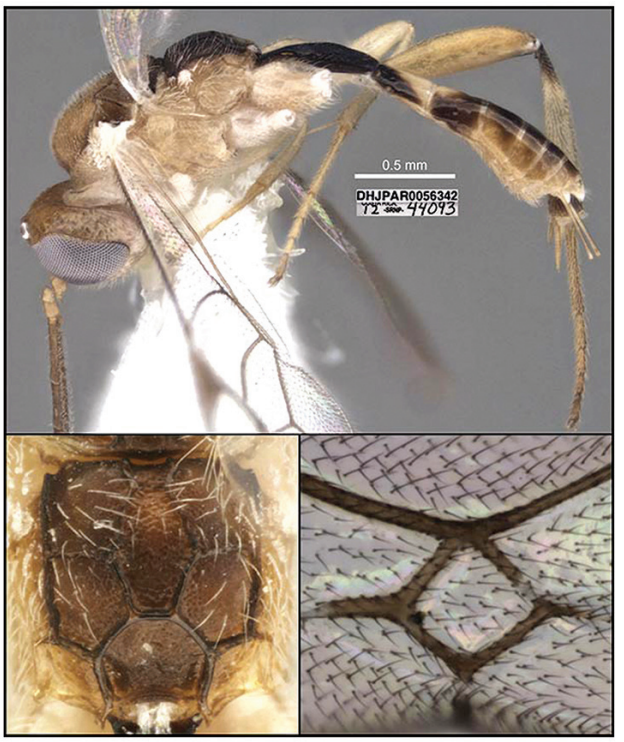

Fig. 126. *M. unocerocinco,* holotype male.

Mesochorus unoceroseis

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:CABF16F8-5665-43DE-9EB3-E7F8EE511781

Diagnostics: Fig. 127.
Consensus barcode (3 specimens).
AATTTTATATTTTATTTTTGGTATATGAGCTGGTATAATTGGTTCWTCAATAAGTATAATTATTCGTATAGA
ATTAGGTAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTA
TAATTTTTTTTATAGTAATACCAATTATAATTGGTGGATTTGGTAATTGAATAGTTCCTTTAATAATTGGTGCAC
CAGATATAGCTTTCCCACGAATAAATAATATAAGATTTTGATTATTACCCCCATCAATTATATTATTATTATTAAGT
GGAATTTGTCAAAAAGGTGTAGGAACTGGATGAACTGTGTACCCCCCTTTATCATTAAATGTTAGTCATGAA
GGTTTATCCGTTGATTTATCAATTTTTTCTTTACACTTAGCAGGTATATCTTCTATTATAGGTGCTATTAATTTTATTAC
TACTATTTTAAATATACGTATTATAAAAACATCTCTGGATCAAATATCATTATTTGTTTGATCAATCTTAATTACAA
CAATTTTATTATTATTAGCAGTACCAGTATTAGCAGGAGCTATCACAATATTATTATCTGATCGTAATTTAAATACTT
CATTTTTTGATCCATCAGGAGGAGGGGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ACC3709.
Holotype ♂: DHJPAR0043051, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Garzasol, 10.89666, -85.29003, 400 m, eclosion date 02/20/2011, caterpillar collection date 02/01/2011 (CNC). GenBank accession code OM237715.
Holotype host data: Hyperparasitoid of *Apanteles juanlopezi* (Braconidae: Microgastrinae), which is a primary parasitoid of *Paramorbia* Brown001DHJ03 feeding on *Hypolepis repens* (Dennstaedtiaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

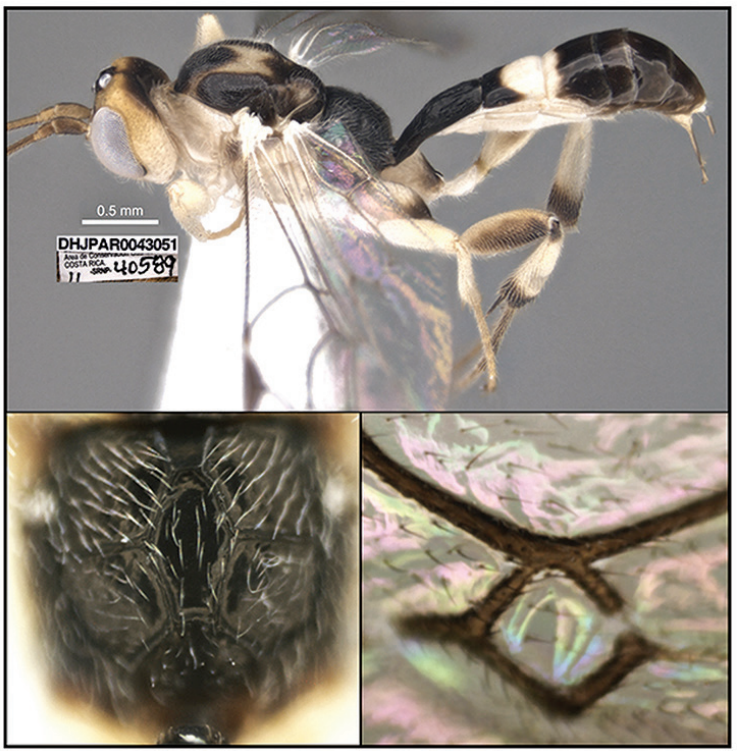

Fig. 127. *M. unoceroseis,* holotype male.

Mesochorus unocerosiete
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:BDB3762E-AAF2-4F44-BEF9-CA4B1160BC4A

Diagnostics: Fig. 128.
Holotype barcode.
TATTTTATATTTTATTTTTGGAATATGAGCAGGAATAATTGGATCATCAATAAGAATAATAATTCGAATAGAATTAGGA
AACCCTGGATTCTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCACATGCCTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTACCTCTAATAATTGGAGCACCAGATATAGCTTTTC
CGCGAATAAATAATATAAGATTTTGATTATTACCACCTTCAATTATATTATTATTATTAAGAGGAATTTGTCAAAAA
GGTGTAGGAACTGGTTGAACAGTTTATCCACCTTTATCATTAAATATCAGACATGAAGGATTATCTGTTGATTTATC
TATTTTTTCATTACATTTAGCTGGAATATCTTCAATCATAGGAGCCATTAATTTTATTACAACAATTTTAAATATAC
GAATTTATAAAACATCATTAGATCAAATATCTTTATTTGTTTGATCAATCTTAATTACAACAATTTTATTATTATTAG
CAGTTCCAGTATTAGCTGGTGCCATCACAATATTATTATCAGATCGAAATTTAAATACTTCTTTTTTTGACCCATCT
GGTGGAGGAGATCCAATTTTATACCAACACTTATTT

BOLD data: BIN: BOLD:AAM1691.
Nearest neighbor: *M. sieteuno*, BOLD:AAX4034, 7.05% (p-dist).
Holotype ♀: DHJPAR0038397, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Puente Palma, 10.91630, -85.37869, 460 m, eclosion date 11/20/2009, caterpillar collection date 11/03/2009 (CNC). GenBank accession code HQ549141.
Holotype host data: Hyperparasitoid of *Aparteles luiscanalesi* (Braconidae: Microgastrinae), which is a primary parasitoid of *Macalla* niveorufaDHJ02 (Pyralidae) feeding on *Hieronyma alchorneoides* (Phyllanthaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

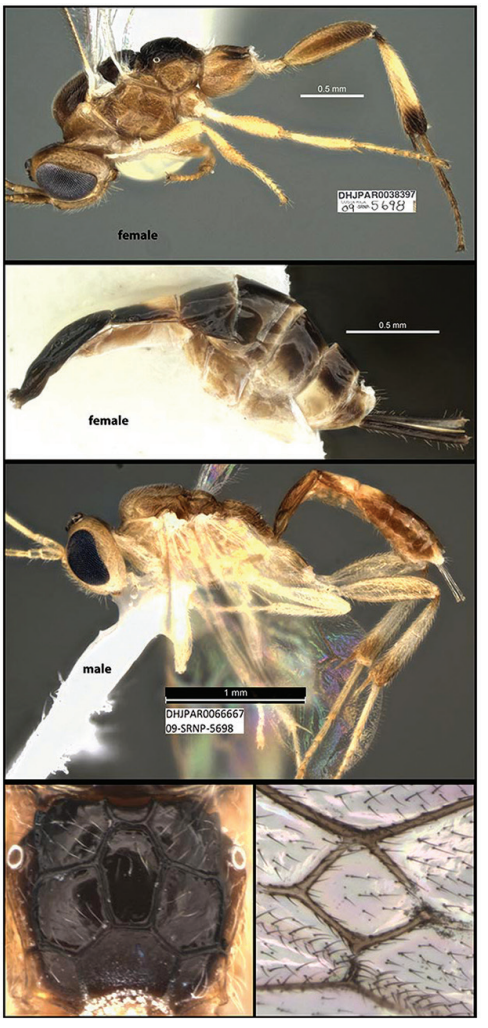

Fig. 128. *M. unocerosiete,* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066667) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as the holotype, which was barcoded. They both have the same rearing/caterpillar record, 09-SRNP-5698, that can be recovered from the Janzen/Hallwachs website.

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Mesochorus unoceroocho
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:00490EE1-2A3F-4280-AE45-5FE0211419AE

Diagnostics: Fig. 129.
Consensus barcode (5 specimens).
AATTTTATATTTTATTTTTGGARTTTGGGCTGGAATAAATGGATCATCAATAAGCTTAATTATTCGAATTGA
ACTTGGTAACCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACAGCCCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATAATAATTGGAGGGTTTGGAAATTGATTAATTCCTTTAATAATTGGAGCTCCT
GATATAGCATTCCCTCGAATAAACAATATAAGATTTTGACTTTTACCTCCTTCATTAATATTACTTCTATTAAGAA
GAATTATTAATAAAGGAGTTGGAACAGGTTGAACCGTTTATCCACCTTTATCATTAAATGTCAGACATGAAGGTA
TATCTGTAGATTTATCAATTTTTTCATTACATTTAGCCGGGATATCTTCAATTATAGGAGCAGTTAATTTTATTA
CAACAATTTTAAACATACATTTATTTGGYATATCAATAGATCAATTATCTTTATTTACATGATCAATTAAAATTAC
TACAATTTTATTACTTTTAGCTGTTCCAGTTTTAGCTGGAGCAATTACTATACTATTAACAGATCGAAATTTAAA
TACATCTTTTTTTGACCCATCRGKKGGTGGTGACCCAATTCTTTACCAACATTTATTT

BOLD data: BIN: BOLD:ACE7768.
Nearest neighbor: *M. doscinco*, BOLD:AAE9757, 1.4% (p-dist). Central areola of *M. doscinco* petiolate apically, sessile in *M. unoceroocho* (Fig. 32, associated with *M. doscinco*).

Holotype ♀: DHJPAR0060102, Area de Conservacion Guanacaste, Guanacaste, Sector Pitilla, Charia, 10.99339, -85.40271, 530 m, Ricardo Calero, eclosion date 04/02/2016, caterpillar collection date 03/09/2016, (CNC). GenBank accession code OM237686.
Holotype host data: Hyperparasitoid of *Alphomelon* Deans29 (Braconidae: Microgastrinae), which is a primary parasitoid of hespJanzen01 Janzen55 (Hesperiidae) feeding on *Cryptochloa concinna* (Poaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Apanteles* (Braconidae: Microgastrinae), *Microcharops* (Ichneumonidae: Campopleginae). A single *Mesochorus* specimen eclosed from all rearings.

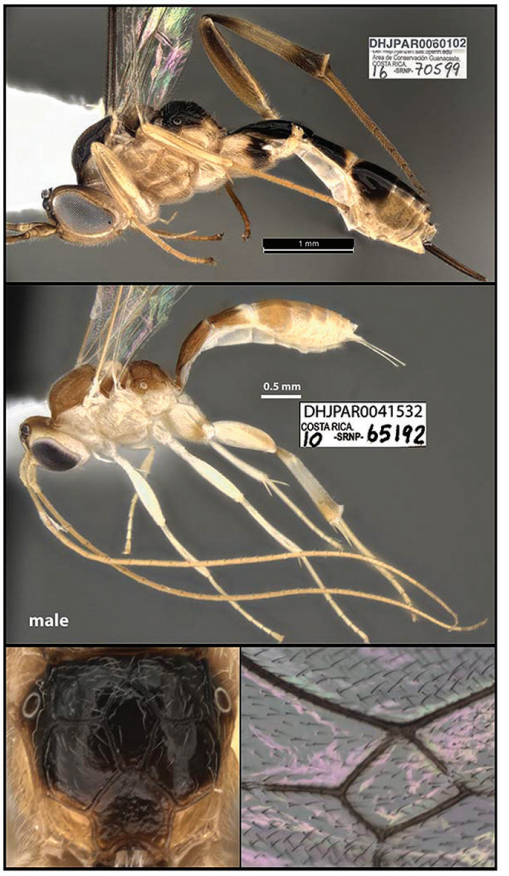

Fig. 129. *M. unoceroocho,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus unoceronueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:915C70C8-230D-4933-9C2F-CFD66166C937

Diagnostics: Fig. 130.
Consensus barcode (5 specimens).
AATTTTATATTTTATTTTCGGAATATGAGCAGGAATAATTGGTTCATCTATAAGAATAATTATTCGATTAGAATTAGGA
AATCCTGGATTTTTGATTAATAATGATCAAATTTATAATTCATTTGTTACATCTCATGCATTTATTATAATTTTTTTTA
TAGTRATACCAATTATAATTGGTGGTTTTGGTAATTGAATAATTCCATTAATAATTGGTGCTCCAGATATAG
CATTTCCTCGTATAAATAATATAAGATTTTGATTATTACCACCTTCAATTATATTATTATTATTAAGAGGAATTTGT
CAAAAAGGTGTTGGTACTGGATGAACAGTATATCCTCCTTTATCATTAAATATTAGACATGAAGGACTATCAGTA
GATTTATCAATTTTTTCTCTACATTTAGCTGGTATATCTTCAATTATAGGRGCAATTAATTTTATTACAACAATTTTAAA
TATACGTATTTTAAAAACTTCATTTGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACTACAATTTTATTATTATT
GGCAGTTCCAGTATTAGCTGGTGCAATTACAATATTACTTTCTGATCGTAATTTAAATACTTCTTTTTTTGATCCATCT
GGAGGAGGTGACCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:ACE9003.
Nearest neighbor: *M. unocincocuatro* BOLD:AAG8572, 1.03% (p-dist). The shape of the forewing areolets and the thickness of the veins are different (Fig. 131).

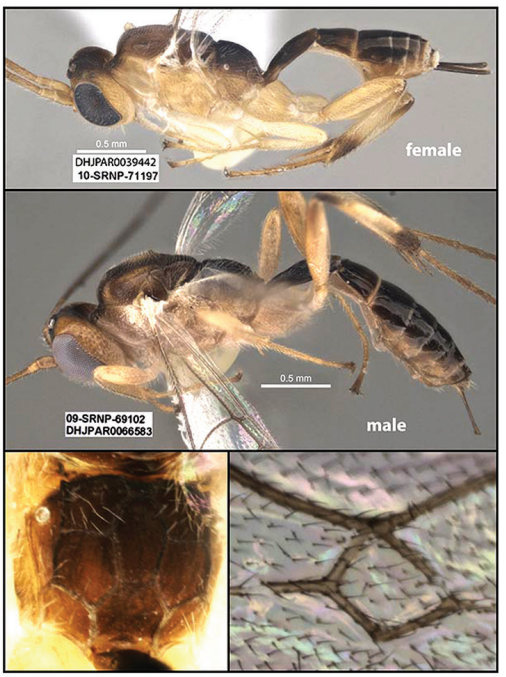

Fig. 130. *M. unoceronueve,* holotype female and male paratype. Unlabeled images are of the holotype. The male (DHJPAR0066583) is not barcoded. It was one of many specimens, presumably siblings, that emerged from the same caterpillar as paratype, DHJPAR0035462, which was barcoded. They both have the same rearing/caterpillar record, 09-SRNP-69102, that can be recovered from the Janzen/Hallwachs website.

Holotype ♀: DHJPAR0039442, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Suspiro, 10.98394, -85.38853, 439 m, eclosion date 04/19/2010, caterpillar collection date 03/16/2010 (CNC). GenBank accession code HQ926183.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield12 (Braconidae: Microgastrinae), which is a primary parasitoid of *Gonioterma anna* (Depressariidae) feeding on *Pourouma bicolor* (Urticaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Hypomicrogaster* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed from one rearing and a single specimen from another.

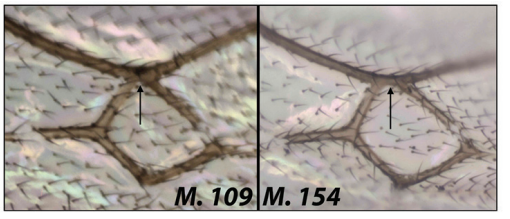

Fig. 131. Comparisons of *M. unoceronueve* with its nearest neighbor, *M. unocincocuatro.*

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Mesochorus unounocero

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:3805F8DB-4240-4C57-9436-9FF50D81A088

Diagnostics: Fig. 132.
Consensus barcode (8 specimens).
GATTTTATATTTTATTTTTGGTATTTGAGCTGGAATAATTGGATCAGCAATAAGATTAATTATTCGTATAGAATTAGGA
AATCCGGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACTGCACATGCCTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGGGGATTTGGAAATTGATTAGTACCTTTAATAATTGGTGCCCCAGATATAGCATTCC
CACGAATAAATAATATAAGATTTTGATTATTACCCCCATCACTTATATTATTATTATTAAGAAGAATTATTAATAAAG
GAGTAGGAACAGGATGRACTGTTTACCCACCTTTATCATTAAATGTAAGTCATGAAGGTATGTCTGTTGATTTAT
CAATTTTTTCATTACATTTAGCAGGAATATCYTCAATTATAGGTGCAGTAAATTTTATTACCACAATTATAAATA
TACATTTATTTGGAATATCATTAGATCAGTTATCATTATTTACTTGATCAATTTTAATTACTACAATTTTATTATTATTAG
CAGTTCCAGTTTTAGCAGGAGCAATTACAATATTATTAACTGACCGRAATTTAAATACATCATTTTTTGATCCTTCA
GGGGGYGGAGAYCCWATTCTTTATCAACATTTATTT

BOLD data: BIN: BOLD:ACE9622.
Nearest neighbor: *M. tres*, BOLD:AAA8075, 1.6% (p-dist). The dimensions of the central propodeal areolae are different as are the dimensions of the areolets of the forewing (Fig. 8, associated with *M. tres*).

Holotype ♀: DHJPAR0020543, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Sendero Guayabal, 10.88571, -85.48184, 500 m, eclosion date 12/23/2007, caterpillar collection date 12/19/2007 (CNC). GenBank accession code OM237702.
Holotype host data: Hyperparasitoid of *Microcharops* tibialisDHJ14 (Ichneumonidae: Campopleginae), which is a primary parasitoid of *Hemiceras nigrescens* (Notodontidae) feeding on *Inga punctata* (Fabaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Hyposoter* (Ichneumonidae: Campopleginae), *Hypomicrogaster, Apanteles* (Braconidae: Microgastrinae), *Lytopylus* (Braconidae: Agathidinae). A single *Mesochorus* specimen eclosed from solitary primary parasitoids and multiple *Mesochorus* specimens eclosed from the caterpillars hosting the gregarious primaries.

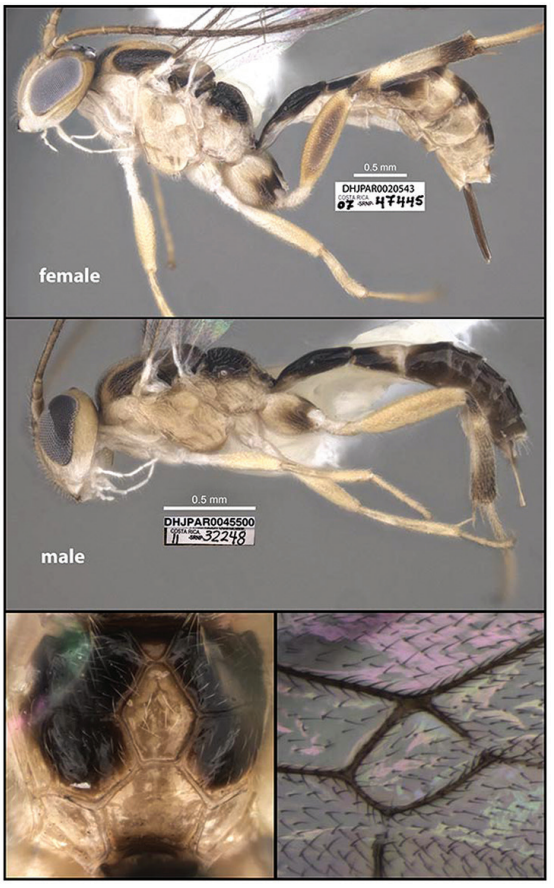

Fig. 132. *M. unounocero,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus unounouno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:525C1A5A-7881-41B1-96C1-83A3BF0FFECE

Diagnostics: Fig. 133.
Consensus barcode (3 specimens).
AATCTTATATTTTATTTTTGGTATTTGAGCTGGAATAATTGGATCTTCAATAAGATTAATTATTCGTATAGA
ATTAGGTAATCCAGGTTATTTAATTAATAATGATCAAATTTATAATTCATTTGTAACAGCTCATGCTTTTATTA
TAATTTTTTTTATAGTAATACCTATTATGATTGGAGGATTTGGAAATTGATTAATTCCTTTAATAATTGGAGCTCCT
GATATAGCATTCCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCATTGATATTATTATTATTAAGAA
GATTAATTAATAAAGGAGTTGGAACAGGATGAACAGTTTATCCTCCATTATCTTTAAATATTAGACATGAAGGA
ATATCAGTTGATTTATCTATTTTTTCATTACATTTAGCAGGAATATCTTCAATTATAGGTGCAGTAAATTTTATTAC
TACAATTTTAAATATACACTTACAAGGAATAAGTTTAGATCAATTATCATTATTTACATGATCAATTAAAATTAC
TACAATTTTATTATTATTAGCAGTACCAGTATTAGCAGGAGCAATTACTATATTATTAACAGATCGAAATTTAAA
TACATCTTTTTTTGATCCATCAGGAGGAGGAGATCCTATTCTTTATCAACATTTATTT

BOLD data: BIN: BOLD:ACF3106.
Nearest neighbor: *M. unosiete*, BOLD:AAD1724, 1.28% (p-dist). The dimensions of the three median areolae are different (Fig. 23, associated with *M. unosiete*).
Holotype ♀: DHJPAR0040085, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Sendero Huerta, 10.93050, -85.37223, 527 m, eclosion date 01/30/2009, caterpillar collection date 01/14/2009 (CNC). GenBank accession code OM237705.
Holotype host data:
Hyperparasitoid of *Cotesia* Whitfield265 (Braconidae: Microgastrinae), which is a primary parasitoid of *Isostyla zetila* (Notodontidae) feeding on *Asterogyne martiana* (Arecaceae). Multiple *Mesochorus* specimens eclosed.
Other host data:
Cotesia (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

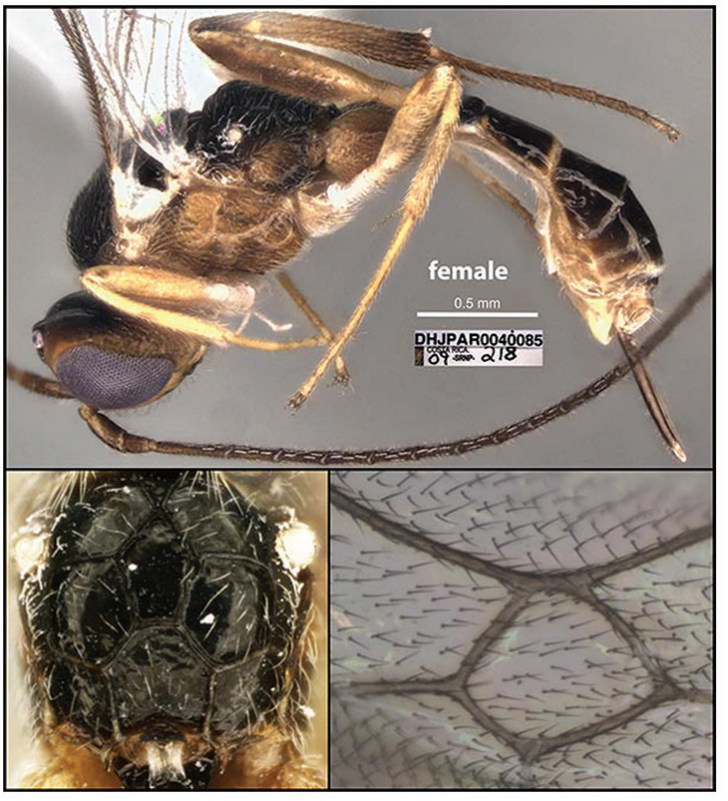

Fig. 133. *M. unounouno,* holotype female.

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Mesochorus unounodos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:74C72A46-07A9-4891-9E76-0A7D3C6570D1

Diagnostics: Fig. 134.
Consensus barcode (4 specimens).
AATTTTATATTTTATTTTTGGTATGTGAGCTGGAATAATTGGTTCATCAATAAGAATAATTATTCGAATAGA
ATTAGGAAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACATCACATGCTTTTATTA
TAATTTTTTTTATAGTAATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCACCA
GATATAGCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCATCAATTATATTATTATTATTAAGAGGA
ATTTGTCAAAAAGGTGTTGGAACTGGTTGAACAGTTTACCCCCCATTATCATTAAATGTTAGACATGAAGGATTAT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGAATATCTTCAATTATAGGTGCTATTAATTTTATTACAAC
TATTTTAAATATACGAATTTTAAAAACATCTTTTGAYCAAATATCATTATTTGTATGATCAATTTTAATTACAACA
ATTTTATTATTATTAGCTGTTCCAGTTTTAGCAGGTGCAATTACAATATTACTTTCTGATCGAAATTTAAATACTT
CATTTTTTGATCCATCAGGGGGAGGTGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ACE9731.
Nearest neighbor: *M. nueveseis*, BOLD:ABX4997, 1.76% (p-dist). The coloration of the two species is very different (Fig. 135).
Holotype ♂: DHJPAR0040389, Área de Conservación Guanacaste, Guanacaste, Sector Mundo Nuevo, Punta Plancha, 10.74160, -85.42734, 420 m, eclosion date 6/27/2010, caterpillar collection date 06/16/2010 (CNC). GenBank accession code JQ574841.
Holotype host data: Hyperparasitoid of *Aparanteles* sp. (Braconidae: Microgastrinae), which is a primary parasitoid of *Phaedropsis* Solis02 (Crambidae) feeding on *Helicteres guazumifolia* (Malvaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Aparanteles* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

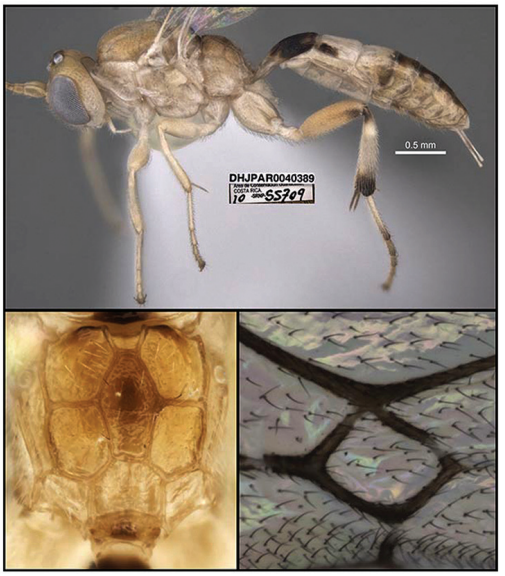

Fig. 134. *M. unounodos,* holotype male.

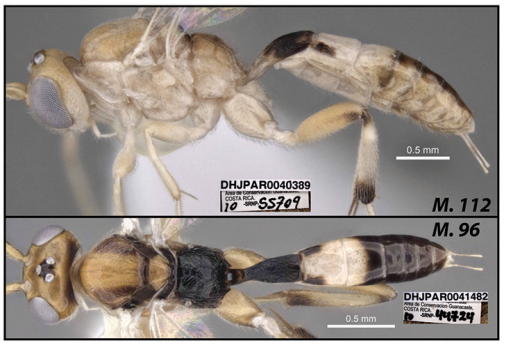

Fig. 135. Comparisons of *M. unounodos* with its nearest neighbor, *M. nueveseis.*

Mesochorus unounotres

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:F87100A6-B7C5-4CFC-A069-0315F1674165

Diagnostics: Fig. 136.
Consensus barcode (2 specimens).
AATTTTATATTTTATTTTTGGTATATGAGCAGGAATAATCGGATCATCAATAAGAATAATTATTCGAATAGA
ATTAGGTAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCACATGCTTTTATTA
TAATTTTTTTTATAGTAATACCAATTATAATTGGTGGATTTGGTAATTGAATAATTCCACTAATAATTGGAGCACCA
GATATAGCTTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCATCTATTATACTATTACTATTCAGAGGA
ATTATACAAAAAGGAGTTGGAACTGGATGAACAGTTTATCCACCATTATCTTTAAATATTAGTCATGAAGGTTTAT
CAGTTGATTTATCAATTTTTTCATTACATTTAGCTGGAATATCATCAATTATAGGAGCTATTAATTTTATTACAA
CAATTTTAAATATACGAATTTTTAAAACTTCATTTGATCAAATATCATTATTTGTTTGATCAATTTTAATTACAACA
ATTTTATTATTATTAGCAGTTCCAGTTTTAGCTGGAGCTATTACAATACTTCTTTCAGATCGTAATTTAAATACTT
CATTTTTTGATCCATCAGGAGGAGGTGACCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ACJ3584.
Nearest neighbor: *M. tresdos*, BOLD:AAF0643, 6.41% (p-dist).
Holotype ♀: DHJPAR0051874, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Potrero Argentina, 10.89021, -85.38803, 520 m, eclosion date 02/25/2013, caterpillar collection date 02/10/2013 (CNC). GenBank accession code OM237719.
Holotype host data: Hyperparasitoid of *Apanteles laurenmoralesae* (Braconidae: Microgastrinae), which is a primary parasitoid of elachBioLep01 BioLep754 (Depressariidae) feeding on *Tapirira mexicana* (Anacardiaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Apanteles* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

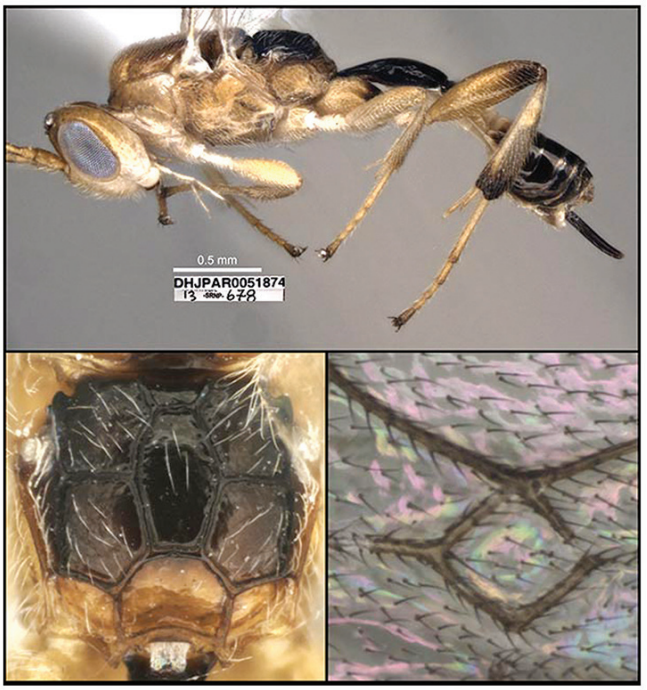

Fig. 136. *M. unounotres,* holotype female.

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Mesochorus unounocuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:6E188CD1-BC0D-4F5B-AA7E-4A9948E6B039

Diagnostics: Fig. 137.
Consensus barcode (7 specimens).
TATTTTATATTTTATTTTTGGTATATGAGCGGGAATAATTGGCTCTTCAATAAGTATAATTATTCGTATAGA
ATTAGGTAATCCAGGATTTTTAATTAATAATGACCAAATTTATAATTCATTTGTAACTTCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATGATTGGAGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCCC
CAGATATAGCATTTCCTCGAATAAATAATATGAGATTTTGATTATTACCTCCTTCAATTATATTACTTTTATTAAGA
AGAATTTGCCAAAAAGGAGTGGGAACAGGATGAACTGTTTACCCCCCTTTATCACTTAATGTAAGTCATGAAG
GATTATCAGTAGATTTATCAATTTTTTCACTACATTTAGCAGGTACATCTTCAATTATAGGAGCAGTAAATTTTATTA
CAACCATTATCAATATACGTATTAATAAAACATCATTCGATCAAATATCTTTATTTGTTTGATCAATCTTAATTACAA
CAATTTTATTATTATTGGCTGTACCTGTACTAGCAGGTGCAATTACCATATTATTATCTGATCGTAATTTAAATACAT
CATTTTTTGATCCATCTGGTGGAGGAGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:ACJ4159.
Nearest neighbor: *M. sieteseis*, BOLD:AAX4045, 5.47% (p-dist).
Holotype ♀: DHJPAR0051413, Área de Conservación, Guanacaste, Alajuela, Sector Rincon Rain Forest, Palomo, 10.96187, -85.28045, 96 m, eclosion date 11/08/2012, caterpillar collection date 10/16/2012 (CNC). GenBank accession code OM237687.
Holotype host data: Hyperparasitoid of *Apanteles* Janzen50 (Braconidae: Microgastrinae), which is a primary parasitoid of *Neoleucinodes* Janzen02 (Crambidae) feeding on *Heliconia irrasa* (Heliconiaceae). A single *Mesochorus* specimen eclosed. GenBank accession code OM237687.
Other host data: *Apanteles* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

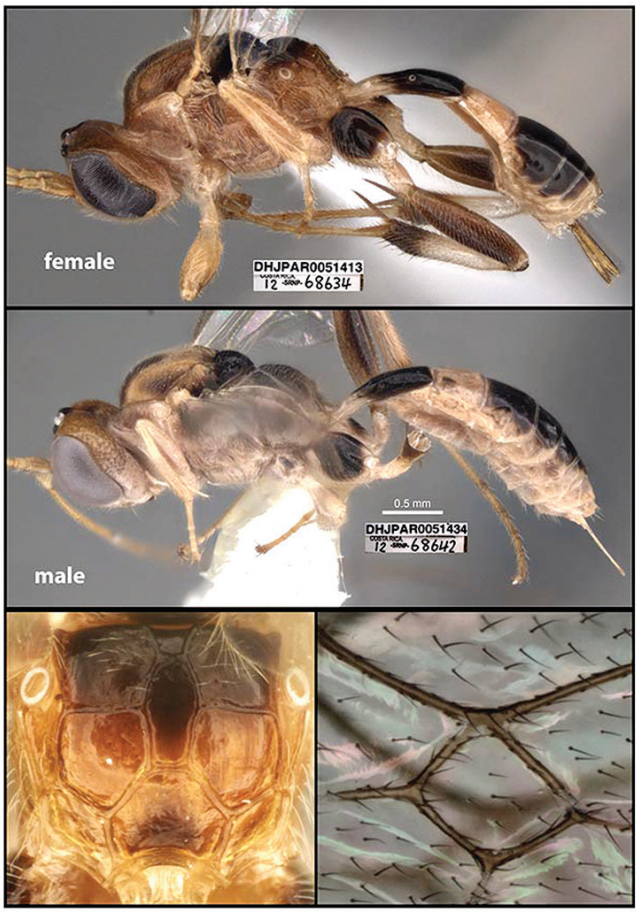

Fig. 137. *M. unounocuatro,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus unounocinco

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:D917D933-A0E0-4D89-9982-2BC0F0E442D6

Diagnostics: Fig. 138.
Consensus barcode (3 specimens).
AATTTTATATTTTATTTTTGGTATATGAGCAGGAATAATTGGTTCTTCAATAAGAATAATTATCCGAATAGA
ATTAGGAAACCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACTTCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGCGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCCC
CAGATATAGCTTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCATCAATTATATTACTATTATTAAGA
AGAATTTGCCAAAAAGGAGTTGGTACTGGATGAACTGTTTATCCACCATTATCATTAAATATTAGACATGAAG
GATTATCTGTTGATTTATCAATTTTTTCATTACATTTAGCCGGTATATCATCAATTATAGGTGCAATTAATTTTATTA
CAACTATTATAAATATACGAATTTTAAAAACATCATTAGATCAAATATCTTTATTTGTTTGATCTATTTTAATTACAAC
TATTTTATTATTATTAGCAGTCCCAGTTTTAGCCGGTGCAATTACTATATTATTATCAGATCGAAATTTAAATACTT
CATTTTTTGATCCATCCGGTGGTGGTGACCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:ACJ4853.
Nearest neighbor: *M. unotresnueve*, BOLD:ADQ8339, 4.65% (p-dist).
Holotype ♀: DHJPAR0053000, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Sendero Perdido, 10.87940, -85.38607, 620 m, eclosion date 07/05/2013, caterpillar collection date 06/20/2013 (CNC). GenBank accession code OM237744.
Holotype host data: Hyperparasitoid of *Dolichogenidea* Janzen19 (Braconidae: Microgastrinae), which is a primary parasitoid of *Brenthia* Janzen05 (Choreutidae) feeding on *Pterocarpus officinalis* (Fabaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Dolichogenidea* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

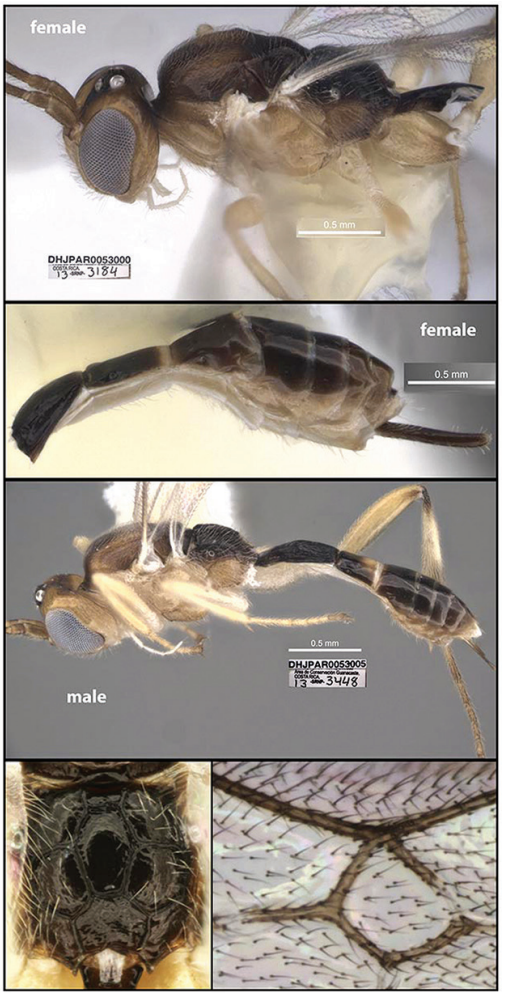

Fig. 138. *M. unounocinco,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus unounoseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:469CB060-8D38-492D-B9B1-D26C2DCF33D6

Diagnostics: Fig. 139.
Consensus barcode (5 specimens).
TATTTTATACTTTATTTTTGGAATATGATCAGGAATAATTGGTTCCTCAATAAGATTAATTATTCGAATAGA
ATTAAGTACCCCTGGTTATTTAATTAATAATGATCAAATTTATAATTCAATTGTTACTGCCCATGCATTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGCTTTGGAAATTGAATAATTCCTTTAATAATTGGTGCTCCA
GATATAGCTTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCCTCAATTACATTCTTATTATTAAGAAGA
ATTTGTCATAAAGGTGTTGGTACTGGATGAACTGTGTACCCACCTTTATCATTAAATACTAGTCATGAAGGATTA
GCTGTTGATTTATCTATTTTTTCCTTACACTTAGCTGGAATATCATCAATTATAGGAGCTATTAATTTTATCACAA
CAATTTTAAATATACGAATTATAAATACTTCTTTAGATCAAATATCATTATTTGTATGATCAATTCTAATTACAACA
ATTTTATTACTTTTAGCAGTACCAGTTTTAGCAGGAGCAATTACTATATTATTATCTGATCGAAACTTAAATACAT
CATTTTTTGACCCTTCAGGGGGAGGAGACCCCATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ACK4344.
Nearest neighbor: *M. unodossiete*, BOLD:ACW7619, 9.46% (p-dist).
Holotype ♂: DHJPAR0053159, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Cementerio Viejo, 10.88111, -85.38889, 570 m, eclosion date 07/14/2013, caterpillar collection date 06/23/2013 (CNC). GenBank accession code OM237753.
Holotype host data: Hyperparasitoid of *Alabagrus jeanmariecadioui* (Braconidae: Agathidinae), which is a primary parasitoid of *Desmia* ploralisDHJ03 (Crambidae) feeding on *Psychotria graciliflora* (Rubiaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Alabagrus* (Braconidae: Agathidinae). A single *Mesochorus* specimen eclosed.

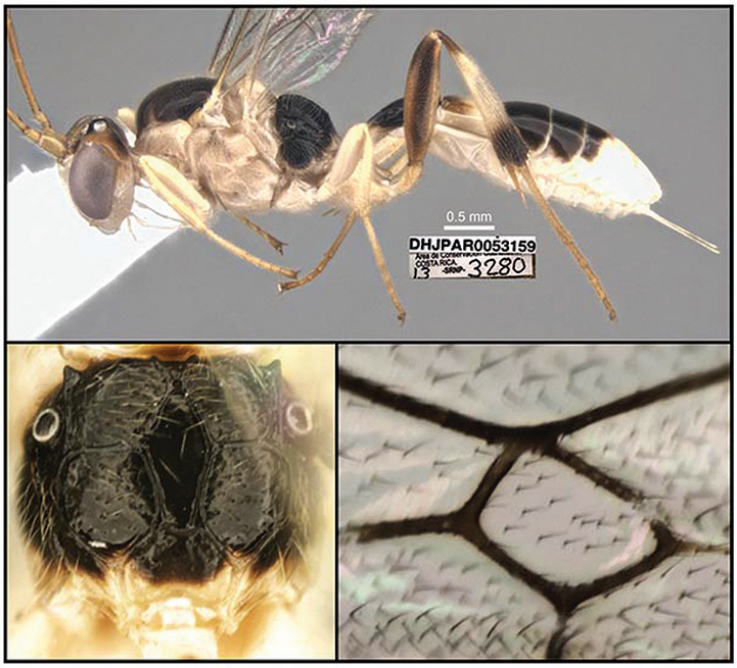

Fig. 139. *M. unounoseis,* holotype male.

Mesochorus unounosiete

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:F63A2181-B95B-4495-A45F-5323ED26BDF7

Diagnostics: Fig. 140.
Consensus barcode (2 specimens).
AGTTTTATATTTTATTTTTGGTATATGATCAGGAATAATTGGTTCATCTATAAGAATAATTATTCGTATAGAACTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCCTTCATTATAATTTTTTTTA
TAGTAATACCTATTATAATTGGAGGTTTTGGAAATTGAATAGTACCATTAATAATTGGAGCACCAGATATAG
CATTCCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCATCAATTATATTTTTATTATTAAGAAGAATTTGT
CAAAAAGGTGTTGGAACTGGATGAACAGTTTACCCACCTCTTTCATTAAATGTTAGTCATGAAGGATTAGCTGTT
GACTTATCTATTTTTTCTTTACATTTAGCTGGTATATCCTCAATTATAGGAGCAATTAATTTTATTACAACAATTTTAA
ATATACGAATTTTTAATACATCATTAGACCAAATAACATTATTTGTTTGATCAATTTTAATTACAACAATTTTAC
TACTTTTAGCTGTACCAGTTTTAGCAGGTGCAATTACTATATTATTAACTGATCGAAATCTAAATACTTCATTTTTT
GATCCATCAGGAGGAGGAGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:ACL9187.
Nearest neighbor: *M. unodossiete*, BOLD:ACW7619, 6.89% (p-dist).
Holotype ♂: DHJPAR0053893, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Sendero Perdido, 10.87940, -85.38607, 620 m, eclosion date 09/02/2013, caterpillar collection date 08/16/2013 (CNC). GenBank accession code OM237718.
Holotype host data: Hyperparasitoid of *Prasmodon bobpoolei* (Braconidae: Microgastrinae), which is a primary parasitoid of *Stenoma* Janzen58 (Depressariidae) feeding on *Serjania valerioi* (Sapindaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Prasmodon* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

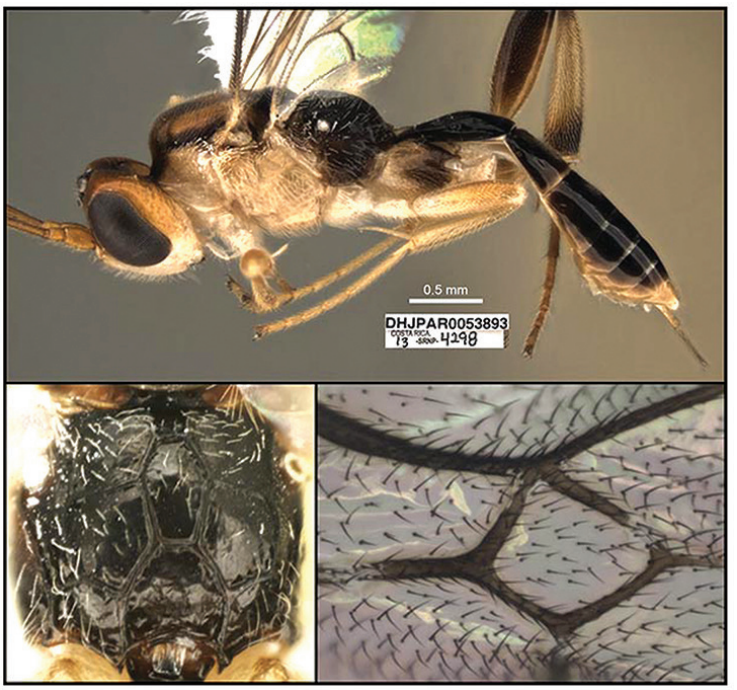

Fig. 140. *M. unounosiete,* holotype male.

Mesochorus unounoocho
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:771F6B65-0122-4461-A000-8FE89F78F699

Diagnostics: Fig. 141.
Holotype barcode.
TTTATTTTTGGAATATGAGCAGGAATAATTGGTTCATCAATAAGATTATTAATTCGATTAGAACTTGGAAATCCT
GGATTTTTAATTAATAATGACCAAATTTATAATTCATTTGTAACTGCTCATGCCTTTGTAATAATTTTTTTTA
TAGTAATGCCAATTATAATTGGAGGATTTGGGAATTGATTAATTCCATTAATAATTGGAGCTCCTGATA
TAGCATTCCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCTCTTTTTTTATTAATTTTAAGAA
GAATTATTCATAAAGGAGTAGGAACAGGATGAACTGTTTACCCACCTTTATCTTTAAATTCTAGTCATGAAGGA
ATATCTGTAGATTTAAGAATTTTTTCTCTTCATTTAGCAGGTATATCTTCAATTATAGGATCAATTAATTTTATTA
CAACTATTTTAAATATACGATGTTTAGGGACTTCTCTAGATCAAATATCTTTATTTACTTGATCAATAAAAATTACAAC
TATTTTATTACTTTTAGCCGTCCCAGTTCTTGCAGGTGCAATCACAATATTATTGACAGAT

BOLD data: BIN: BOLD:ACS0642.
Holotype ♂: BIOUG18700-H10, Área de Conservación Guanacaste, Guanacaste, Sector Santa Rosa, Bosque San Emilio, 10.84380, -85.61380, 300 m, Malaise trap, 05/28/2012 (CNC). GenBank accession code OM237737.
Holotype host data: None.
Other host data: None.

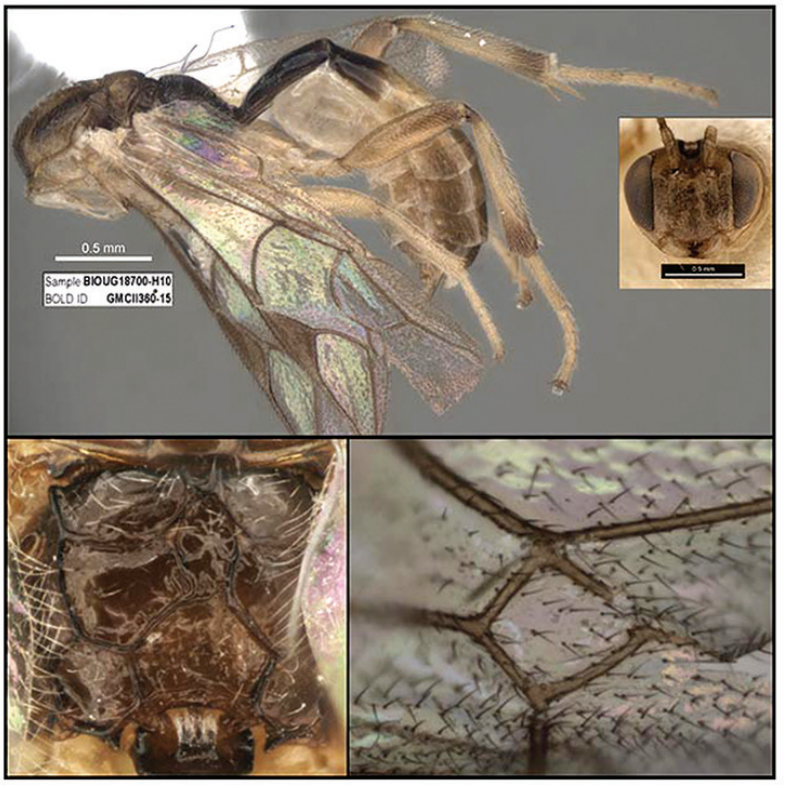

Fig. 141. *M. unounoocho,* holotype male.

Mesochorus unounonueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:9BA97D2A-C390-4122-A246-D9B81B3206AE

Diagnostics: Fig. 142.
Holotype barcode.
TATTTTATATTTTATTTTTGGAATATGAGCAGGAATAATTGGGTCATCAATAAGAATAATTATTCGGATAGA
ATTAGGTAATCCTAGATATTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGTTTTGGTAATTGAATAATACCATTAATGATTGGAGCACCA
GATATAGCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCACCTTCAATTATATTATTATTATTAAGAAA
TATTATTCAAAAAGGTGTAGGGACAGGATGAACAGTTTATCCTCCATTATCATTAAATATAAGACATGAAGGGATAT
CAGTTGATATATCAATTTTTTCATTACATTTAGCTGGTATGTCATCAATTATAGGGGGGATTAATTTTATTACAAC
TATTATAAATATACGAATTAAGGGAACTATATTAGATCAAATATCTTTATTTGTTTGATCAATCTTAATTACTACAATTTT
GTTATTATTAGCAGTTCCGGTGTTAGCAGGTGCAATTACTATATTATTATCTGATCGTAATTTAAATACTTCATTTTTT
GATCCATCAGGTGGAGGTGACCCAATTTTATATCAGCATTTATTT

BOLD data: BIN: BOLD:ACT0355.
Nearest neighbor: *M. unodoscero*, BOLD:ACU6992, 9.82% (p-dist).
Holotype ♀: DHJPAR0056338, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Medrano, 11.01602, -85.38053, 380 m, eclosion date 07/27/2014, caterpillar collection date 07/08/2014 (CNC). GenBank accession code OM237683.
Holotype host data: Hyperparasitoid of *Diolcogaster* Choi100 (Braconidae: Microgastrinae), which is a primary parasitoid of *Semaeopus* Janzen05 (Geometridae) feeding on *Lacistema aggregatum* (Lacistemataceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

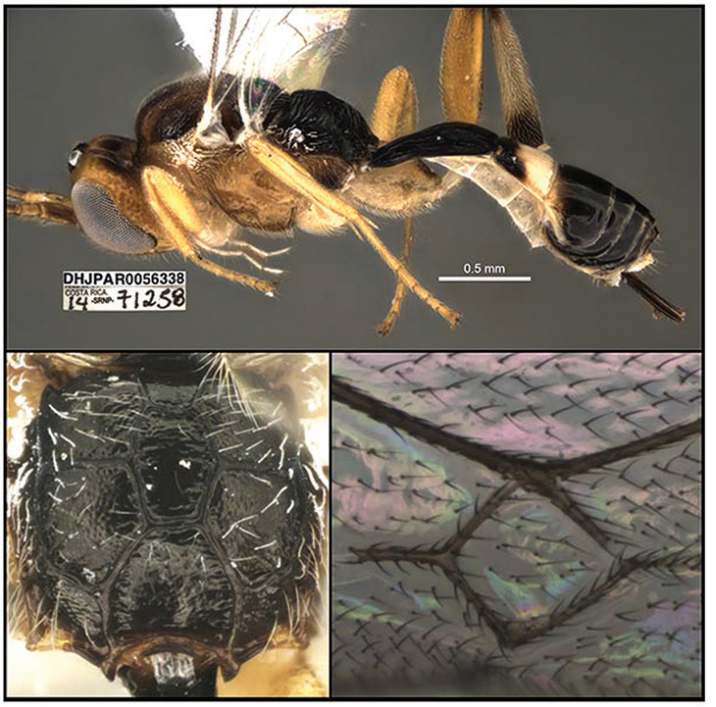

Fig. 142. *M. unounonueve,* holotype female.

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Mesochorus unodoscero
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:0EE5E775-B265-46DE-9941-56926982DEBB

Diagnostics: Fig. 143.
Holotype barcode.
TATTTTATATTTTATTTTTGGTATATGATCAGGTATAATTGGATCATCAATAAGAATGATTATTCGAATAGA
ATTAGGTAATCCAAGTTATTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACAGCTCATGCTTTTATTA
TAATTTTTTTTATAGTAATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCACCA
GATATAGCTTTCCCACGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTACTAAGTAA
TATTATTCAAAAAGGTACAGGTACAGGTTGAACAATTTATCCACCATTATCATTAAATATAAGACATGAAGGTA
TATCTGTTGATATATCAATTTTTTCTTTACATTTAGCAGGAATATCATCAATTATAGGAGGAATTAACTTTATTA
CAACTATTTTAAATATACGAATTAATAAGTCTTCATTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAAC
TATTTTATTATTATTAGCAGTTCCAGTATTAGCAGGTGCAATTACTATATTATTATCTGATCGAAATTTAAATACAT
CATTTTTTGATCCATCAGGAGGAGGAGATCCTATTTTATTTCAACATTTATTT

BOLD data: BIN: BOLD:ACU6992.
Nearest neighbor: *M. unodostres,* BOLD:AAD2703, 2.24% (p-dist). The sculpture of the propodeum and the configuration of the propodeal areolae, especially the posteromedial areola, are different (Fig. 144).

Holotype ♂: DHJPAR0056944, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Medrano, 11.01602, -85.38053, 380 m, eclosion date 10/24/2014, caterpillar collection date 10/04/2014 (CNC). GenBank accession code OM237738.
Holotype host data: Hyperparasitoid of an unidentified microgastrine (Braconidae: Microgastrinae), which is a primary parasitoid of *Euclystis sublignaris* (Erebidae) feeding on *Apeiba membranacea* (Malvaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

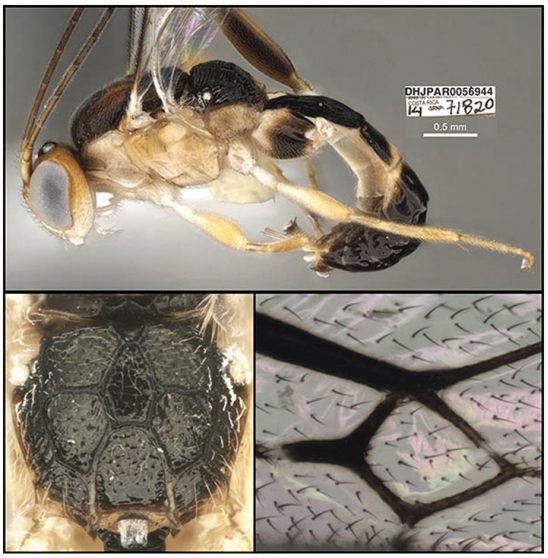

Fig. 143. *M. unodoscero,* holotype male.

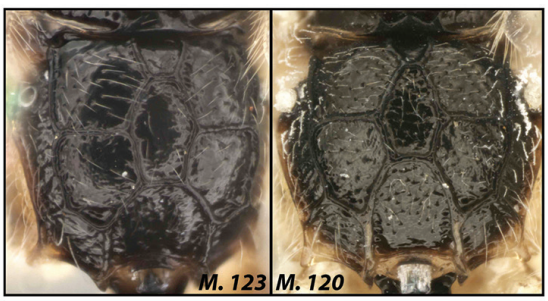

Fig. 144. Comparisons of *M. unodostres* with its nearest neighbor, *M. unodoscero.*

Mesochorus unodosuno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:D9854E63-0CA8-4750-A20C-8B9BC53C92F2

Diagnostics: Fig. 145.
Holotype barcode.
TATTTTATATTTTATTTTTGGTATATGAGCTGGAATAATTGGTTCATCTATAAGATTAATTGTCCGTATAGAACTTGGA
AATCCAGGATTCTTAATTAATAATGATCAAATTTATAATTCATTTGTAACATCCCACGCATTTATTATAATCTTTTTTA
TAGTAATACCTATTATAATTGGAGGATTTGGAAATTGAATAGTTCCATTAATAATTGGAGCTCCTGATATAG
CATTTCCCCGTATAAATAATATAAGATTTTGATTATTACCACCCTCAATTTCATTACTTTTATTAAGAGGAATTT
GTCAAAAAGGTGTAGGAACAGGTTGAACTGTTTACCCACCATTATCATTAAATATTAGTCATGAAGGCTTAT
CAGTAGATTTATCAATCTTTTCATTACATCTTGCAGGTATATCATCAATTATAGGTGCAATTAACTTTATTACAAC
TATTATAAATATACGTATTAAAAAAACTTCTTTTGATCAAATATCTTTATTTGTATGATCAATTTTAATTACAAC
CATCCTTTTATTATTAGCAGTACCAGTTTTAGCAGGAGCAATTACAATATTATTATCTGATCGAAATTTAAATACAT
CATTTTTTGATCCGTCAGGAGGAGGGGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ACU7076.
Nearest neighbor: *M. unocuatronueve*, BOLD:AEF1753, 10.26% (p-dist).
Holotype ♀: DHJPAR0056926, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Jacobo, 10.94076, -85.31770, 461 m, eclosion date 02/01/2015, caterpillar collection date 01/16/2015 (CNC). GenBank accession code OM237695.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* OVRGDHJ10 (Braconidae: Microgastrinae), which is a primary parasitoid of *Herpetogramma* Solis10 (Crambidae) feeding on *Justicia macrantha* (Acanthaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

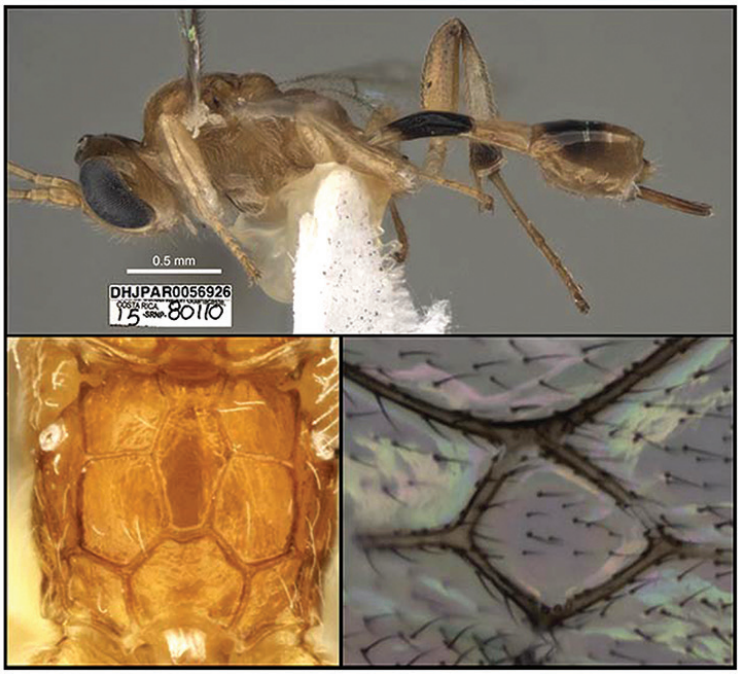

Fig. 145. *M. unodosuno,* holotype female.

Mesochorus unodosdos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:159AD3BB-9301-4388-87A7-AB224F8B558E

Diagnostics: Fig. 146.
Holotype barcode.
GATTTTATATTTTATTTTTGGAATATGAGCTGGAATAATTGGTTCATCAATAAGAATAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACATCTCATGCATTTATTATAATTTTTTTTA
TAGTTATACCTATTATAATTGGTGGATTCGGAAATTGAATAGTTCCATTAATAATTGGTGCTCCAGATATA
GCCTTTCCTCGTATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTATTAAGTGGAATTTGTCAA
AAAGGTGTAGGAACAGGGTGAACAGTATACCCACCTTTATCATTAAATATTAGACATGAAGGATTATCAGTTGATTT
GTCAATTTTTTCTTTACATTTAGCTGGTATATCATCAATTATAGGTGCAATTAATTTTATTACTACAATTTTAAATA
TACGTGTTTTAAAAACTTCCCTTGATCAAATATCTTTATTTGTATGATCAATTTTAATTACCACAATTTTATTATTATTA
GCAGTTCCAGTATTAGCTGGAGCAATTACTATATTACTTTCTGATCGTAATTTAAATACTTCATTTTTTGACCCATCAG
GAGGAGGGGACCCTATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:ACU7077.
Nearest neighbor: *M. unoceronueve*, BOLD:ACE9003, 6.01% (p-dist).
Holotype ♀: DHJPAR0056937, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Palomo, 10.96187, -85.28045, 96 m, eclosion date 01/09/2015, caterpillar collection date 12/28/2014 (CNC). GenBank accession code OM237754.
Holotype host data: Hyperparasitoid of an unidentified microgastrine (Braconidae), which is a primary parasitoid of *Antaeotricha radicalis* (Depressariidae) feeding on *Vochysia guatemalensis* (Vochysiaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

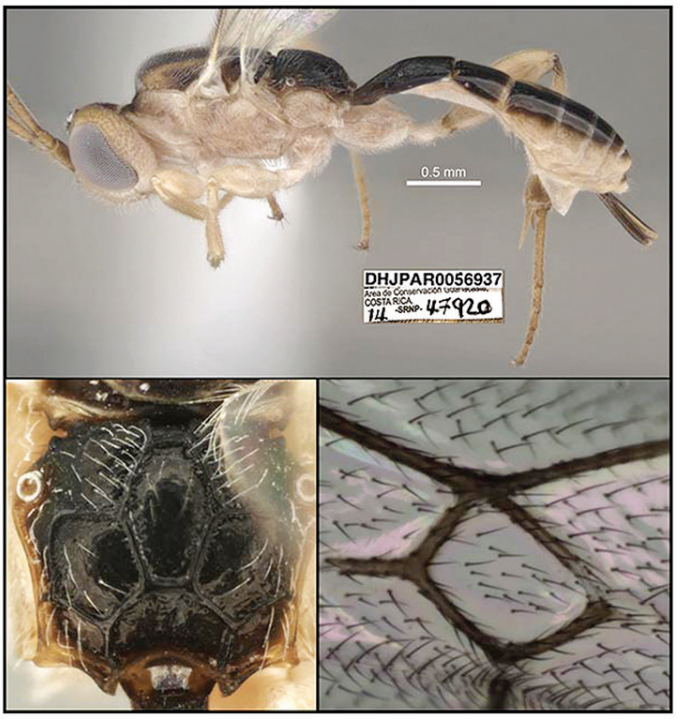

Fig. 146. *M. unodosdos,* holotype female.

Mesochorus unodostres
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:1B63F5CA-8AA9-40FC-B7AE-2708BBA5B5C7

Diagnostics: Fig. 147.
Consensus barcode (7 specimens).
ATTTTATATTTTATTTTTGGAATATGATCAGGTATAATTGGATCATCAATAAGAATAATTATTCGAATGGA
ATTAGGTAATCCAAGTTATTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACAGCTCATGCCTTTATTA
TAATTTTTTTTATAGTAATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCACCAGA
TATAGCTTTTCCACGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTATTAAGTAATATTATT
CAAAAAGGTACAGGTACAGGTTGAACAATTTATCCACCATTATCATTAAATATAAGACATGAAGGTATATCTGTTGA
TATATCAATTTTTTCTTTACATTTAGCAGGAATATCTTCAATTATAGGTGGAATTAATTTTATTACTACTATTTTAAATA
TACGAATTAATAAGACTTCACTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAACTATTTTATTATTATTA
GCAGTCCCAGTATTAGCAGGTGCAATTACTATATTATTATCTGATCGGAATTTAAATACATCATTTTTTGATCCATCAG
GAGGAGGAGATCCTATTTTATTTCAACATTTATTT

BOLD data: BIN: BOLD:AAD2703.
Nearest neighbor: *M. unodoscero*, BOLD:ACU6992, 2.24% (p-dist). The sculpture of the propodeum and the configuration of the propodeal areolae, especially the posteromedial areola, are different (Fig. 144, associated with the treatment of *M. unodoscero*).
Holotype ♀: DHJPAR0023515, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Amonias, 11.04249, -85.40339, 390 m, eclosion date 12/07/2007, caterpillar collection date 11/15/2007 (CNC). GenBank accession code JF793182.
Holotype host data: Hyperparasitoid of *Snellenius sandyknappae* (Braconidae: Microgastrinae), which is a primary parasitoid of *Helia argentipes* (Erebidae) feeding on *Inga oerstediana* (Fabaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Snellenius* (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

Fig. 147. *M. unodostres,* holotype female.

Mesochorus unodoscuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:85F7A8B1-B41A-40A1-9A97-FAE128A19010

Diagnostics: Fig. 148.
Consensus barcode (3 specimens).
ATTTTATATTTTATTTTTGGAATATGAGCAGGAATAATTGGTTCATCTATAAGAATAATTATTCGAATAGAATTAGGA
AATCCTGGATTTTTAATTAATAATGACCAAATTTATAATTCTTTTGTAACATCCCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCCCCAGATATA
GCCTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCCCCATCAATTATATTATTAATATTAAGTAGAATTT
GCCAAAAAGGAGTAGGAACTGGTTGAACAATTTACCCCCCATTATCATTAAATATAAGACATGAAGGAATATCT
GTAGATTTATCAATTTTTTCATTACATTTAGCTGGTATATCCTCAATTATAGGAGCAATTAATTTTATTACAACA
ATTTTAAATATACGTATTTTAAAAACATCTTTAGATCAAATATCTTTATTTGTTTGATCAATTTTAATTACAACA
ATTTTATTATTATTAGCAGTTCCAGTTTTAGCCGGTGCAATTACTATATTATTATCTGAT

BOLD data: BIN: BOLD:ACW5260.
Nearest neighbor: *M. cuatronueve*, BOLD:AAM1067, 4.87% (p-dist).
Holotype ♀: BIOUG24853-B04, Área de Conservación Guanacaste, Guanacaste, Sector San Cristobal, Estación San Gerardo, 10.88000, -85.38900, 575 m, Malaise trap, 03/24/2014 (CNC). GenBank accession code OM237763.
Holotype host data: None.
Other host data: None.

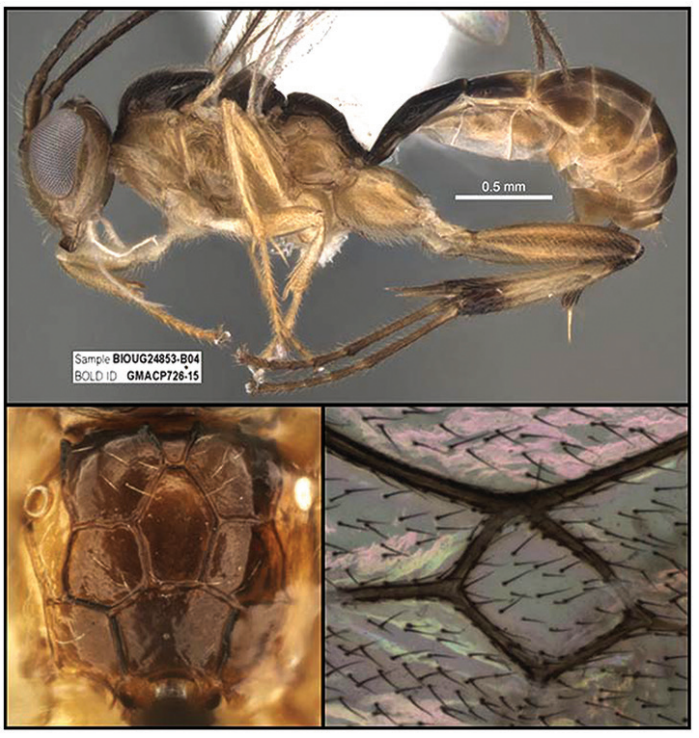

Fig. 148. *M. unodoscuatro,* holotype female.

Mesochorus unodoscinco
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:8BAF841E-4F22-4CF8-85AD-DEF082FA2684

Diagnostics: Fig. 149.
Consensus barcode (2 specimens).
GTTTTATATTTTATTTTTGGAATATGAGCAGGTATACTAGGGGCATCAATAAGAATAGTTATTCGAATAGAATTAGGA
AATTCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGGGGATTTGGAAATTGAATAGTACCATTAATGATCGGAGCTCCTGATATA
GCTTTCCCTCGTATAAATAATATAAGATTTTGATTATTACCCCCTTCAATTATAATATTAATATTAAGTAATATTTGT
CAAAAAGGTGTAGGAACTGGTTGGACCATTTATCCACCTTTATCATTAAATATAGGACATGAAGGATTTTCGGTT
GATTTATCAATTTTTTCTTTACATTTAGCTGGAATATCCTCAATTATAGGTGCAATTAATTTTATTACAACA
ATCTTAAATATACGAATTATAAAAATATCATTAGATCAAATATCATTATTTGTTTGATCAATTTTAATTACAACA
ATTTTATTATTATTAGCAGTTCCAGTTTTAGCTGGAGCAATCACAATATTACTTTCTGAC

BOLD data: BIN: BOLD:ACW5717.
Nearest neighbor: *M. trescuatro*, BOLD:AAF0739, 8.24% (p-dist).
Holotype ♀: BIOUG22620-A03, Área de Conservación Guanacaste, Guanacaste, Sector San Cristobal, Estación San Gerardo, 10.88000, -85.38900, 575 m, Malaise trap, 11/18/2013 (CNC). GenBank accession code OM237722.
Holotype host data: None.
Other host data: None.

Fig. 149. *M. unodoscinco,* holotype female.

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Mesochorus unodosseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:9054C3D0-32E9-44A3-A03E-A999AEC62CCA

Diagnostics: Fig. 150.
Consensus barcode (8 specimens).
GATGATTTTTTGGTCACCCTGAAGTTTATCGATATACGACGTGCCTACCATCTCTCTCAACAACAACAACGGAGGA
GGAGGAAAAGAGAGAGATGGTAGGCACGTCGTATATCATAAAGATATTGGAATTTTATATTTTATTTTTGGTATAT
GAGCTGGAATAATTGGTTCATCTATAAGATTAATTATTCGATTAGAATTAGGAAATCCTGGTTATTTAATTAATAAT
GATCAAATTTATAATTCATTTGTAACTGCTCATGCTTTTGTAATGATTTTTTTTATAGTTATACCAATTATAATTGGAG
GATTTGGAAATTGATTAATTCCATTGATAATTGGAGCTCCAGATATAGCTTTCCCTCGAATAAATAATATAAGATTTT
GATTATTACCACCTTCATTAATTTTATTAATTTTAGGTAGTATTACTCATAAAGGTGTTGGAACAGGTTGAACT
GTTTATCCACCATTATCTTTAAATACCAGTCATGAAGGTATATCAGTTGATTTATCCATTTTTTCATTACATTTAGCA
GGTATATCATCAATTATAGGAGCAATTAATTTTATTACAACTATTTTAAATATACGATGTATAGGAACATCCTTAGATCA
AATATCATTATTTACTTGATCTATAAAAATTACAACAATTTTATTATTATTAGCAGTTCCAGTCCTTGCAGGAGCTATTA
CAATATTATTAGCAGATCGTAATTTAAATACTTCTTTTTTTGATCCTTCAGGAGGGGGAGATCCTATTTTATATCAA
CACTTATTTT

BOLD data: BIN: BOLD:ACW6579.
Holotype ♀: BIOUG60354-A02, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-3, 10.76300, -85.33400, 820 m, Malaise trap, 08/22/2019 (CNC). GenBank accession code OM237681.
Holotype host data: None.
Other host data: None.

Fig. 150. *M. unodosseis,* holotype female.

Mesochorus unodossiete
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:A775A712-5DD9-4930-B14A-76072B31F4FB

Diagnostics: Fig. 151.
Holotype barcode.
AATTTTATATTTTATTTTTGGTATATGAGCAGGAATAATTGGTTCTTCAATAAGAATAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGTTTTGGAAATTGAATAATTCCATTAATAATTGGAGCTCCAGATATA
GCTTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTATTAAGAAGAATCTGT
CAAAAAGGTGTAGGAACAGGATGAACAGTTTATCCCCCTTTATCATTAAATATTAGTCATGAAGGATTATCAGTT
GATTTATCTATTTTTTCTTTACATTTAGCTGGAATATCATCAATTATAGGAGCAATTAATTTTATTACAACAATTTTAA
ATATACGAATTTTAAAAACATCATTAGATCAAATATCATTATTTGTTTGATCAATTTTAATTACAACTATTTTAC
TATTATTAGCAGTACCAGTATTAGCCGGAGCAATTACAATATTATTATCTGATCGAAATTTAAATACTTCATTTTTT
GATCCATCAGGAGGAGGAGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ACW7619.
Nearest neighbor: *M. unocincotres*, BOLD:ADQ7300, 4.49% (p-dist).
Holotype ♀: DHJPAR0057729, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Rio Blanco Abajo, 10.90037, -85.37254, 500 m, eclosion date 08/07/2014, caterpillar collection date 07/17/2014 (CNC). GenBank accession code OM237710.
Holotype host data: Hyperparasitoid of an unidentified braconid (Braconidae), which is a primary parasitoid of *Charistica* walkeriDHJ03 (Gelechiidae) feeding on *Ardisia auriculata* (Primulaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

Fig. 151. *M. unodossiete,* holotype female.

Fig. 152. Comparisons of the heads of two species of *Mesochorus* (*M. unodossiete* and *M. unotresnueve*) whose COI barcodes code for identical amino acids. Note the size of the mandibles and the sculpture of the clypei.

Mesochorus unodosocho
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:535A614B-0EEE-490B-81FD-742F421B0F6A

Diagnostics: Fig. 153.
Holotype barcode.
ATTTTATATTTTATTTTTGGAATTTGAGCAGGAATAATTGGGTCTTCAATAAGATTAATTATTCGAATAGA
ATTAGGAAATCCTGGATTTTTAATCAATAATGATCAAATTTATAATTCATTTGTAACAGCTCACGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGTGGATTTGGGAATTGATTAGTACCATTAATAATTGGGGCTCCT
GATATAGCATTTCCTCGAATAAATAATATAAGATTTTGATTATTACCTCCATCATTAATATTATTATTATTAAGAAGA
ATTATTAATAAAGGGGTAGGAACAGGTTGAACAGTTTATCCTCCTTTATCATTAAATGTTAGTCATGAAGGTA
TATCTGTAGATTTATCAATTTTTTCTTTACATTTAGCAGGTATATCATCAATCATAGGAGCTGTAAATTTTATTACTA
CAATTTTAAATATACATTTATATGGAATAACAATAGATCAACTATCATTATTTACATGATCAATTAAAATTACTACA
ATTTTATTATTATTAGCCGTTCCAGTTTTAGCTGGTGCAATTACTATATTATTAACTGATCGA

BOLD data: BIN: BOLD:ACZ6907.
Holotype ♀: BIOUG28149-F09, Área de Conservación Guanacaste, Guanacaste, Sector San Cristobal, Estación San Gerardo, 10.88010, -85.38900, 575 m, Malaise trap 07/06/2015 (CNC). GenBank accession code OM237756.
Holotype host data: None.
Other host data: None.

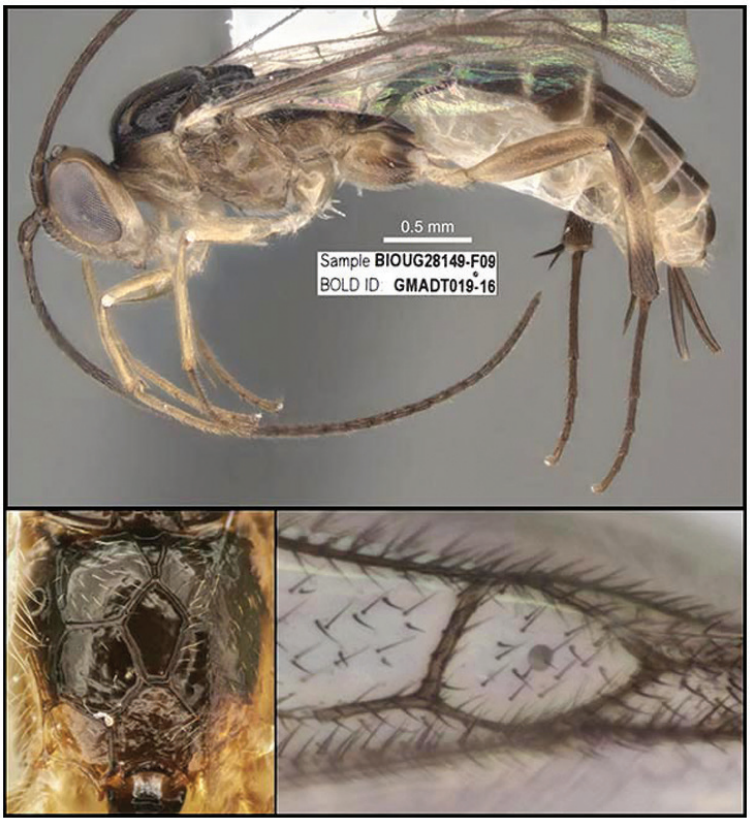

Fig. 153. *M. unodosocho,* holotype female.

Mesochorus unodosnueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:0DA68316-7EC1-4705-AD42-D7837AA773BB

Diagnostics: Fig. 154.
Holotype barcode.
ATTTTATATTTTATTTTTGGTATATGAGCAGGTATAATTGGTTCATCTATAAGTATAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTCGTAACATCACATGCCTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCACCAGATATA
GCCTTTCCTCGAATAAATAATATAAGATTTTGATTATTACCACCTTCAATTATATTATTATTAATAAGTGGTATTT
GCCAAAAAGGAGTTGGTACTGGTTGAACAGTTTATCCACCTTTATCTTTAAATATTAGTCATGAAGGATTAT
CAGTTGATTTATCAATTTTTTCCTTACATTTAGCAGGTATATCATCAATTATAGGAGCAATTAATTTTATTACAAC
TATTATAAATATACGAATTTTAAAAACATCATTTGATCAAATATCATTATTTGTTTGATCAATTTTAATTACAACA
ATTTTATTATTATTAGCAGTTCCAATTTTAGCTGGAGCAATTACAATATTATTATCTGAT

BOLD data: BIN: BOLD:ACZ7580.
Holotype ♂: BIOUG28020-F11, Área de Conservación Guanacaste, Guanacaste, Sector San Cristobal, Estación San Gerardo, 10.88000, -85.38900, 575 m, Malaise trap, 12/15/2014 (CNC). GenBank accession code OM237734.
Holotype host data: None.
Other host data: None.

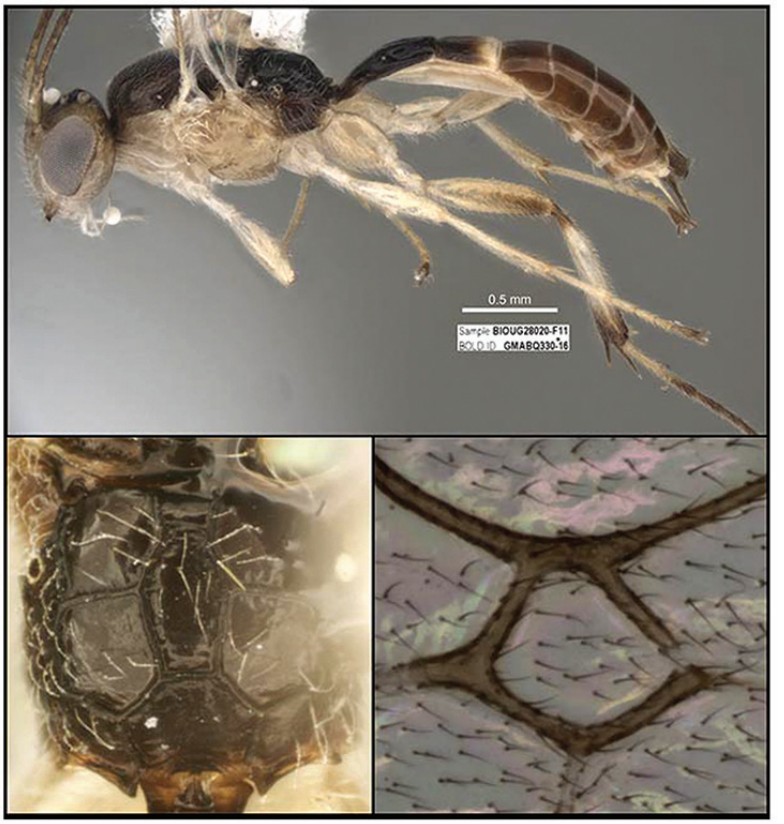

Fig. 154. *M. unodosnueve,* holotype male.

Mesochorus unotrescero
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:A34ACC6D-5B87-451E-B793-3042B03D27CD

Diagnostics: Fig. 155.
Holotype barcode.
ATTTTATATTTTATTTTTGGTATATGATCAGGAATAATTGGGTCATCAATAAGATTAATTATTCGAATAGAATTAGGA
AATCCTGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTCACAGCCCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCTATTATAATTGGGGGATTTGGTAATTGAATAGTTCCTTTAATAATTGGAGCTCCAGATATA
GCTTTCCCTCGAATAAATAATATAAGTTTTTGATTATTACCTCCTTCAATTATATTATTATTATTAAGAAGAATTT
GTCAAAAAGGAGTTGGAACTGGATGAACTGTTTATCCTCCTTTATCATTAAATAGAAGTCATGAAGGATTAG
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCAGGTATATCTTCTATTATAGGAGCAGTTAATTTTATTACAACA
ATTTTAAATATACGTGTAGTTGGATCTTCTTTAGATCAAATATCTTTATTTGTTTGATCAATTAAAATTACAACA
ATTTTATTATTATTAGCTGTTCCTGTTTTAGCAGGAGCAATTACAATATTATTAACTGATCGTAATTTAAAT

BOLD data: BIN: BOLD:ADA1951.
Nearest neighbor: *M. cincotres*, BOLD:AAM1692, 2.81% (p-dist). The colors of the hind femora and the apical metasomal terga differ (Fig. 156).
Holotype ♂: BIOUG28085-C08, Área de Conservación Guanacaste, Guanacaste, Sector San Cristobal, Estación San Gerardo, 10.88000, -85.38900, 575 m, Malaise trap, 11/25/2013 (CNC). GenBank accession code OM237706.
Holotype host data: None.
Other host data: None.

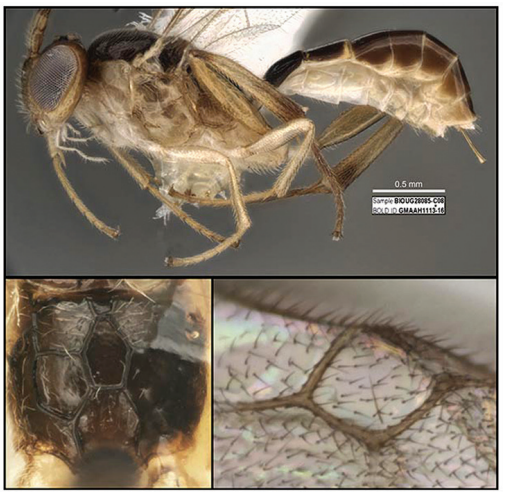

Fig. 155. *M. unotrescero,* holotype male.

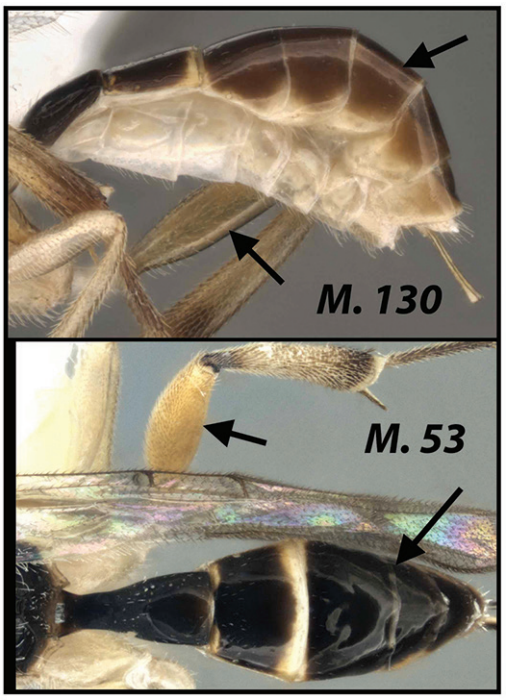

Fig. 156. Comparisons of *M. unotrescero* with its nearest neighbor, *M. cincotres.*

Mesochorus unotresuno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:CAB297C2-5674-4E3E-87C6-68964F2CE1F0

Diagnostics: Fig. 157.
Holotype barcode.
ATTTTATATTTTATTTTTGGTATATGAGCTGGAATAGTAGGGTCGTCTATAAGATTAATTATTCGATTAGA
ATTAGGAAATCCTGGATTTTTAATCAATAATGATCAAATTTATAATTCATTTGTTACTGCTCATGCTTTTGTAA
TAATTTTTTTTATGGTTATACCAATTATAATTGGTGGATTTGGTAATTGATTAATTCCATTAATAATTGGAGCCCCC
GATATAGCTTTCCCTCGAATAAATAACATAAGATTTTGATTACTTCCTCCTTCTCTTTTTTTATTAATTCTTAGAA
GAATTATTCATAAAGGAGTGGGGACCGGATGAACTGTATATCCCCCATTATCTCTTAATACTAGCCATGAAGGTA
TATCAGTTGATTTATCAATTTTTTCTCTTCATTTAGCTGGAATATCTTCAATTATAGGAGCTATTAATTTTATTACA
ACCATTTTAAATATACGATGTTTAGGAACATCCTTAGATCAAATAAGTCTATTTACCTGATCTATAAAAATTACAAC
TATTTTATTATTATTAGCAGTCCCAGTCCTTGCAGGAGCTATTACTATATTACTAGCAGATCGTAATTTAAAT

Bold data: BIN: BOLD:ADA3956.
Holotype ♂: BIOUG28068-G02, Área de Conservación Guanacaste, Guanacaste, Sector San Cristobal, Estación San Gerardo, 10.88010, -85.38900, 575 m, Malaise trap, 12/23/2013 (CNC). GenBank accession code OM237771.
Holotype host data: None.
Other host data: None.

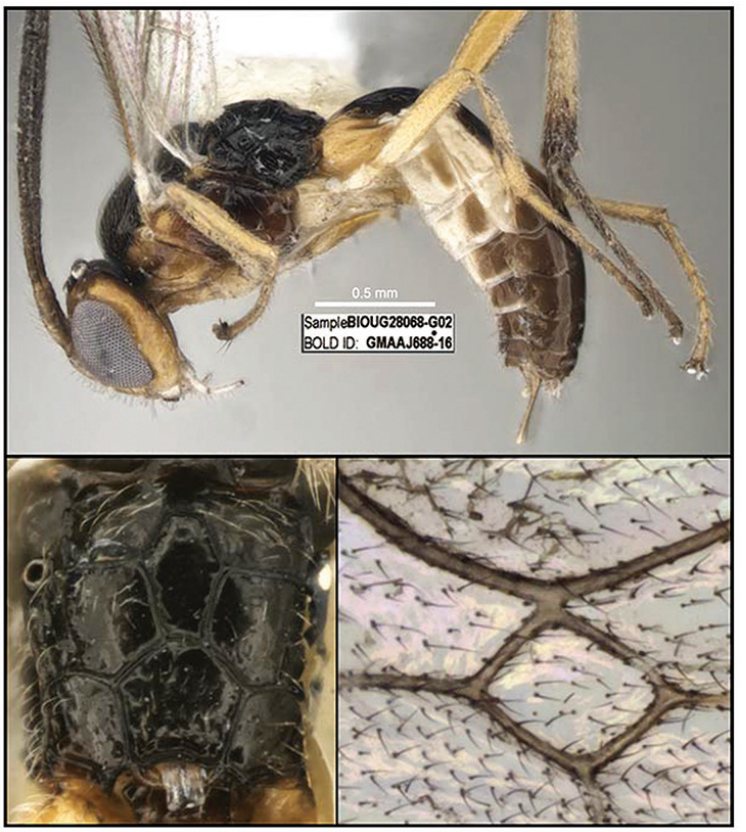

Fig. 157. *M. unotresuno,* holotype male.

Mesochorus unotresdos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:26CD0599-FC96-4938-8BBD-E6175BFE32E8

Diagnostics: Fig. 158.
Holotype barcode.
ATTTTATATTTTATTTTTGGTATATGAGCCGGTATGATTGGATCTTCAATAAGAATTATTATTCGTATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATACATTTGTAACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCGATTATAATTGGAGGATTTGGTAATTGATTAATTCCTTTAATAATTGGAGCTCCAGACATAG
CATTTCCTCGAATAAATAATATAAGATTTTGGCTACTTCCACCTTCAATTATATTATTATTATTAAGAAGAATTTGT
CAAAAAGGAGTTGGAACTGGTTGAACAATTTATCCACCATTATCATTAAATGTTAGCCATGAAGGTTTATCTGTT
GATTTATCAATTTTTTCTCTTCATTTAGCTGGTATATCATCAATTATAGGAGCAATTAATTTTATTACAACTATTTTAA
ATATACGAATTATAAATACCTCATATGATCAAATATCATTATTTGTTTGATCAATTTTAATTACCACAATTTTATTATTAC
TAGCAGTTCCAGTTTTAGCAGGT

BOLD data: BIN: BOLD:ADB4943.
Nearest neighbor: *M. unotrescuatro*, BOLD:ADF5414, 8.24% (p-dist).
Holotype ♀: BIOUG29530-G12, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-3, 10.76300, -85.33400, 820 m, Malaise trap, 01/09/2014 (CNC). GenBank accession code OM237689.
Holotype host data: None.
Other host data: None.

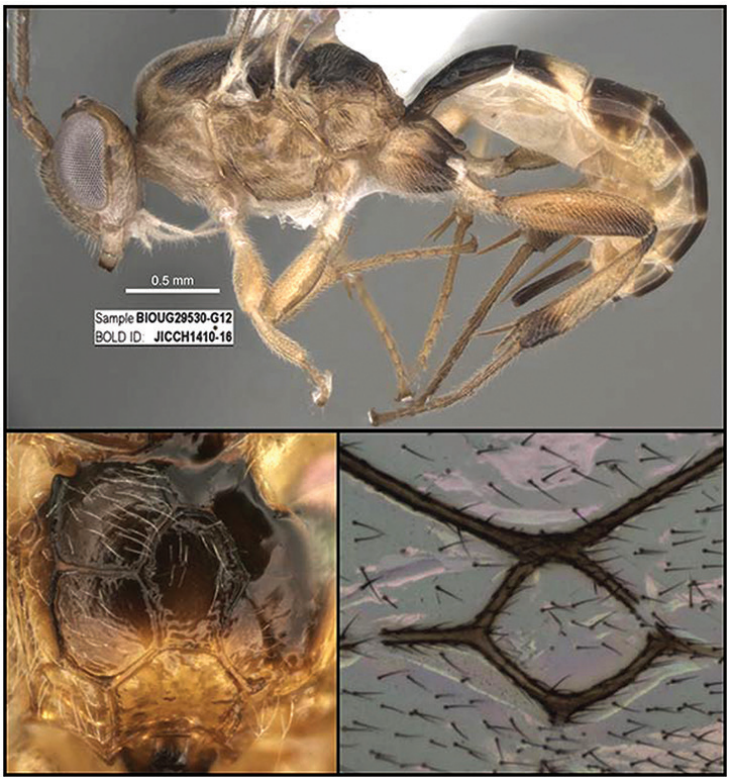

Fig. 158. *M. unotresdos,* holotype female.

Mesochorus unotrestres
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:4DE55128-0BDC-4ADC-B0DD-E55247459B00

Diagnostics: Fig. 159.
Holotype barcode.
ATCTTATATTTTATTTTTGGTATATGGTCTGGAATAATTGGATCTTCTATAAGAATAATTATTCGAATAGAATTAGG
GAATCCAGGATATTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCCCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGTGGATTTGGTAATTGAATAGTTCCTTTAATAATTGGAGCCCCAGATATAGCTTTCC
CACGAATAAATAATATAAGATTTTGATTATTACCCCCATCAATTATATTATTATTATTAAGAAGAATTTGTCAAAAA
GGAACAGGAACAGGATGAACAGTTTATCCTCCTTTATCATTAAATACTAGTCATGAAGGTTTATCAGTAGATTTAT
CAATTTTTTCATTACATATAGCAGGAATATCTTCAATTATAGGTGCAATTAATTTTATTACAACCATTATAAATATAC
GAATTTATAAAACATCATTAGACCAGATATCATTATTTGTTTGATCAATTTTAATTACAACAATTTTATTATTATTAG
CAGTTCCAGTTTTAGCGGGGGCAATTACAATACTTCTTTCTGATCGGAAT

BOLD data: BIN: BOLD:ADF3229.
Nearest neighbor: *M. tresseis*, BOLD:AAG9050, 7.12% (p-dist)
Holotype ♂: BIOUG31532-C07, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Derrumbe, 10.92920, -85.46430, 1 220 m, Malaise trap, 11/13/2014 (CNC). GenBank accession code OM237755.
Holotype host data: None.
Other host data: None.

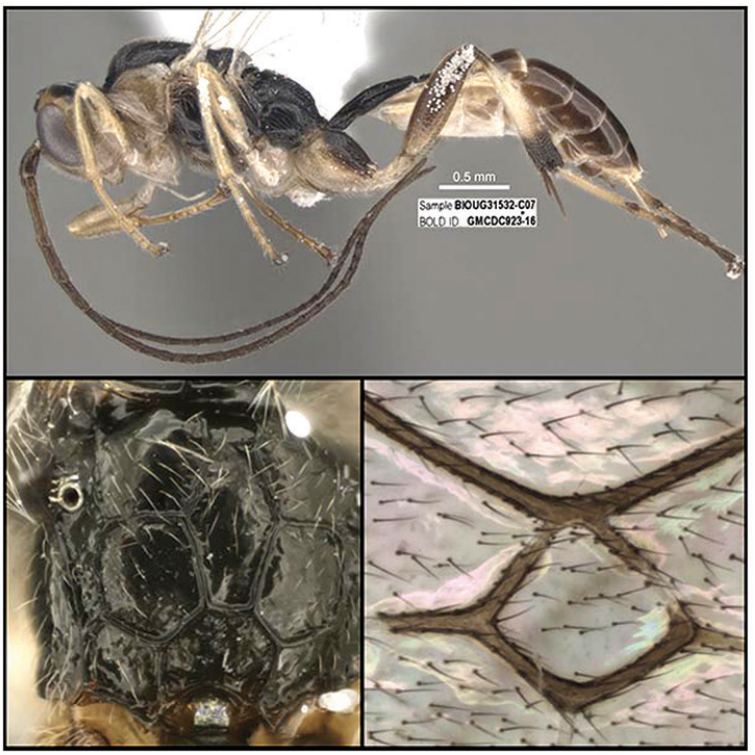

Fig. 159. *M. unotrestres,* holotype male.

Mesochorus unotrescuatro
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:824642BB-A0E8-4690-8EB8-6DA8DC68534F

Diagnostics: Fig. 160.
Consensus barcode (3 specimens).
ATTTTATATTTTATTTTTGGTATATGAGCAGGAATAATTGGTTCTTCAATAAGTATAATTATTCGAATAGA
ATTAGGTAATCCTGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTGACATCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGTGGATTTGGAAATTGATTAATTCCATTAATAATTGGAGCTCCA
GATATAGCATTTCCTCGAATAAATAATATAAGATTTTGATTATTACCACCATCAATTATATTATTATTATTAAGAAGA
ATTTGTCAAAAAGGAACTGGTACTGGTTGAACAGTTTATCCCCCTTTATCATTAAATGTTAGACATGAAGGATTAT
CAGTTGATTTATCAATTTTTTCTTTACATTTAGCTGGTATATCTTCAATTATAGGTGCAATTAATTTTATTACAACA
ATTTTAAATATACGAATTTTAAAAACATCACTTGATCAAATATCTTTATTTGTTTGATCTATTTTAATTACAACA
ATTTTATTATTATTAGCAGTTCCAGTTTTAGCAGGTGCAATTACTATATTATTATCTGAT

BOLD data: BIN: BOLD:ADF5414.
Nearest neighbor: *M. unotresnueve*, BOLD:ADQ8339, 5.2% (p-dist).
Holotype ♀: BIOUG36548-D06, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Derrumbe, 10.92920, -85.46430, 1220, Malaise trap, 05/07/2015 (CNC). GenBank accession code OM237709.
Holotype host data: None.
Other host data: None.

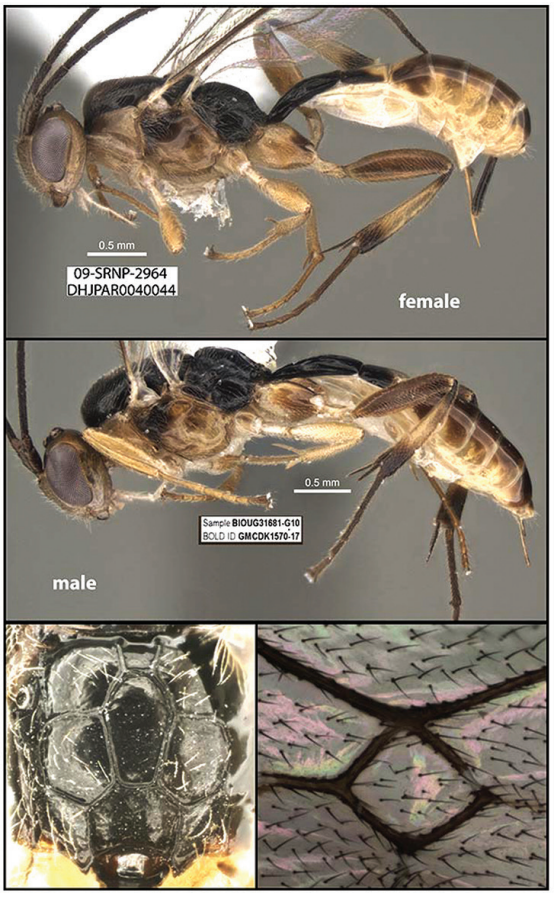

Fig. 160. *M. unotrescuatro,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus unotrescinco
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:C0C05179-9F01-4644-8DB7-5B690C818451

Diagnostics: Fig. 161.
Holotype barcode.
ATTTTTGGTATATGAGCTGGTATAGTTGGTTCATCAATAAGATTAATTATTCGACTAGAACTTGGAAATCCT
GGTTTTTTAATTAATAATGACCAAATTTATAATTCATTTGTGACTGCTCACGCTTTTGTAATAATTTTTTTTATAGTAA
TACCAATTATAATTGGAGGATTTGGAAATTGATTAATTCCTTTAATAATTGGAGCCCCTGATATAGCATTTCCTC
GAATAAATAATATAAGATTTTGATTATTACCTCCTTCTCTTTTTTTGTTGATTTTAAGAAGAATTACTCATAAAGGT
GTAGGAACCGGCTGAACCGTTTATCCTCCTTTATCATTAAATACTAGTCATGAAGGTATATCAGTTGATTTATCA
ATTTTTTCCTTACATTTAGCAGGGATATCATCAATTATAGGAGCAATTAATTTTATTACTACTATTCTAAATATAC
GATGTTTAGGATCATCATTAGACCAAATATCTTTATTTACTTGATCAATAAAAATTACAACAATTTTATTATTATTAG
CAGTTCCAGTCCTTGCAGGAGCTATTACAATATTATTAGCTGATCGTAATTTAAAT

BOLD data: BIN: BOLD:ADG1602.

Holotype ♀: BIOUG31681-G03, Área de Conservación Guanacaste, Guanacaste, Sector Cacao, Derrumbe, 10.92920, -85.46430, 1220, Malaise trap, 01/01/2016 (CNC). GenBank accession code OM237772.
Holotype host data: None.
Other host data: None.

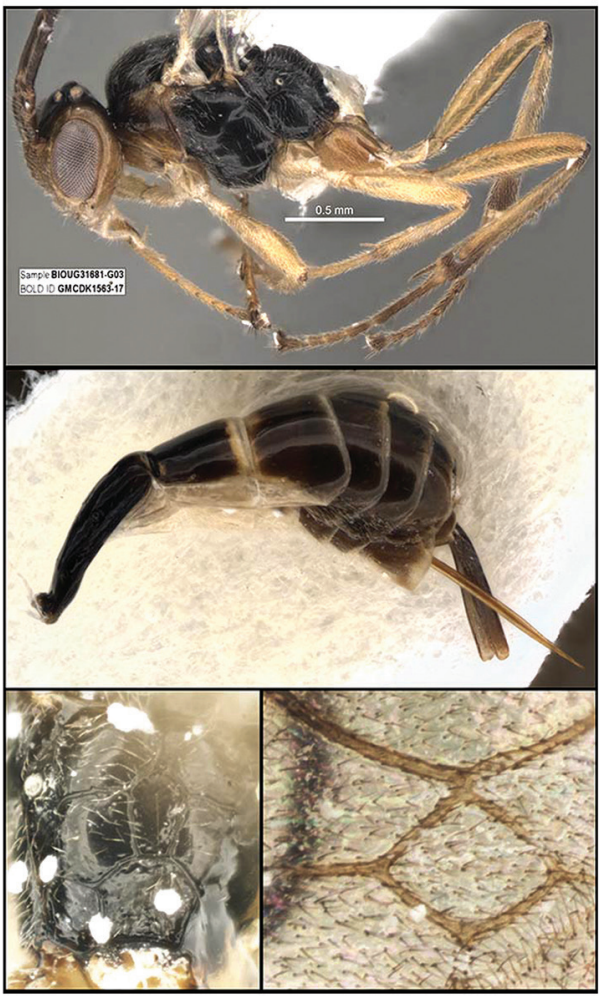

Fig. 161. *M. unotrescinco,* holotype female.

Mesochorus unotresseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:4F1B7163-3F9F-4432-BDCE-8898C855AE2D

Diagnostics: Fig. 162.
Holotype barcode.
AATTTTATATTTTATTTTCGGTATTTGATCAGGAATAATTGGATCATCAATAAGATTAATTATTCGAATAGAATTGGGA
AACCCAGGATTTTTAATTAATAATGATCAAATTTATAACTCATTTGTAACAGCTCATGCATTTATTATAATTTTTTTTAT
GGTTATGCCTATTATAATTGGAGGATTTGGAAATTGATTAGTCCCCCTAATAATTGGTGCTCCTGACATGGCATTCC
CGCGAATAAATAATATAAGATTTTGATTATTGCCTCCTTCATTAATATTATTATTATTAAGAAGAATTATTAATAAA
GGGGTAGGAACAGGATGAACAGTATATCCTCCTCTATCTTTAAATATTAGTCATGAAGGTATATCAGTTGATTTAT
CAATTTTTTCCTTACATTTAGCCGGAATATCTTCAATTATAGGAGCAATTAATTTTATTACAACAATTTTAAATA
TACATTTATTTGGAATATCCTTAGATCAACTATCTTTATTTACTTGATCAATTAAAATTACTACAATTTTATTATTATTA
GCCGTCCCAGTATTAGCGGGAGCCATTACTATGTTATTAACAGACCGGAATTTAAATACATCTTTTTTT
GATCCTTCGGGGGGAGGAGACCCAATTCTTTATCAACATCTATTT

BOLD data: BIN: BOLD:ADI7361.
Nearest neighbor: *M. dosocho*, BOLD:AAF0566, 9.13% (p-dist).
Holotype ♀: DHJPAR0061554, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Casa Keyner, 10.95644, -85.26611, 121 m, eclosion date 07/19/2017, caterpillar collection date 07/09/2017 (CNC). GenBank accession code OM237720.
Holotype host data: Hyperparasitoid of an unidentified braconid (Braconidae), which is a primary parasitoid of arcJanzen01 Janzen3618 (Erebidae) feeding on *Chimarrhis parviflora* (Rubiaceae). A single *Mesochorus* specimen eclosed.
Other host data: None.

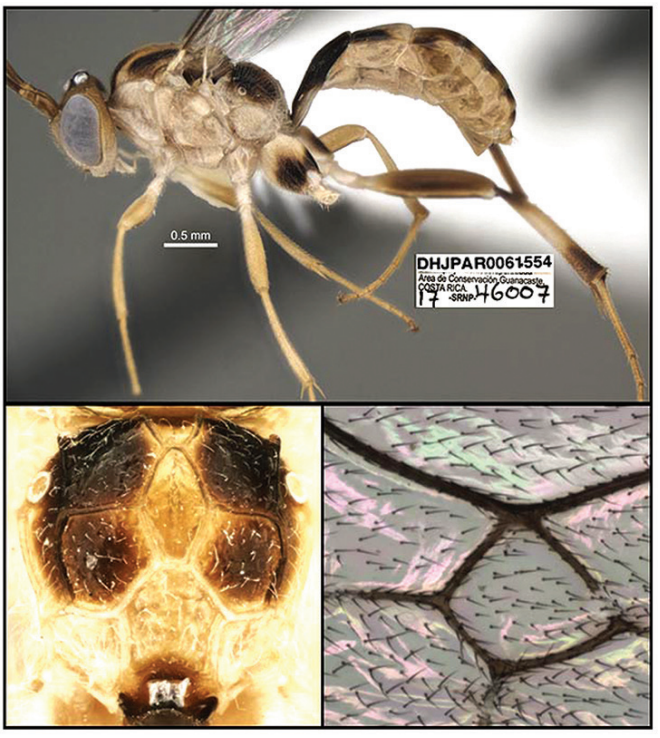

Fig. 162. *M. unotresseis*, holotype female.

Mesochorus unotressiete
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:63F14FBB-CD3B-41E0-A1F4-245EF69FF933

Diagnostics: Fig. 163.
Consensus barcode (4 specimens).
AATTTTATATTTTATTTTTGGTATATGAGCTGGAATAGTTGGATCATCAATAAGACTAATTATTCGACTAGAACTTGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTAACTGCTCATGCTTTTGTAATAATTTTTTTTA
TAGTAATACCAATTATAATTGGAGGATTTGGAAATTGATTAATTCCTTTAATAATTGGAGCCCCTGATATGG
CATTCCCCCGAATAAATAATATAAGATTTTGATTATTACCCCCTTCTCTTTTTTTATTGATTTTAAGAAGAATTACT
CATAAAGGTGTAGGAACCGGTTGAACTGTTTATCCTCCTTTATCACTAAATTCTAGTCATGAAGGTATATCAGTT
GATTTATCAATTTTTTCTTTACATTTAGCAGGAATATCATCAATTATAGGAGCAATTAATTTTATTACTACTATTATAA
ATATACGATGTTTAGGATCATCATTAGATCAAATATCTTTATTCACCTGATCAATAAAAATTACAACAATCTTATTAC
TATTAGCAGTTCCAGTCCTTGCAGGTGCTATTACAATATTATTAGCTGATCGTAATTTAAATACTTCATTTTTT
GATCCTTCAGGAGGAGGAGACCCTATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ADJ5719.
Nearest neighbor: *M. unotrescinco*, BOLD:ADG1602, 4.56% (p-dist).
Holotype ♀: BIOUG56783-D04, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-5, 10.76300, -85.33400, 831 m, Malaise trap, 12/01/2016 (CNC). GenBank accession code OM237749.
Holotype host data: None.
Other host data: None.

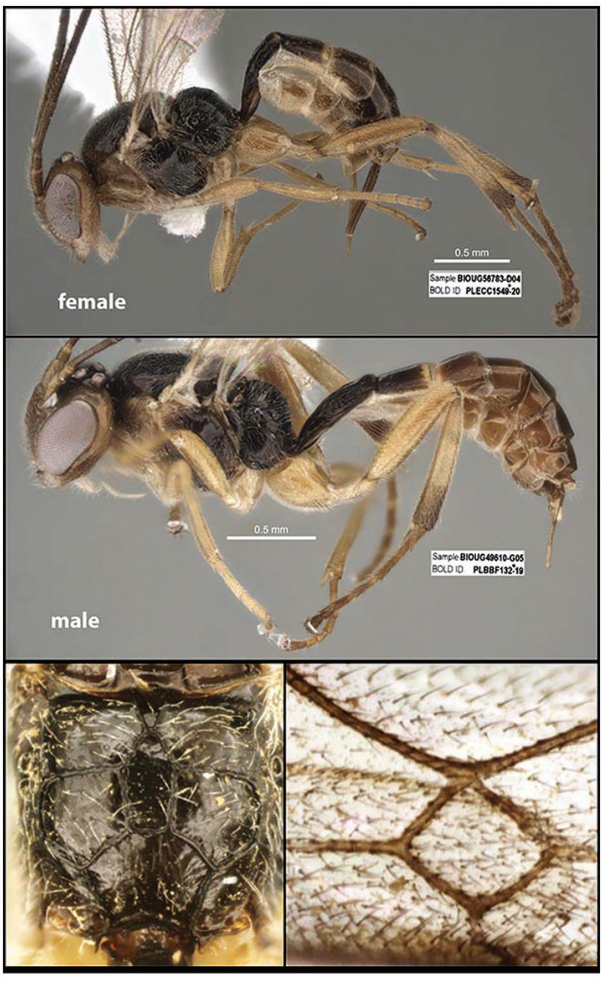

Fig. 163. *M. unotressiete,* holotype female and male paratype. Unlabeled images are of the holotype.

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Mesochorus unotresocho

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:9D1198F1-B7F0-4E3F-AE7B-532F671A3EE2

Diagnostics: Fig. 164.
Holotype barcode.
TTTATTTTTGGAATATGAGCAGGAATAATTGGTTCTTCAATAAGTATAATCATTCGAATAGAATTAGGAAATCCAG
GATTTTTAATTAATAATGACCAAATTTATAATTCATTTGTTACTTCCCATGCTTTTATTATAATTTTTTTTATAGTTA
TACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCACCAGATATAGCTTTCCCAC
GAATAAATAATATAAGATTTTGATTATTACCTCCATCAATTATATTATTACTATTAAGAAGTATTTGTCAAAAAG
GAGTTGGTACTGGATGAACGGTTTATCCTCCATTATCATTAAATATTAGTCATGAAGGATTATCAGTTGATTTTT
CAATTTTTTCTTTACATTTAGCTGGAATATCATCAATTATAGGTGCAATTAATTTTATTACAACTATTTTAAATATAC
GAATTTTAAAAACATCATTAGATCAAATATCTTTATTTGTTTGATCTATTTTAATTACAACTATTTTATTATTATTAG
CAGTACCAGTTTTAGCTGGAGCAATTACTATATTATTATCTGATCGAAAT

BOLD data: BIN: BOLD:ADQ7301.
Nearest neighbor: *M. unotresnueve*, BOLD:ADQ8339, 1.42% (p-dist). The midtibiae of the two species have different colors (Fig. 165). This may be a trivial character and otherwise the two species are very similar morphologically. More data are needed to make a conclusive decision.
Holotype ♂: BIOUG28068-D04, Área de Conservación Guanacaste, Guanacaste, Sector San Cristobal, Estación San Gerardo, 10.88010, -85.38900, 575 m, Malaise trap 12/23/2013 (CNC). GenBank accession code OM237701.
Holotype host data: None.
Other host data: None.

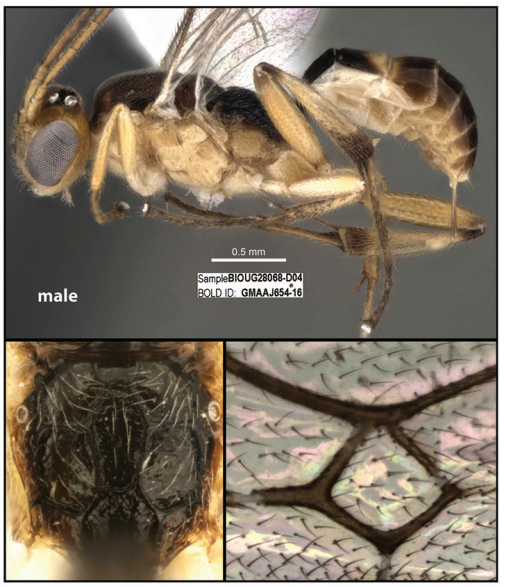

Fig. 164. *M. unotresocho,* holotype male.

Fig. 165. Comparisons of *M. unotresocho* with its nearest neighbor, *M. unotresnueve.*

Mesochorus unostresnueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:53D1578F-1F27-4284-BA75-B12F1CC74F11

Diagnostics: Fig. 166.
Consensus barcode (4 specimens).
AATTTTATACTTTATTTTTGGAATATGAGCAGGAATAATTGGTTCTTCAATAAGTATAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGACCAAATTTATAATTCATTTGTTACTTCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCACCAGATATAGCTTTTC
CACGAATAAATAATATAAGATTTTGATTATTACCTCCATCAATTATATTATTATTATTAAGAAGTATTTGTCAAAAA
GGAGTTGGTACTGGATGAACAGTTTATCCACCATTATCATTAAATATTAGTCATGAAGGATTATCAGTTGATTTAT
CAATTTTTTCTTTACATTTAGCTGGAATATCATCAATTATAGGTGCAATTAATTTTATTACAACTATTTTAAATATAC
GAATTTTAAAAACATCATTAGATCAAATATCTTTATTTGTTTGATCTATTTTAATTACAACTATTTTATTATTATTAG
CAGTACCAGTTTTAGCTGGAGCAATCACTATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATCCATCT
GGTGGAGGAGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ADQ8339.
Nearest neighbor: *M. unotresocho*, BOLD:ADQ7301, 1.42% (p-dist). The midtibiae of the two species are different colors (Fig. 165, associated with *M. unotresocho*). This may be a trivial character and otherwise the two species are very similar morphologically. More data are needed to make a conclusive decision.
Holotype ♀: DHJPAR0039412, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Sendero Albergue Crater, 10.84886, -85.32810980, eclosion date 04/15/2010, caterpillar collection date 03/29/2010 (CNC). GenBank accession code HQ926167.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Whitfield28 (Braconidae: Microgastrinae), which is a primary parasitoid of *Dichocrocis tlapalis* (Crambidae) feeding on *Randia grandifolia* (Rubiaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Hypomicrogaster* (Braconidae: Microgastrinae). Multiple *Mesochorus* specimens eclosed.

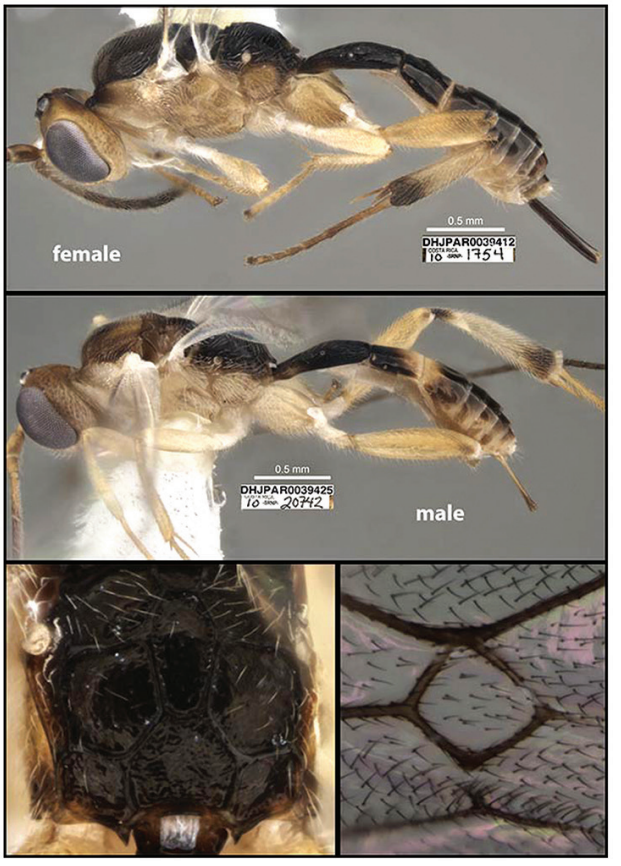

Fig. 166. *M. unotresnueve,* holotype female and male paratype. Unlabeled images are of the holotype.

Mesochorus unocuatrocero
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:44D2B14C-2724-4E71-B16C-9E92D231D268

Diagnostics: Fig. 167.
Holotype barcode.
TATTTTATATTTTATTTTTGGAATATGATCAGGAATAATTGGATCCTCAATAAGTATAATTATTCGTATAGA
ATTAGGTAATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACCTCCCATGCTTTCATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGCGGATTTGGAAATTGAATAATTCCTTTAATAATTGGAGCTCCT
GATATAGCTTTCCCACGAATAAATAATATAAGATTTTGACTCCTTCCTCCTTCAATTATATTATTACTATTAAGAG
GAATTTGTCAAAAAGGAGTTGGGACAGGATGAACTGTTTACCCTCCTTTATCACTTAACGTTAGACATGAAG
GATTATCAGTAGATTTATCAATTTTTTCTTTACATTTAGCTGGAATATCCTCAATCATAGGAGCAGTAAATTTTATTAC
TACTATTATTAATATACGAATTTATAAAACATCTTTTGATCAAATATCTTTATTTGTCTGATCAATTTTAATTACA
ACAATTTTATTATTATTAGCTGTCCCAGTACTAGCTGGAGCAATTACAATATTACTATCAGATCGCAATCTAAA
TACATCTTTTTTTGATCCTTCAGGAGGAGGAGATCCAATCCTATACCAACATTTATTT

BOLD data: BIN: BOLD:ADY0027.
Nearest neighbor: *M. unouno*, BOLD:AAC6096, 8.65% (p-dist).
Holotype ♀: DHJPAR0063450, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Loaiciga, 11.01983, -85.41342, 445 m, eclosion date 09/29/2018, caterpillar collection date 08/22/2018 (CNC). Genbank accession code OM312053.
Holotype host data: Hyperparasitoid of *Cardiochiles gerardochavesi* (Braconidae: Cardiochilinae), which is a primary parasitoid of epipaBioLep01 BioLep840 (Pyralidae) feeding on *Combretum* 16766 (Combretaceae). A single *Mesochorus* specimen eclosed.
Other host data: *Eiphosoma* (Ichneumonidae: Cremastinae). A single *Mesochorus* specimen eclosed.

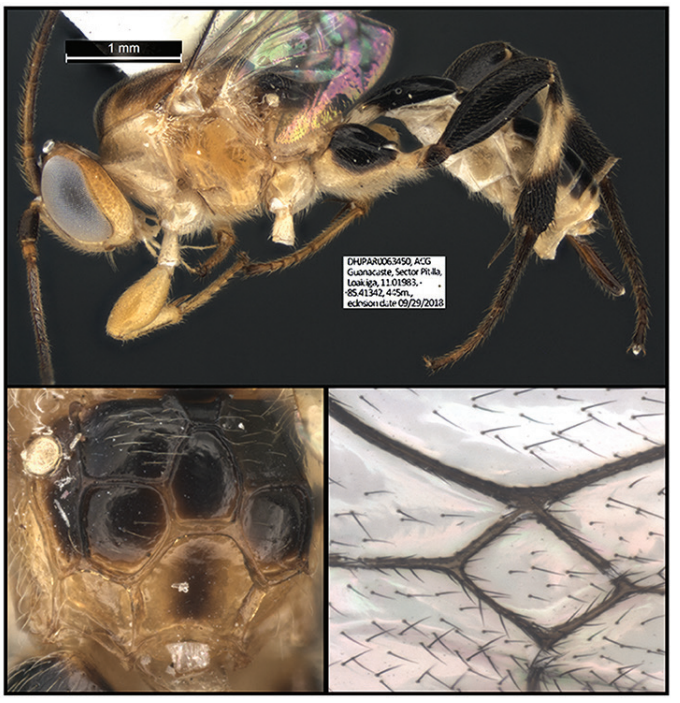

Fig. 167. *M. unocuatrocero,* holotype female.

Mesochorus unocuatrouno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:6B439141-AA46-4E9F-830D-111C1FB2C7B6

Diagnostics: Fig. 168.
Holotype barcode.
TTGGTTCATCAATAAGAATAATTATTCGGATAGAATTAGGAAATTCAGGATTTTTAATTAATAATGATCAAATTTA
TAATTCTTTTGTAACATCACATGCTTTTATTATAATTTTTTTTATAGTTATACCAATTATAATTGGAGGATTTGGAA
ATTGAATAGTACCATTAATAATTGGTGCTCCAGATATAGCTTTTCCTCGAATGAATAATATAAGATTTTGATTATTAC
CACCTTCTATTATATTATTAATAATAAGAAGAATTTGTCAAAAAGGTGTAGGAACTGGTTGAACAGTTTATCCAC
CATTATCATTAAATATTAGTCATGAAGGATTATCAGTAGATTTATCAATTTTTTCTTTACATTTAGCTGGTATATCTT
CAATTATAGGTGCAATTAATTTTATTACAACCATTTTAAATATACGAATTATAAAAATTTCATTTGATCAAATGA
CATTATTTGTTTGATCTATTTTAATTACAACAATTTTATTATTATTAGCAGTTCCAGTTTTAGCTGGTGCAATTAC
TATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATCCTTCTGGTGGAGGGGATCCAATTTTATATCAA
CATTTATTT

BOLD data: BIN: BOLD:ADZ6939.
Nearest neighbor: *M. nueve*, BOLD:AAC2766, 5.69% (p-dist).
Holotype ♂: DHJPAR0063966, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Casa Roberto, 11.01095, -85.42094, 520 m, eclosion date 02/08/2019, caterpillar collection date 01/15/2019 (CNC). GenBank accession code OM237726.
Holotype host data: Hyperparasitoid of *Eiphosoma* Janzen7832 (Ichneumonidae: Cremastinae) which is a primary parasitoid of *Chloropaschia* Janzen02 (Pyralidae) feeding on *Heisteria concinna* (Olacaceae). A single specimen eclosed.
Other host data: None.

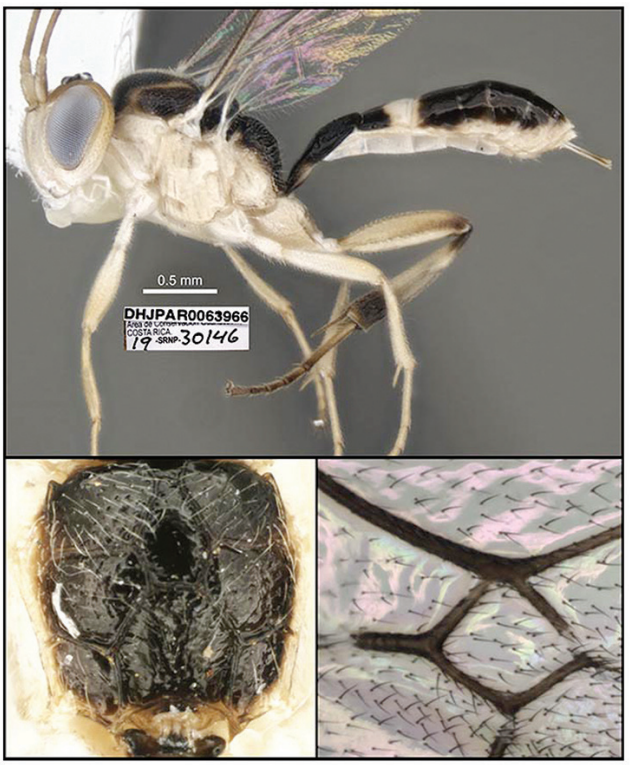

Fig. 168. *M. unocuatrouno,* holotype male.

Mesochorus unocuatrodos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:D0857293-F13B-4C48-8803-B8678EE25524

Diagnostics: Fig. 169.
Consensus barcode (2 specimens).
AATTCTATATTTTATTTTTGGAATTTGAGCAGGAATAATCGGCTCATCAATAAGTTTAATTATTCGAATAGAATTAGGA
AACCCCGGATATTTAATTAATAATGATCAAATTTATAATTCAATTGTAACAGCGCATGCATTTATTATAATTTTTTTTA
TAGTAATGCCAATTATAATTGGAGGATTTGGAAACTGATTAGTACCGTTAATAATCGGRGCCCCAGATATAGCCTTTC
CGCGAATAAATAATATAAGATTTTGATTGCTACCCCCTTCTTTAATATTATTATTATTAAGAAGAATTATTAATAAA
GGTGTTGGAACAGGGTGAACAGTCTACCCTCCTCTATCGTTAAATATTAGTCACGAAGGTATATCAGTAGATTTAT
CAATTTTTTCCCTACATTTAGCAGGAATATCTTCAATTATAGGGGCAGTCAATTTTATTACTACCATTTTAAATATAA
AATTAAATGGGACATCAATAGACCAACTATCTTTATTTACATGATCAATTAAAATCACAACAATTTTATTACTYTTAG
CAGTCCCAGTATTAGCAGGTGCAATTACTATATTATTAACTGACCGAAATTTAAACACATCTTTTTTTGACCCATCCG
GAGGAGGGGACCCAATTCTTTATCAACATTTATTT

BOLD data: BIN: BOLD:ADZ6940.
Nearest neighbor: *M. nuevedos*, BOLD:AAY4752, 8.97% (p-dist).
Holotype ♀: DHJPAR0063971, Área de Conservación Guanacaste, Guanacaste, Sector Del Oro, Tangelo, 11.01823, -85.45024, 410 m, eclosion date 09/13/2018, caterpillar collection date 08/31/ (CNC). GenBank accession code OM237765.
Holotype host data: Hyperparasitoid of an unidentified ichneumonid, which is a primary parasitoid of *Dynamine sosthenes* (Nymphalidae) feeding on an unidentified plant. A single specimen eclosed.
Other host data: None.

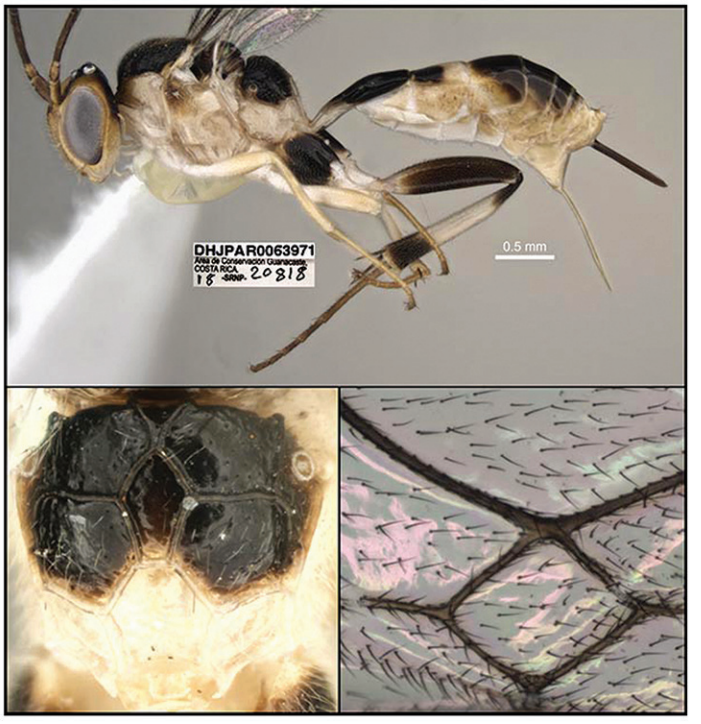

Fig. 169. *M. unocuatrodos,* holotype female.

Mesochorus unocuatrotres
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:045F71A2-8D06-409E-88C1-17B38DB10BE6

Diagnostics: Fig. 170.
Holotype barcode.
AATTTTATACTTTATTTTTGGTATATGAGCAGGTATAGTTGGTTCATCTATAAGATTAATTATCCGGTTAGA
ATTAGGAAATCCTGGATATTTAATTAATAATGACCAAATTTATAACTCTTTTGTGACAGCACATGCTTTCATTA
TAATTTTTTTTATAGTTATACCTATTATAATTGGAGGATTTGGAAATTGATTAATTCCTTTAATAATTGGTGCTCCT
GATATAGCATTTCCTCGAATAAATAATATAAGATTTTGATTATTGCCACCTTCATTAATATTATTATTATTAAGAACA
ATTATTAATAAAGGTGTAGGAACAGGGTGAACTGTTTACCCTCCATTATCTTTAAATGTAAGACATGAAGGAA
TATCAGTTGATTTAAGAATTTTTTCATTACATTTAGCCGGAATATCTTCAATTATAGGAGCAATTAATTTTATTAC
TACAATTTTAAATATACATCTTCATGGAATAACAATAGATCAATTATCTTTATTTACTTGATCAATTAAAATTACA
ACAATTTTACTTTTATTAGCTGTACCTGTATTAGCGGGAGCAATTACTATATTATTAACTGATCGTAATTTAAA
TACATCTTTCTTCGATCCATCAGGGGGTGGAGACCCAATTTTATATCAACATCTTTTT

BOLD data: BIN: BOLD:AED9169.
Nearest neighbor: *M. cuatrouno*, BOLD:AAH3285, 9.13% (p-dist).
Holotype ♂: DHJPAR0065348, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Medrano, 11.01602, -85.38053, 380 m, eclosion date 08/07/2019, caterpillar collection date 07/24/2019 (CNC). GenBank accession code OM237698.
Holotype host data: Hyperparasitoid of *Glyptapanteles* Janzen8449 (Braconidae: Microgastrinae), which is a primary parasitoid of *Nepheloleuca politia* (Geometridae) feeding on *Cestrum microcalyx* (Solanaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: None.

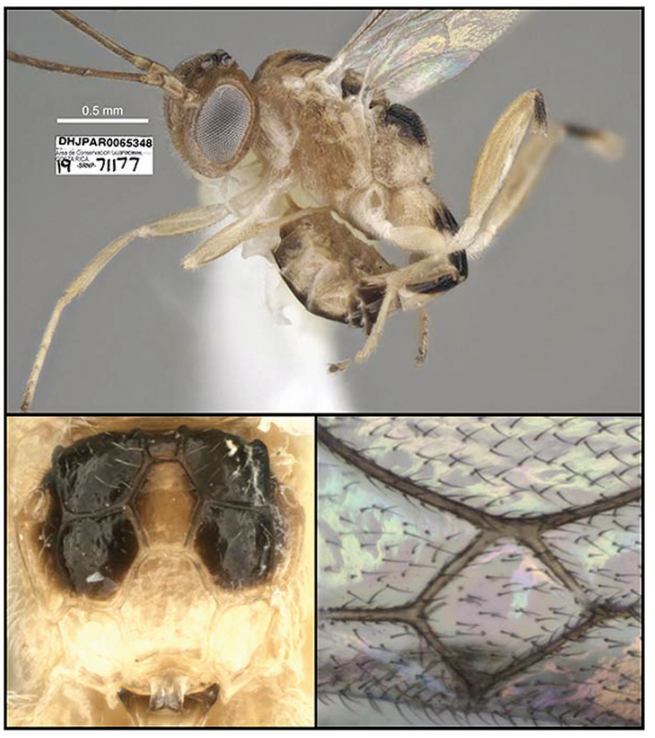

Fig. 170. *M. unocuatrotres,* holotype male.

Mesochorus unocuatrocuatro

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:CF8F656A-DAF1-4D46-969B-753EDD4A2D2A

Diagnostics: Fig. 171.
Holotype barcode.
TTATACTTTATTTTTGGAATATGAGCAGGAATAATTGGATCATCAATAAGATTAATTATTCGAATAGAATTAGGA
AATCCTGGATTTTTAATTAATAATGATCAAATTTACAATTCCTTTGTTACTGCCCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCTACTATAATTGGTGGATTTGGAAATTGATTAATCCCTTTAATAATTGGAGCCCCTGATATA
GCCTTTCCTCGAATAAACAATATAAGATTTTGACTTTTACCACCTTCATTAATATTACTTTTATTAAGAAGAA
TAATTAATAAAGGAGTAGGAACAGGTTGAACTGTGTATCCTCCTTTATCTTTAAATGTAAGTCATGAAGGAATAT
CAGTAGATTTATCAATTTTTTCTCTTCATTTAGCAGGAATATCTTCAATTATAGGCGCTATTAATTTTATTACTA
CAATTCTAAATATACACTTATTTGGAATATCAATAGATCAACTATCTTTATTTACATGATCAATTAAAATTACTACA
ATTTTATTATTATTAGCTGTACCAGTACTTGCAGGAGCAATTACCATATTATTAACTGATCGAAATTTAAATACAT
CATTTTTTGACCCATCAGGAGGAGGAGATCCAATTTTATATCAACATTTATT

BOLD data: BIN: BOLD:AEE4453.
Nearest neighbor: *M. unocuatroocho*, BOLD:AEF1590, 2.4% (p-dist). The medioposterior propodeal areola of *M. unocuatroocho* is larger than that of *M. unocuatrocuatro* (Fig. 172). Otherwise, the species are very similar morphologically and may represent the same species. More sampling should resolve this question.
Holotype ♀: BIOUG54702-B11, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-3, 10.76300, -85.33400, 820 m, Malaise trap, 11/24/2016 (CNC). GenBank accession code OM237682.
Holotype host data: None.
Other host data: None.

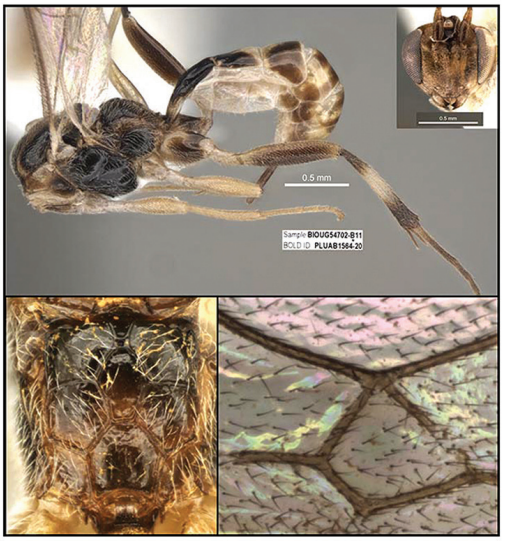

Fig. 171. *M. unocuatrocuatro,* holotype female.

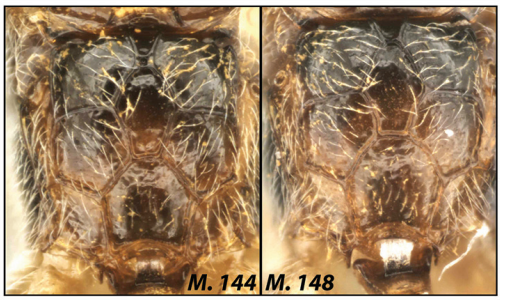

Fig. 172. Comparisons of *M. unocuatrocuatro* with its nearest neighbor, *M. unocuatroocho.*

Mesochorus unocuatrocinco
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:CE8FB5E5-63D6-466D-8C36-8D472CD60973

Diagnostics: Fig. 173.
Holotype barcode.
TTTTATATTTTATTTTTGGTTTATGGGCAGGAATAGTAGGTGCTTCAATAAGAATAATTATCCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGATTTGGAAATTGAATAATTCCATTGATAATTGGTGCACCAGATATA
GCTTTTCCTCGTATAAATAATATAAGATTTTGATTATTACCCCCATCAATTATATTATTACTATTGAGAGGAATTTGTCA
AAAAGGTGTTGGAACTGGTTGAACAGTATATCCTCCTTTATCATTAAATATTAGTCATGAAGGATTATCAGTTGATC
TATCAATTTTTTCTTTACACTTAGCTGGTATATCATCAATTATAGGAGCAATTAATTTTATTACAACAATTTTAAATA
TACGTATTTTAAAATCATCTCTAGATCAAATATCATTATTTGTTTGATCAATTTTAATTACTACTATTTTATTATTACTA
GCAGTTCCAGTTTTAGCAGGTGCAATTACTATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATCCATCA
GGTGGTGGAGATCCAATTTTATACCAGCATTTATT

BOLD data: BIN: BOLD:AEE4774.
Nearest neighbor: *M. tresnueve*, BOLD:AAG9894, 3.7% (p-dist).
Holotype ♂: BIOUG55692-G01, Área de Conservación Guanacaste, Guanacaste, Pailas Dos, PL12-9, 10.76000, -85.33400809, Malaise trap, 12/01/2016 (CNC). GenBank accession code OM237677.
Holotype host data: None.
Other host data: None.

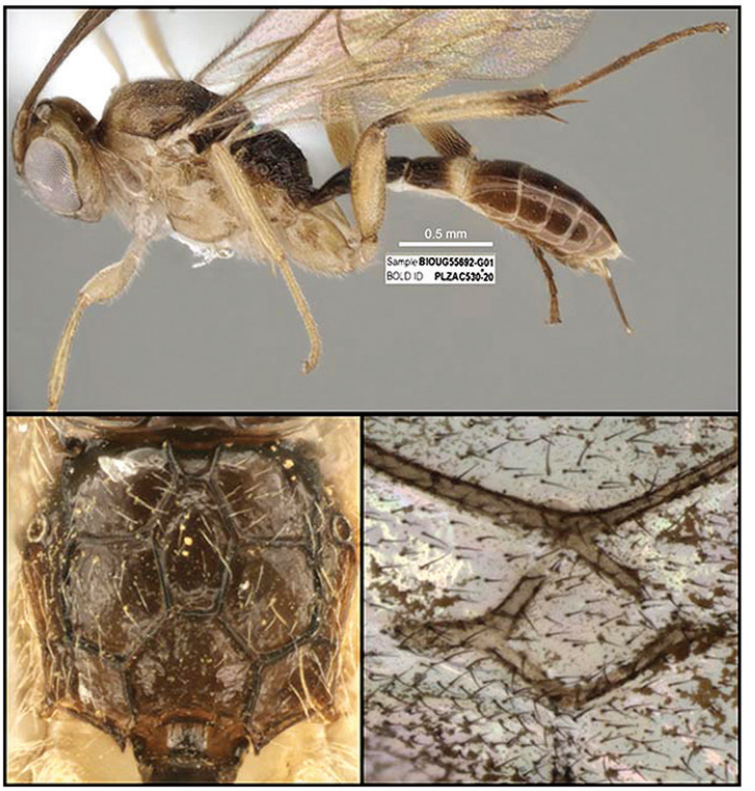

Fig. 173. *M. unocuatrocinco,* holotype male.

Revista de Biología Tropical, ISSN: 2215-2075 Vol. 71(S2): e53316, agosto 2023 (Publicado Ago. 24, 2023)

Mesochorus unocuatroseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:A22C7C30-1E37-47CF-A3E8-A3437AB6915C

Diagnostics: Fig. 174.
Consensus barcode (2 specimens).
TTATATTTTATTTTTGGTATATGAGCTGGTATAGTWGGATCATCTATAAGATTAATTATTCGATTAGAACTTGGAA
ATCCAGGATTTTTAATTAATAATGACCAAATTTATAATTCATTTGTAACTGCTCACGCTTTTGTAATAATTTTTTTTA
TAGTAATACCAATTATAATTGGTGGATTTGGAAATTGATTAATYCCACTAATAATTGGAGCCCCTGATATAG
CATTCCCCCGAATAAATAATATAAGATTTTGACTATTACCCCCCTCTCTTTTTATATTAATTTTAAGAAGAATCACT
CATAAAGGAGTGGGAACCGGATGAACTGTTTACCCTCCATTATCATTAAATACTAGACATGAAGGAATATCTGTT
GATTTATCAATTTTTTCTTTACATTTAGCGGGAATATCATCAATTATAGGAGCTATTAATTTTATTACCACTATTTTAAA
TATACGATGTATAGGRTCATCATTAGATCAAATATCATTATTTACTTGATCAATAAAAATTACAACTATTTTATTATTATT
GGCAGTACCAGTTCTTGCAGGGGCAATTACTATATTATTAGCAGATCGAAATTTAAATACTTCATTCTTTGACCCCT
CAGGTGGGGGAGACCCTATTTTGTACCAACATTTATT

BOLD data: BIN: BOLD:AEE9455.
Holotype ♀: BIOUG54897-F07, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-5, 10.76300, -85.33400, 831 m, Malaise trap, 07/14/2016 (CNC). GenBank accession code OM237750.
Holotype host data: None.
Other host data: None.

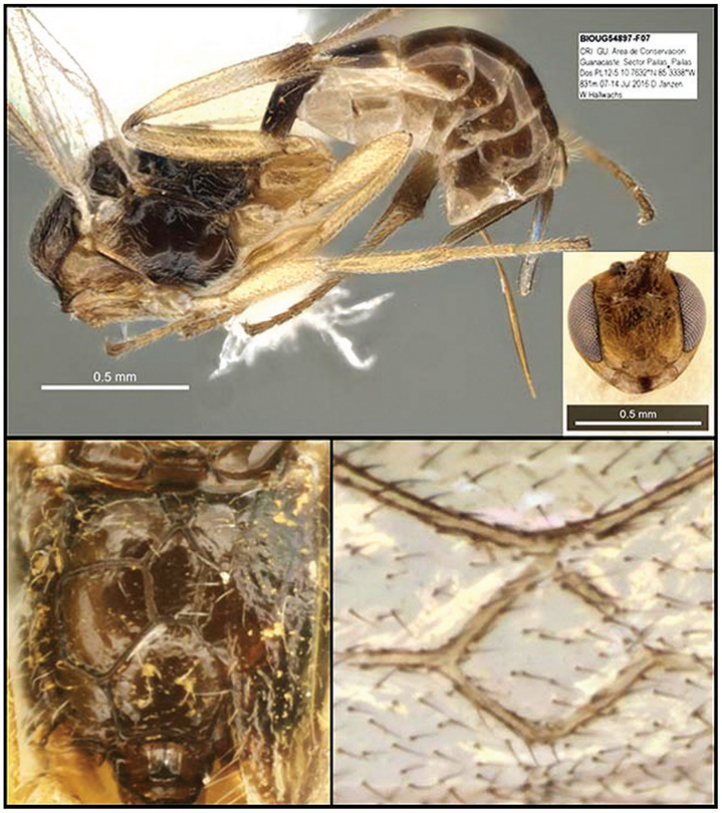

Fig. 174. *M. unocuatroseis,* holotype female.

Mesochorus unocuatrosiete
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:DEE6F703-E8B1-4C46-80A0-08CDF3E557B5

Diagnostics: Fig. 175.
Consensus barcode (2 specimens).
CTTATATTTTATTTTTGGAATATGAGCTGGAATAATTGGATCATCTATAAGATTAATTATTCGATTAGAATTA
GGTAACCCCGGTTATTTAATTAATAATGATCAAATTTATAATTCATTTGTTACTGCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCTATTATAATTGGCGGATTTGGAAATTGATTAATTCCATTAATAATTGGAGCCCCT
GATATAGCATTTCCTCGAATAAATAATATAAGATTTTGATTACTACCCCCATCTATTTTTTTATTAATTTTAAGAAGA
ATTACACATAAAGGTGTTGGAACTGGATGAACAGTATACCCCCCTTTATCTTTAAATTCAAGACATGAGGGAATAT
CAGTAGATTTATCAATTTTTTCTTTACATTTAGCAGGTATATCTTCTATTATAGGAGCGATTAATTTTATTACAAC
TATTTTAAATATACGATGTTTAGGTTCATCATTAGATCAAATATCTTTATTTACTTGATCAATAAAAATTACAACA
ATTTTATTATTATTAGCAGTTCCAGTTCTTGCTGGAGCAATTACAATATTATTAGCAGATCGAAATTTAAATACTT
CATTTTTTGACCCTTCAGGAGGTGGAGATCCTATTTTATACCAACATTTATT

BOLD data: BIN: BOLD:AEF0106.

Holotype ♀: BIOUG56764-C07, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-5, 10.76300, -85.33400, 831 m, Malaise trap, 11/24/2016 (CNC). GenBank accession code OM237727.
Holotype host data: None.
Other host data: None.

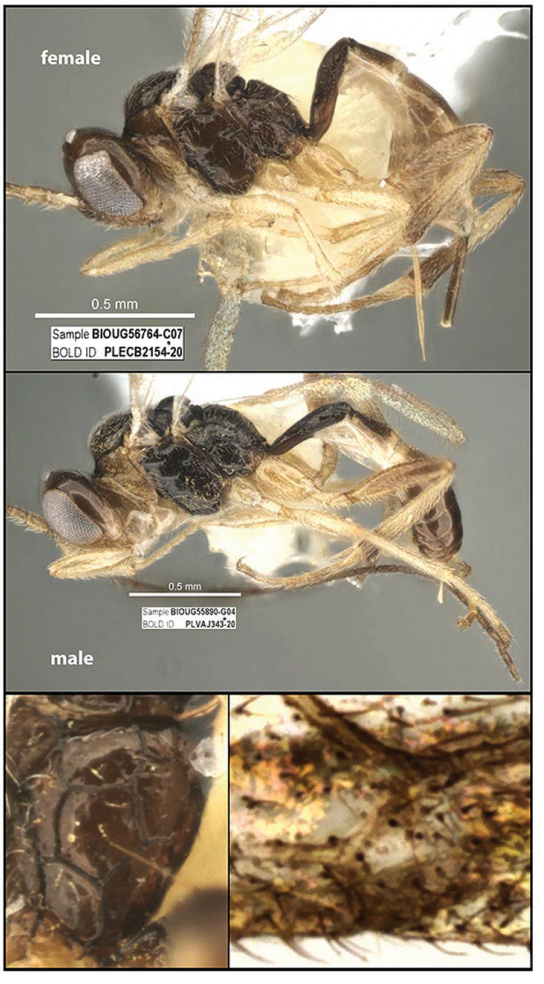

Fig. 175. *M. unocuatrosiete,* holotype female and male paratype. Unlabeled images are of the holotype.

Revista de Biología Tropical, ISSN: 2215-2075 Vol. 71(S2): e53316, agosto 2023 (Publicado Ago. 24, 2023)

Mesochorus unocuatroocho

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:8F0ADF29-732E-42E3-933A-67949C6BC1B4

Diagnostics: Fig. 176.
Consensus barcode (12 specimens).
TTTTATATTTTATTTTTGGAATATGAGCAGGAATAATTGGATCATCAATAAGATTAATTATTCGAATAGAATTAGGA
AATCCTGGATTTTTAATTAATAATGATCAAATTTACAATTCCTTTGTTACTGCCCATGCTYTTATTATAATTTTTTTTA
TAGTTATACCTACTATAATTGGTGGGTTTGGAAATTGATTAATTCCTTTAATAATTGGAGCCCCTGATATAGCCTTTC
CACGAATAAACAATATAAGATTTTGACTTTTACCACCTTCATTAATATTACTCTTATTAAGAAGAATAATTAATAAA
GGAGTAGGRACAGGTTGAACTGTATATCCCCCTTTATCTTTAAATGTAAGTCATGAAGGAATATCAGTAGATTTAT
CAATTTTTTCTCTTCACTTAGCAGGAATATCTTCAATTATAGGTGCTATTAATTTTATTACTACAATTCTTAATATA
CACTTATTTGGAATATCAATAGATCAGCTATCTTTATTTACATGATCAATTAAAATTACAACAATTTTATTATTATTA
GCTGTACCAGTACTTGCAGGGGCAATTACCATATTATTAACTGATCGAAATTTAAATACATCATTTTTTGACCCATCA
GGAGGAGGAGACCCAATCTTATACCAACATTTATTTT

BOLD data: BIN: BOLD:AEF1590.
Nearest neighbor: *M. unocuatrocuatro*, BOLD:AEE4453, 2.4% (p-dist). The medioposterior propodeal areola of *M. unocuatroocho* is larger than that of *M. unocuatrocuatro* (Fig. 172, associated with the treatment of *M. unocuatrocuatro*). Otherwise, the species are very similar morphologically and may represent the same species. More sampling should resolve this question.
Holotype ♀: BIOUG58265-E01, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-5, 10.76300, -85.33400, 831 m, Malaise trap, 12/08/2016 (CNC). GenBank accession code OM237704.
Holotype host data: None.
Other host data: None.

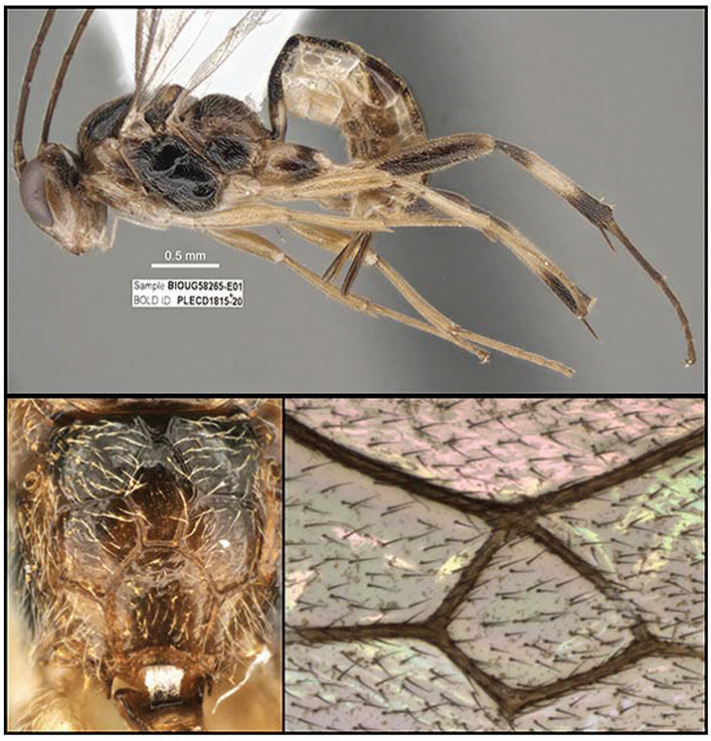

Fig. 176. *M. unocuatroocho,* holotype female.

Mesochorus unocuatronueve
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:BA647E9D-98A8-4788-B54B-CA393F20DFE3

Diagnostics: Fig. 177.
Holotype barcode.
CTTATATTTTATTTTTGGAATATGAGCAGGAATAATTGGATCATCAATAAGAATAATTATTCGAATAGAATTAGGA
AATTCAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACATCTCATGCTTTTATTATAATTTTTTTTA
TAGTAATACCAATTATAATTGGAGGATTTGGAAATTGAATAGTACCATTAATAATTGGAGCACCAGATATA
GCTTTTCCTCGTATAAATAATATAAGATTTTGATTATTACCTCCTTCAATTATATTATTATTATTAAGAAGAATTT
GTCAAAAAGGTATAGGAACAGGATGAACAGTTTATCCACCTTTATCATTAAATATTAGACATGAAGGATTAT
CAGTAGATTTATCAATTTTTTCATTACATTTAGCTGGAATATCATCAATTATAGGAGCTATTAATTTTATTACAA
CAATTTTAAATATACGAATTATAAAAACATCTTTTGATCAAATAACATTATTTGTTTGATCAATTTTAATTACAAC
TATTTTATTATTATTAGCAGTTCCAGTTTTAGCAGGAGCAATTACTATATTACTTTCTGATCGAAATTTAAATACTT
CATTTTTTGATCCATCAGGAGGAGGTGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AEF1753.
Nearest neighbor: *M. tresuno*, BOLD:AAF0637, 4.81% (p-dist).
Holotype ♂: BIOUG56782-A09, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-5, 10.76300, -85.33400, 831 m, Malaise trap, 12/01/2016 (CNC). GenBank accession code OM237767.
Holotype host data: None.
Other host data: None.

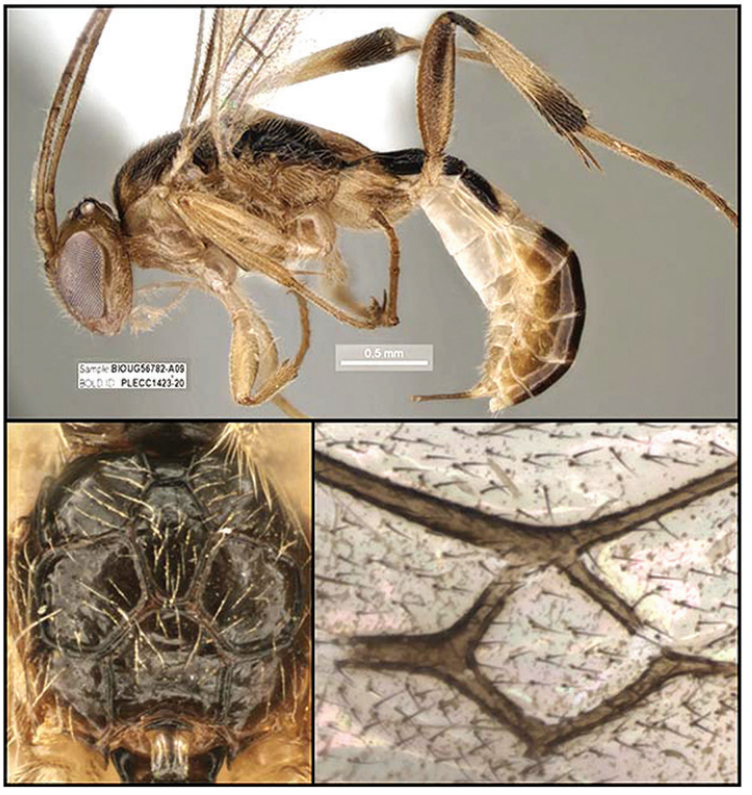

Fig. 177. *M. unocuatronueve,* holotype male.

Mesochorus unocincocero
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:BC01C1A4-05FC-4CCE-B9E8-1056ED265FBC

Diagnostics: Fig. 178.
Consensus barcode (2 specimens).
TATTTTATATTTTATTTTTGGTATATGATCAGGAATAATTGGTTCATCAATAAGATTAATTATTCGAATAGAGTTA
GGAAACCCTGGATTCTTAATTAATAATGATCAAATTTATAATTCTTTTGTTACAGCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATRCCTATTATAATTGGAGGGTTTGGTAATTGAATAGTCCCTTTAATAATTGGAGCTCCA
GATATAGCTTTCCCTCGAATAAATAATATAAGTTTTTGATTATTACCTCCTTCAATTATATTATTATTATTAAGAAGA
ATTTGCCAGAAAGGAGTTGGTACTGGATGAACTGTTTACCCTCCTTTATCATTAAATAGAAGACATGAAGGATTA
GCAGTTGATTTATCAATTTTTTCATTACATTTAGCAGGAATATCTTCTATTATAGGAGCAGTTAACTTTATTACTA
CAATTTTAAATATACGAGTTGTTGGATCTTCTTTAGATCAAATATCTTTATTTGTTTGGTCAATTAAAATTACAACA
ATTTTATTATTATTAGCTGTTCCTGTTTTAGCAGGGGCAATTACAATATTATTAACTGATCGTAATTTAAATACAA
CATTTTTTGATCCTTCAGGAGGAGGGGATCCAATTTTATAYCAACATTTATTT

BOLD data: BIN: BOLD:AEI3256.
Nearest neighbor: *M. nueveocho*, BOLD:AEI0702, 1.28% (p-dist). The transverse propodeal carinae join the central areola of *M. nueveocho* at midheight and well above midheight in *M. unocincocero* (Fig. 118, associated with the treatment of *M. nueveocho*).
Holotype ♀: DHJPAR0045510, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Pilon, 10.99087, -85.40540, 561 m, eclosion date 08/03/2011, caterpillar collection date 07/19/2011 (CNC). GenBank accession code OM237700.
Holotype host data:
Hyperparasitoid of *Diolcogaster* Choi81(Braconidae: Microgastrinae), which is a primary parasitoid of *Trauaxa lua* (Erebidae) feeding on *Tabernaemontana robinsonii* (Apocynaceae). A single *Mesochorus* specimen eclosed.
Other host data: Unidentified Microgastrinae (Braconidae). A single *Mesochorus* specimen eclosed.

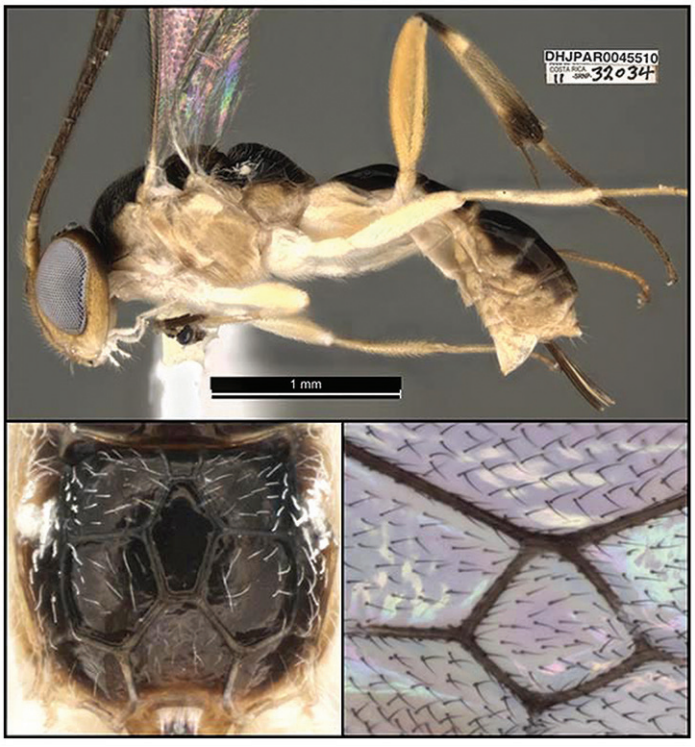

Fig. 178. *M. unocincocero,* holotype female.

Mesochorus unocincouno
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:C8C6F6E7-9FC8-4541-98F4-E6AE19DED24B

Diagnostics: Fig. 179.
Consensus barcode (3 specimens).
AGTTTTATATTTTATTTTTGGTATATGATCTGGAATAATTGGATCATCAATAAGAATAATTATTCGTATAGA
ATTAGGTAATCCTGGGTTTTTAATTAATAACGATCAAATTTATAATTCTTTTGTCACATCTCATGCTTTTGTAA
TAATTTTTTTTATAGTTATACCAATTATAATTGGAGGGTTTGGAAATTGAATAGTACCATTAATAATTGGAGCCC
CAGACATAGCTTTCCCTCGAATAAATAATATAAGATTTTGATTATTACCACCATCAATTATATTTTTACTATTAAGA
AGTATTTGTCAAAAAGGAGTTGGAACAGGATGAACTGTCTATCCCCCACTTTCTTTAAATGTAAGACATGAAG
GATTAGCAGTTGATTTATCAATTTTTTCCTTACATTTAGCTGGAATATCATCAATTATAGGAGCAATCAATTTTATCA
CAACAATTTTAAATATACGAATTTTTAAAACATCATTAGATCAAATAACTTTATTTGTTTGATCAATTTTAATCAC
TACAATTTTATTACTTTTAGCAGTACCAGTTTTAGCAGGAGCAATTACTATGCTACTATCAGATCGAAACTTAAA
TACTTCTTTTTTTGACCCATCAGGAGGAGGAGACCCAATCTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAX3937.
Nearest neighbor: *M. cuatronueve*, BOLD:AAM1067, 8.81% (p-dist).
Holotype ♂: DHJPAR0041526, Área de Conservación Guanacaste, Guanacaste, Sector San Cristobal, Bosque Transición, 10.86472, -85.41531, 540 m, eclosion date 12/05/2010, caterpillar date 11/03/2010 (CNC). GenBank accession code JQ575342.
Holotype host data: Hyperparasitoid of *Hypomicrogaster Janzen04* (Braconidae: Microgastrinae), which is a primary parasitoid of *Stenoma adytodes* (Depressariidae) feeding on *Pouteria reticulata* (Sapotaceae). A single *Mesochorus* specimen eclosed.
Other host data:
Dolichogenidea Janzen68 (Braconidae: Microgastrinae). A single *Mesochorus* specimen eclosed.

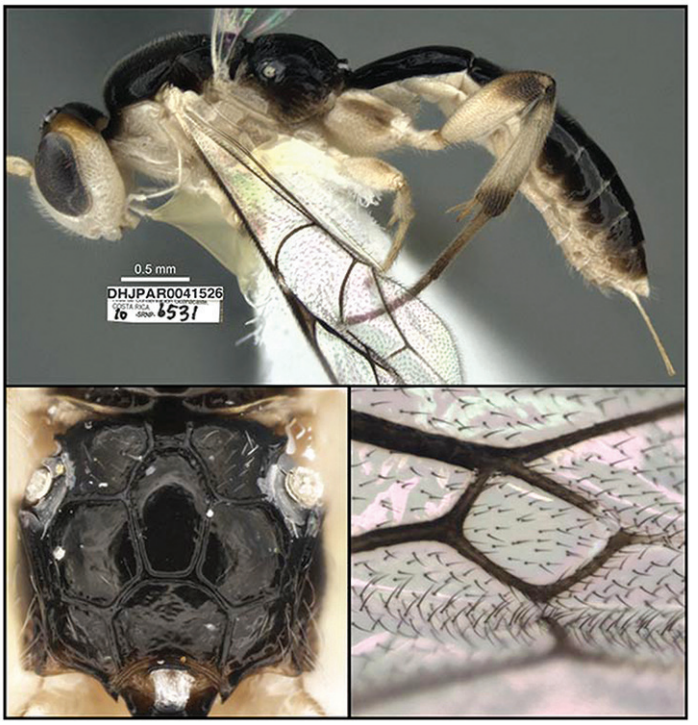

Fig. 179. *M. unocincouno,* holotype male.

Mesochorus unocincodos
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:A37F894C-9A66-4FBC-A3B0-A870C4E843A8

Diagnostics: Fig. 180.
Holotype barcode.
TATTTTATATTTTATTTTTGGTATCTGAGCAGGAATAATTGGATCATCAATAAGATTAATTATTCGGTTAGAATTAGGA
AATCCCGGATATTTAATTAATAATGATCAAATTTATAACTCTTTTGTAACAGCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGAGGTTTTGGAAATTGGTTAATTCCTTTAATAATTGGAGCCCCTGATATAGCATTCC
CACGAATAAATAATATAAGATTTTGACTGTTACCTCCTTCACTATTAATATTATTATTAAGAAGAATTATTAGTAAA
GGTGTTGGAACAGGATGAACAGTTTACCCTCCTTTATCTTTAAATTTAAGCCATGAAGGAATATCTGTAGATTTAT
CAATTTTTTCCCTTCATCTAGCTGGAATATCATCTATTATAGGAGCTGTAAATTTTATTACCACTATTTTAAATATAA
AATTAAATGGTATATCTATAGACCAACTATCTTTATTTACTTGGTCAATTATAATTACAACAATTTTATTATTACTAGC
CGTTCCAGTTTTAGCTGGAGCAATTACAATATTATTAACTGATCGAAATTTAAATACTTCTTTTTTTGATCCATCAG
GAGGAGGAGATCCTATCTTATACCAACATTTATTT

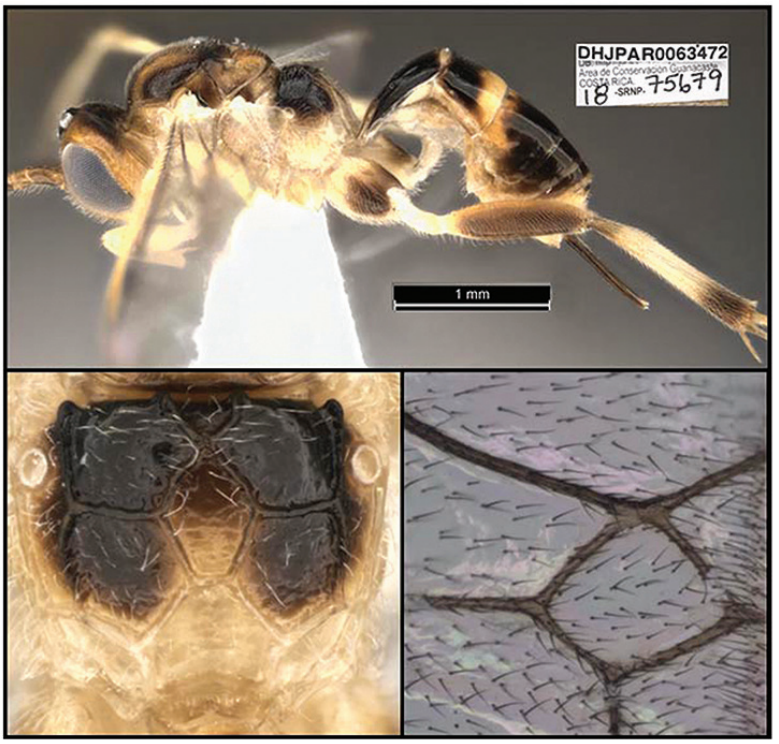

Fig. 180. *M. unocincodos,* holotype female.

BOLD data: BIN: BOLD:ADY3079.
Holotype ♀: DHJPAR0063472, Área de Conservación Guanacaste, Alajuela, Sector Rincon Rain Forest, Quebrada Bambu, 10.93010, -85.25205, 109 m, eclosion date 09/01/2018, caterpillar collection date 08/21/2018 (CNC). GenBank accession code OM237678.
Holotype host data: Hyperparasitoid of an unidentified host, which is a primary parasitoid of *Xylophanes chiron* (Sphingidae) feeding on *Palicourea racemosa* (Rubiaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: None.

Mesochorus unocincotres

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:026528C0-B4B2-4062-A3DD-9559284686CD

Diagnostics: Fig. 181.
Holotype barcode.
AATTTTATATTTTATTTTTGGTATATGAGCAGGAATAATTGGTTCTTCCATAAGTATAATTATTCGAATAGAATTAGGA
AATCCAGGATTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACTTCTCATGCTTTTATTATAATTTTTTTTA
TAGTTATACCAATTATAATTGGTGGATTTGGAAATTGAATAATTCCATTAATAATTGGAGCACCAGATATA
GCTTTTCCTCGAATAAATAATATAAGATTTTGATTACTACCTCCATCAATTATATTATTATTATTAAGAAGAATTTGT
CAAAAAGGAGTTGGTACTGGATGAACAGTTTATCCTCCATTATCATTAAATATTAGTCATGAAGGATTATCAGTT
GATTTATCAATTTTTTCTTTACATTTAGCTGGAATATCATCTATTATAGGTGCAATTAATTTTATTACAACTATTTTAAA
TATACGAATTATTAAAACATCATTAGATCAAATATCATTATTTGTTTGATCTATTTTAATTACAACTATTTTATTATTATTA
GCAGTACCAGTTTTAGCTGGAGCAATTACTATATTATTATCTGATCGAAATTTAAATACTTCATTTTTTGATCCATCTG
GAGGAGGAGATCCAATTTTATATCAACATTTATTT

BOLD data: BIN: BOLD:ADQ7300.
Nearest neighbor: *M. unotresnueve*, BOLD:ADQ8339, 1.92% (p-dist). The dimensions of the propodeal areolae differ (Fig. 182).
Holotype ♀: DHJPAR0062679, Área de Conservación Guanacaste, Guanacaste, Sector Pitilla, Sendero Manguera, 10.99590, -85.39842, 470 m, eclosion date 06/13/2018, caterpillar collection date 05/23/2018 (CNC). GenBank accession code OM237760.
Holotype host data: Hyperparasitoid of *Hypomicrogaster* Janzen29 (Braconidae: Microgastrinae), which is a primary parasitoid of spiloBioLep01 BioLep705 (Crambidae) feeding on *Aegiphila laevis* (Lamiaceae). Multiple *Mesochorus* specimens eclosed.
Other host data: None.

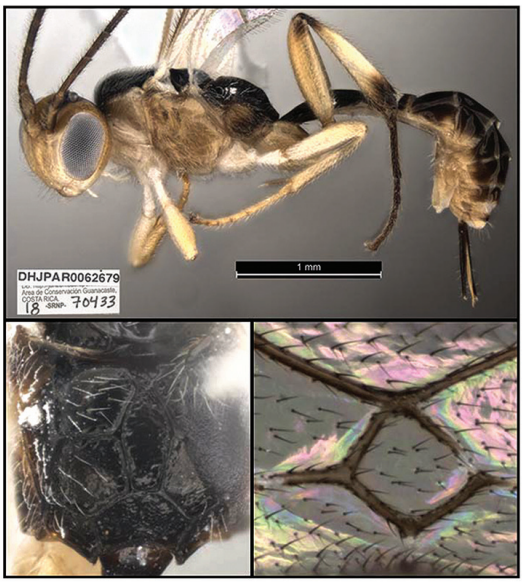

Fig. 181. *M. unocincotres,* holotype female.

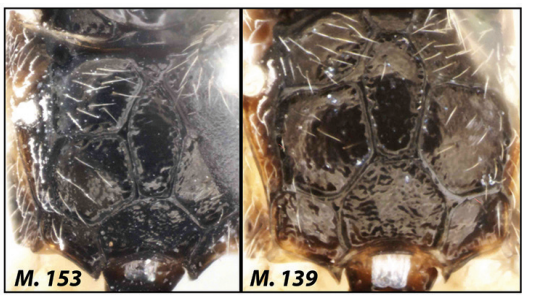

Fig. 182. Comparisons of *M. unocincotres* with its nearest neighbor, *M. unotresnueve.*

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Mesochorus unocincocuatro

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:F1F76AB3-567C-4023-AC2D-DB683F1BD514

Diagnostics: Fig. 183.
Holotype barcode.
ATTTTATATTTTATTTTCGGAATATGAGCAGGAATAATTGGTTCATCAATAAGAATAATTATTCGATTAGA
ATTAGGAAATCCTGGGTTTTTAATTAATAATGATCAAATTTATAATTCATTTGTTACATCTCATGCATTTATTA
TAATTTTTTTTATAGTTATACCAATTATAATTGGTGGTTTTGGTAATTGAATAATTCCATTAATAATTGGTGCTCCA
GATATAGCATTTCCTCGTATAAATAATATAAGATTTTGATTATTACCACCTTCAATTATATTATTATTATTAAGAGGA
ATTTGTCAAAAAGGTGTTGGTACTGGATGAACAGTATATCCTCCTTTATCATTAAATGTTAGACATGAAGGAC
TATCAGTAGATTTATCAATTTTTTCTCTACATTTAGCTGGTATATCTTCAATTATAGGAGCAATTAATTTTATTA
CAACAATTTTAAATATACGTATTTTAAAAACTTCATTTGATCAAATATCTTTATTTGTTTGATCAATTTTAATTAC
TACAATTTTATTATTATTAGCAGTTCCAGTATTAGCTGGTGCAATTACAATATTACTTTCTGATCGTAATTTAAA
TACTTCTTTTTTTGATCCATCTGGAGGAGGTGATCCAATTTTATACCAACATTTATTT

BOLD data: BIN: BOLD:AAG8572.
Nearest neighbor: *M. unoceronueve*, BOLD:ACE9003, 1.03% (p-dist). The shape of the forewing areolets and the thickness of the veins are different (Fig. 124, associated with the treatment of *M. unoceronueve*).
Holotype ♀: DHJPAR0012208, Área de Conservación Guanacaste, Alajuela, Sector San Cristobal, Rio Blanco Abajo, 10.90037, -85.37254, 500 m, eclosion date 07/13/2006, caterpillar collection date 06/22/2006 (CNC). GenBank accession code JF793194.
Holotype host data: Hyperparasitoid of *Hypomicrogaster largus* (Braconidae: Microgastrinae), which is a primary parasitoid of *Anadasmus* Janzen11 (Depressariidae) feeding on *Ocotea puberula* (Lauraceae). Multiple *Mesochorus* specimens eclosed.
Other host data: *Hypomicrogaster largus* (Braconidae: Microgastrinae).

Fig. 183. *M. unocincocuatro,* holotype female.

Mesochorus unocincocinco

Sharkey, sp. nov.

urn:lsid:zoobank.org:act:C50F0437-1048-4EA2-B3DC-26743732FE32

Diagnostics: Fig. 184.
Holotype barcode.
TTTATATTTTATTTTTGGCATATGAGCTGGTATAATTGGTTCATCAATAAGAATAATTATTCGTATAGAATTAGGTAATC
CAGGATTTTTAATTAATAATGATCAAATTTATAATTCTTTTGTAACATCTCATGCTTTTATTATAATTTTTTTTATAGTTA
TACCTATTATAATTGGTGGTTTTGGTAATTGAATAATTCCTCTAATAATTGGTGCACCAGATATAGCTTTCCCTCGA
ATAAATAATATAAGATTTTGATTACTTCCTCCTTCAATTATATTATTATTATTAAGTAATATTTGTCAAAAAGGTGTTG
GAACTGGATGAACTGTATACCCTCCATTATCTTTAAATGTTAGTCATGAAGGATTATCAGTTGATTTATCAATTTTTT
CACTTCATTTAGCAGGAATATCTTCAATTATAGGTGCTATTAACTTTATTACAACTATTTTAAATATACGAATTTTAA
AAACTTCTTTAGATCAAATATCATTATTTGTTTGATCAATTTTAATTACAACAATTTTATTATTATTAGCAGTTC
CAGTATTAGCAGGAGCTATTACAATATTATTATCTGATCGTAATTTAAATACTTCATTTTTTGATCCTTCTGGAGGAG
GAGATCCAATTTTATATCAACATTTAT

BOLD data: BIN: BOLD:AEB8319.
Nearest neighbor: *M. unoceroseis*, BOLD:ACC3709, 6.57% (p-dist).
Holotype ♀: BIOUG51348-F09, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-8, 10.76100, -85.33500, 811 m, Malaise trap, 02/06/2014 (CNC). GenBank accession code OM237761.
Holotype host data: None.
Other host data: None.

Fig. 184. *M. unocincocinco,* holotype female.

Mesochorus unocincoseis
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:4CAD78A8-7BA1-46B0-A98E-047A29454549

Diagnostics: Fig. 185.
Holotype barcode.
TTATATTTTTTTTTTGGCATATGAGCAGGAATAGTGGGCTCATCAATAAGATTAATTATTCGACTAGAATTAGGAA
ATCCAGGTTATTTAATTAATAATGATCAAATTTATAATTCATTTGTAACAGCCCATGCTTTTGTAATAATTTTTTTTA
TAGTTATGCCTACTATAATTGGTGGATTCGGAAACTGACTAGTCCCTTTAATAATTGGAGCCCCTGACATAG
CATTCCCTCGAATAAATAATATAAGATTTTGATTGCTACCTCCTTCTTTATTCTTATTAATCTTAAGAAGAATTATT
CATAAAGGTGTTGGTACAGGATGAACAGTATACCCACCATTATCTTTAAATACCAGTCATGAAGGAATATCTGTT
GATTTATCAATTTTTTCCTTACATTTAGCAGGAATATCATCTATTATAGGAGCTATTAATTTTATTACAACAATCTTAAA
CATACGATGCTTAGGCTCATCATTAGATCAAATATCATTATTTACATGATCAATAAAAATCACAACAATCTTATTATTAC
TAGCAGTTCCAGTACTTGCAGGAGCCATTACTATATTATTAGCAGACCGCAACTTAAATACTTCTTTTTTTGATCCTA
GAGGAGGTGGAGACCCTATTTTATATCAACACTTATT

BOLD data: BIN: BOLD:AEF0738.
Holotype ♀: BIOUG58295-C04, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-5, 10.76300, -85.33400, 831 m, Malaise trap, 12/15/2016 (CNC). GenBank accession code OM237768.
Holotype host data: None.
Other host data: None.

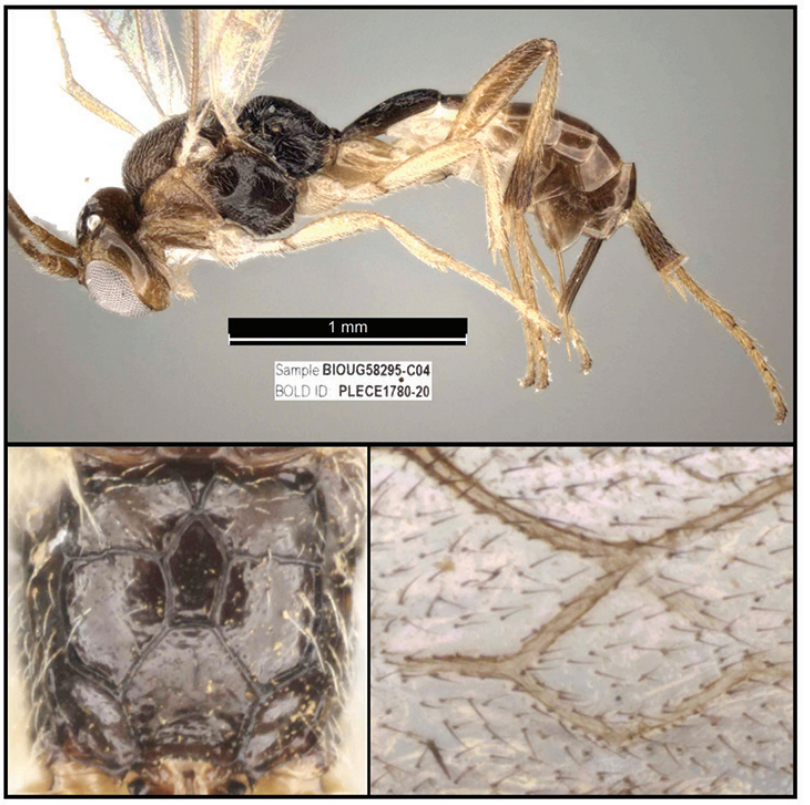

Fig. 185. *M. unocincoseis,* holotype female.

Mesochorus unocincosiete
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:55636CF6-EBA6-48DF-90A3-1EE83582A48D

Diagnostics: Fig. 186.
Holotype barcode.
TTTATATTTTATTTTTGGCATCTGAGCTGGAATAATCGGATCATCAATAAGATTAATTATTCGTATAGAATTA
GGAAATCCTGGATACTTAATTAATAATGATCAAATTTATAACTCATTTGTGACTGCACATGCTTTTATTA
TAATTTTTTTTATAGTTATACCTATTATAATTGGAGGATTTGGAAATTGATTAGTTCCTTTAATAATTGGTGCTCCT
GATATAGCCTTCCCTCGAATAAATAATATAAGATTTTGATTGTTACCCCCTTCTTTATTATTATTATTATTAAGAA
GAATCGTAAATAAAGGTGTTGGGACTGGGTGAACAGTCTATCCTCCTTTATCTTTAAATATTAGTCATGAAGGAA
TATCGGTAGATTTATCAATTTTTTCTTTACATTTAGCCGGTATATCGTCAATTATAGGGGCTGTAAATTTTATTACTA
CAATTTTAAATATAAAATTAACTGGTATATCAATAGATCAATTATCATTATTTACTTGATCTATTAAAATTACAACA
ATTTTATTACTATTAGCAGTGCCTGTTTTAGCAGGAGCAATTACTATATTATTAACTGATCGAAATTTAAATACAT
CATTTTTTGATCCATCCGGAGGAGGAGATCCAATTCTTTATCAACATTTA

BOLD data: BIN: BOLD:AEF9497.
Holotype ♀: BIOUG58976-F12, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-5E, 10.76300, -85.33400, 831 m, Malaise trap, 12/14/2017 (CNC). GenBank accession code OM237708.
Holotype host data: None.
Other host data: None.

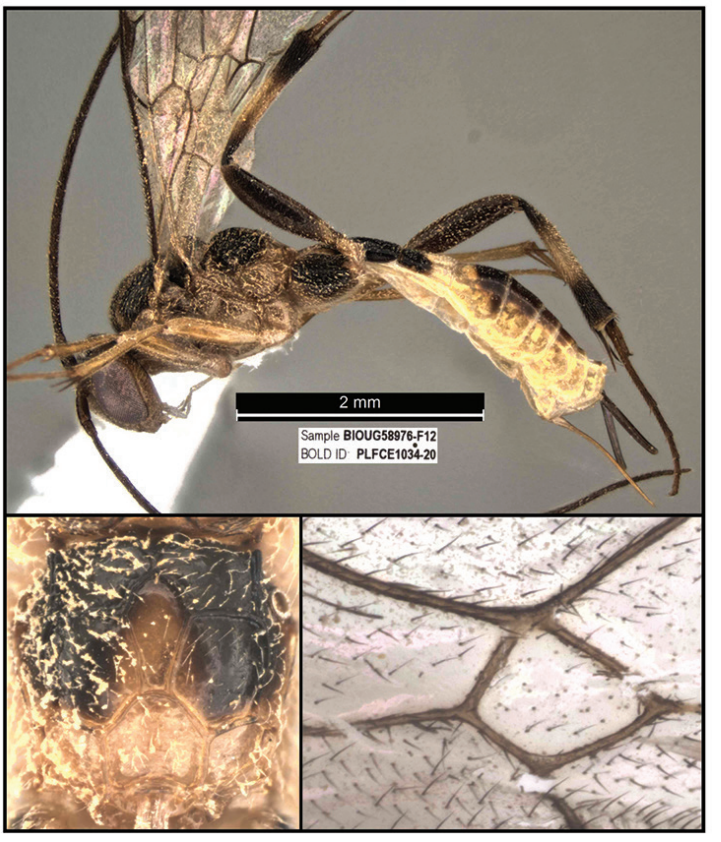

Fig. 186. *M. unocincosiete,* holotype female.

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Mesochorus unocincoocho
Sharkey, sp. nov.

urn:lsid:zoobank.org:act:368E3662-B144-4FC8-8458-A9F80960BB55

Diagnostics: Fig. 187.
Holotype barcode.
TTTTATATTTTATTTTTGGCTTATGAGCAGGAATAATTGGGTCTTCAATAAGATTAATTATTCGCCTAGA
ATTAGGAAACCCAGGCTATTTAATCAATAATGATCAAATTTATAATTCATTTGTGACTGCTCATGCTTTTATTA
TAATTTTTTTTATAGTTATACCTATCATAATTGGTGGATTTGGAAATTGACTAATTCCTTTAATAATTGGAGCTCCT
GATATAGCATTTCCACGAATAAATAATATAAGATTTTGATTATTACCTCCCTCTCTTTTTTTATTAATTTTAGGA
AGTATTATTCATAAAGGTGTTGGAACTGGTTGAACTGTTTACCCTCCTTTATCTTTAAATTCTAGTCATGAA
GGTATATCTGTAGATTTATCAATCTTTTCTTTACATCTAGCAGGAATATCCTCAATTATAGGAGCAATTAATTTTAT
CACAACTATCTTAAATATGCGATGTTTAGGCACATCTTTAGATCAAATATCATTATTTACTTGATCAATAAAAATTAC
TACAATTTTATTATTATTAGCAGTTCCTGTACTTGCAGGTGCCATCACAATATTATTAGCAGATCGTAATTTAAATACTT
CATTTTTTGATCCTGCAGGAGGGGGAGACCCTATTTTATATCAACATTTA

BOLD data: BIN: BOLD:AEJ1909.
Holotype ♀: BIOUG64937-G06, Área de Conservación Guanacaste, Guanacaste, Sector Pailas, Pailas Dos, PL12-9, 10.76000, -85.33400, 809 m, Malaise trap, 10/01/2020 (CNC). GenBank accession code OM237697.
Holotype host data: None.
Other host data: None.

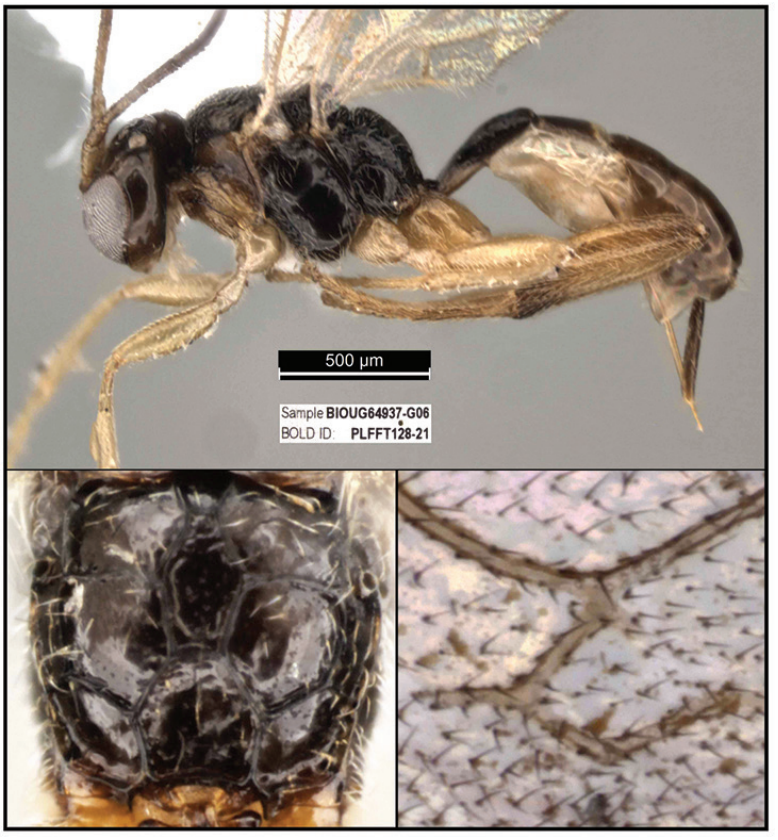

Fig. 187. *M. unocincoocho,* holotype female.

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See Supplementary material - v71s1-SM1 • v71s1-SM2 • v71s1-SM3

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