



Revista de la Sociedad Entomológica Argentina
ISSN: 0373-5680
ISSN: 1851-7471
santiago@cepave.edu.ar
Sociedad Entomológica Argentina
Argentina

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Revista de la Sociedad Entomológica Argentina, vol. 79, no. 2, 2020
Sociedad Entomológica Argentina, Argentina
Available in: <https://www.redalyc.org/articulo.oa?id=322062959007>

Two new records of exotic spiders in Argentina (Arachnida: Araneae)

Dos nuevos registros de arañas exóticas en Argentina
(Arachnida: Araneae)

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Revista de la Sociedad Entomológica
Argentina, vol. 79, no. 2, 2020

Sociedad Entomológica Argentina,
Argentina

Received: 13 November 2019

Accepted: 26 April 2020

Published: 29 June 2020

Redalyc: [https://www.redalyc.org/
articulo.oa?id=322062959007](https://www.redalyc.org/articulo.oa?id=322062959007)

Abstract: Two exotic spider species are reported for the first time in Argentina: *Ozyptila praticola* (C.L. Koch) (Thomisidae) and *Microctenonyx subitaneus* (O. Pickard-Cambridge) (Linyphiidae), being the former the first record from the southern hemisphere. The specimens were found in the leaf litter and under tree barks of modified environments in three localities in the southeast coast of Buenos Aires province. We propose the monitoring and study of the ecology of these new spider populations in order to elucidate potential risk for the local fauna.

Keywords: Exotic species, Linyphiidae, Thomisidae.

Resumen: Dos arañas exóticas se reportan por primera vez en Argentina: *Ozyptila praticola* (C.L. Koch) (Thomisidae) y *Microctenonyx subitaneus* (O. Pickard-Cambridge) (Linyphiidae), constituyendo la primera de ellas el primer registro conocido para el hemisferio sur. Los especímenes fueron hallados en hojarasca y bajo corteza de árboles en ambientes modificados de tres localidades de la costa sudeste de la provincia de Buenos Aires. Proponemos el estudio y monitoreo de estas nuevas poblaciones de arañas con el objetivo de elucidar posibles riesgos para la fauna local.

Palabras clave: Especie exótica, Linyphiidae, Thomisidae.

During a survey of some components of the soil mesofauna in the province of Buenos Aires, Argentina, we found several spiders belonging to family Thomisidae. In the field, when collected, the specimens were tentatively identified based of their general aspect and the presence of clavate setae on the body (see Teixeira & Lise, 2012), as *Misumenoides athleticus* (Mello-Leitão), the only native species presenting these characters in the region. However, after a close examination, specimens have the tibiae I with only two pairs of ventral macrosetae, and, in adult females, genitalia were different from those known for species of *Misumenoides* (Fig. 2d). These characters forced us to consider that the species belonged to another genus and, by virtue of the clavate setae, we

oriented our searching towards genus *Ozyptila* Simon, so far unknown in South America. By comparison with literature (Locket & Millidge, 1951; Dondale & Redner, 1975; Roberts, 1995), we concluded that our specimens belong to *O. praticola* (C. L. Koch), being the first record of this species in the southern hemisphere (Fig. 2). Additionally, continuing with the study of the same samples, we have found, among other native spiders well known from the region, many specimens of a small species of the family Linyphiidae that we identified as *Microctenonyx subitaneus* (O. Pickard-Cambridge), a cosmopolitan invasive species not yet recorded in Argentina (Fig. 3), but previously found in Chile (Miller, 2007).

With the objective of knowing the distribution of the two introduced species, we reexamined samples from the neighboring areas around Mar del Plata city, and found additional specimens of *O. praticola*.

The recreational area of Vivero Dunícola "Florentino Ameghino" is located in Miramar, in the province of Buenos Aires, Argentina, over a coastal system between the streams "El Duranzno" and "La Totorá", and consists of dunes anthropically stabilized mainly with conifers. Climate is humid temperate with a mean humidity of 75% and a mean annual precipitation between 900 and 1000 mm (Fredes et al., 2009). The Reserva Integral Laguna de los Padres (RILaPa), in General Pueyrredón, includes 319 ha corresponding to the water body and another 368-ha consisting of grasslands and groves of exotic as well as native tree species (del Río et al., 1992). On the other hand, Monte Varela is an eight-ha public park located in Mar del Plata city, composed mainly of exotic tree species.

Spiders from Miramar were collected from litter samples using Berlese funnels, fixed and preserved in 70% ethanol. In RILaPa, specimens from litter samples of *Cupressus macrocarpa* Hartw. ex Gord. and from lichens over *Salix humboldtiana* Willd. were collected using Berlese funnels, or by hand under barks of *Eucalyptus* sp. and *S. humboldtiana*. Monte Varela unique specimen was collected by hand under bark. Specimens are deposited in the following collections (acronyms and curators in parentheses): División Aracnología, Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires, Argentina (MACN-Ar, Martín J. Ramírez), and Museo Municipal de Ciencias Naturales "Lorenzo Scaglia" (MMPE, Juan Farina), Mar del Plata, Argentina. Photographs of the preserved specimens were taken with a Leica DFC 290 digital camera mounted on a Leica M165 C stereoscopic microscope, and the focal planes were composed with Helicon Focus 4.62.2. Maps were elaborated using QGIS (2019) and Adobe Photoshop.

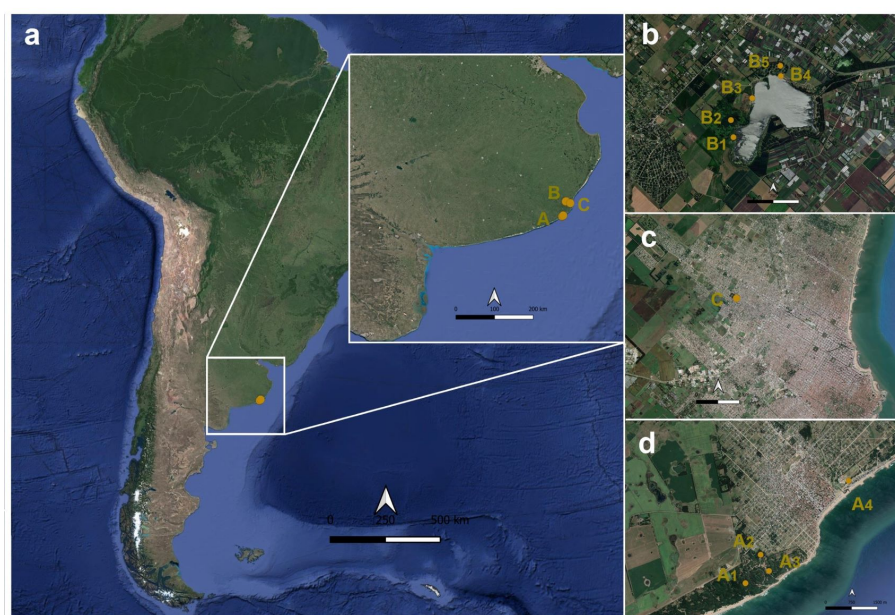


Fig. 1. Collecting sites. a. Geographic localization of the collecting localities, b. collecting stations in Laguna de los Padres (codes as in text), c. collecting station in Monte Varela, Mar del Plata, d. collecting stations in Miramar.

New Records

Ozyptila praticola (Figs. 1, 2)

ARGENTINA: Buenos Aires: Partido de General Alvarado: Miramar: Vivero Florentino Ameghino, *Eucalyptus* forest and shrubs near the coast, station A1, -38.293688° , -57.858801° (± 600 m, GE), alt. 21 m, Berlese of litter, A. Porta leg, 18.VIII.2018, 7 females, 4 subadult males, 63 juveniles (MACN-Ar 40474, voucher CJG-2044); same data, station A3, -38.290523° , -57.850998° (± 200 m, GE), alt. 20 m, Berlese from litter, A. Porta leg, 23.XII.2018, 2 females, 1 subadult male, 15 juveniles (MACN-Ar 40809); same data, station A2, -38.286316° , -57.853781° (± 100 m, GE), alt. 21 m, Berlese from *Eucalyptus* litter, A. Porta leg., 23.XII.2018, 1 female, 2 juveniles (MACN-Ar 40439); near the Northern access to Miramar, on Route 11, shrubs near the coast, disturbed area, station A4, -38.267137° , -57.824666° (± 200 m, GE), alt. 16 m, Berlese of litter, A. Porta leg, 24.XII.2018, 3 juveniles (MACN-Ar 40820); **Partido de General Pueyrredón:** Reserva Integral Laguna de los Padres, in lichens over *Salix humboldtiana*, station B1, -37.945428° , -57.748581° (± 200 m, GE), alt. 55 m, Berlese, L. Peralta leg. IX.2010, 1 female, 2 subadult males, 7 juveniles (MMPE); same data, in litter from nest of ants *Acromyrmex lundii*, station B5, -37.926763° , -57.733031° (± 20 m, GE), alt. 75 m, Berlese, L. Peralta leg. 18.XI.2010, 1 juvenile (MMPE); same data, in *Eucalyptus* sp. bark, station B2, -37.940949° , -57.749401° (± 200 m, GE), alt. 67 m, hand collecting, L. Peralta leg. 15.IX.2017, 1 subadult male, 1 juvenile (MMPE); same data, in

bark, station B4, -37.929445°, -57.732839° (+/- 20 m, GE), alt. 58 m, hand collecting, L. Peralta. leg. 25.VIII.2018, 1 female, 1 subadult male, 1 juvenile (MMPE); same data, in bark, station B3, -37.935221°, -57.742354° (+/- 800 m, GE), alt. 57 m, hand collecting, L. Peralta. leg. 18/20.XI.2018, 1 subadult female, 1 juvenile (MMPE); Mar del Plata: Monte Varela, in bark, station C, -37.977553°, -57.603846° (+/- 10 m, GE), alt. 27 m, Berlese, G. Macchia and L. Peralta. leg. 14.X.2019, 1 juvenile (MMPE).

Microctenonyx subitaneus (Figs. 1, 3)

ARGENTINA: **Buenos Aires: Partido de General Alvarado:** Miramar: Vivero Florentino Ameghino, *Eucalyptus* forest and shrubs near the coast, station A1, -38.293688°, -57.858801° (+/- 600 m, GE), alt. 21 m, Berlese of litter, A. Porta leg. 18.VIII.2018, 27 females (MACN-Ar 40601, voucher CJG-2043); same data, station A2, -38.286316°, -57.853781° (+/- 100 m, GE), alt. 21 m, Berlese from *Eucalyptus* litter, A. Porta leg. 23.XII.2018, 1 female (MACN-Ar 40819); near the Northern access to Miramar, on Route 11, shrubs near the coast, disturbed area, station A4, -38.267137°, -57.824666° (+/- 200 m, GE), alt. 16 m, Berlese of litter, A. Porta. leg. 24.XII.2018, 1 male, 4 females (MACN-Ar 40729).

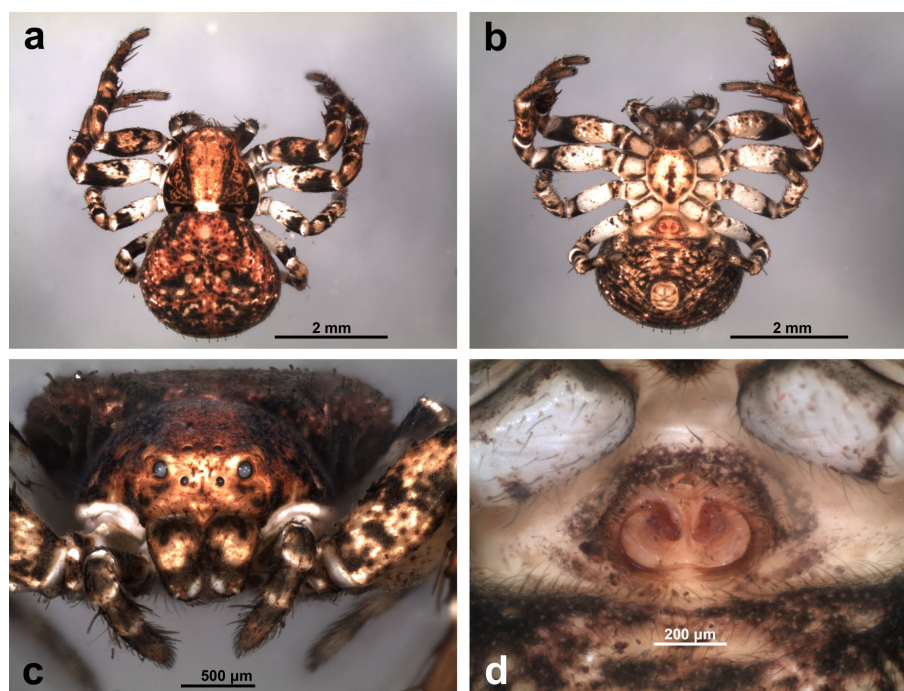


Fig. 2. *Ozyptila praticola* (female MACN-Ar 40474). a. Habitus dorsal view, b. Same, ventral view, c. Carapace, anterior view, d. Epigynum, ventral view.

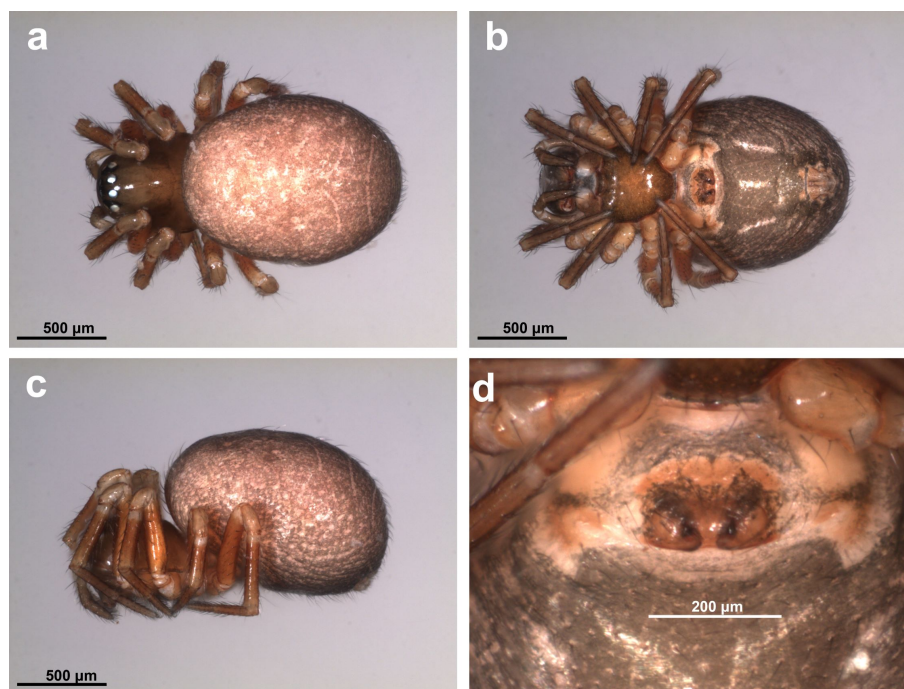


Fig. 3. *Microctenonyx subitaneus* (female MACN-Ar 40601). a. Habitus, dorsal view, b. Same, ventral view, c. Same, lateral view, d. Epigynum, ventral view.

The records of *O. praticola* represent the first reported introduction of a member of the family Thomisidae in Argentina, and is also the first record of this presumably invasive species in the southern hemisphere. We did not find other specimens of *O. praticola* in the large collections as those of Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" (Buenos Aires) and Museo de La Plata. Although this is not conclusive, it could suggest that the introduction of this species is recent and locally restricted. On the other hand, *M. subitaneus* is a well-known invasive spider, with presumably palearctic origin, but introduced and established in USA, South Africa, Australia, New Zealand, and Chile (Millidge, 1991; Miller, 2007; World Spider Catalog, 2019).

Ozyptila praticola is a relatively small crab spider very common in the palearctic region, although it is also present in North America (World Spider Catalog, 2019). The first known records in USA were reported by Gertsch (1953) from the state of Washington, in the Pacific coast; later, Dondale & Redner (1975) reported this species from Massachusetts, and Paquin & Dupérré (2003) listed it from Quebec (Canada). All authors coincide in that *O. praticola* is an exotic element introduced from Europe, probably with at least two independent, unintentional introductions into this continent (Dondale & Redner, 1975), where also inhabit at least other fourteen native species of *Ozyptila* (World Spider Catalog, 2019). The other palearctic species apparently introduced in America is *Ozyptila trux* (Blackwall) but its only mention was made based on a single female

from Montreal, Canada. No subsequent records are known, for what this species may not have become established (Dondale & Redner 1975).

Despite extensive collecting in Buenos Aires, *M. subitaneus* and *O. praticola* have been collected only in localities here presented. The expansion of the distribution of these exotic species to neighboring areas as the Tandilia and Ventania mountain ranges will constitute a potential environment problem due to the high degree of endemism of the spider fauna as well as other epigean arthropods of these regions (Izquierdo et al., 2012; Ferretti et al., 2012, 2014, 2019; Pompozzi, 2015). We propose the monitoring and study of the ecology of these spiders in Buenos Aires in order to elucidate potential risk for the local fauna.

ACKNOWLEDGEMENTS

We are greatly indebted to the editor in chief, Santiago Plischuk and two anonymous referees for comments that helped improving successive versions of the manuscript.

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