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CONTRIBUTIONS TO A HISTORY OF MEXICAN DIPTEROLOGY.-
PART I. ENTOMOLOGISTS AND THEIR WORKS BEFORE THE
BIOLOGIA CENTRALI-AMERICANA.

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RESUMEN

Se presenta la vida y obra de aquellos entomólogos quienes describieron especies de Diptera de México
antes de la publicación de la obra Biologia Centrali-Americana, incluyendo algunos comentarios respecto
da los colectores. Aquí se incluyen las listas de los nombres de especies mexicanas propuestos por Thomas
Say (15 especies), Rudolph Wilhelm Wiedemann (35 especies), Pierre Justin Marie Macquart (71 especies),
John Obadiah Westwood (5 especies), Bracy Clark (1 especie), Francis Walker (91 especies), Luigi Bellardi
(176 especies), Camilo Rondani (5 especies), F. Jaennicke (24 especies) Edward Adolph Gerstaecker (8
especies), Jaques Marie Frangille Bigot (205 especies), Alfred Dugès (1 especie), Friedrich Moritz Brauer
(3 especies), F. M. Brauer & J. F. Bergenstamm (13 especies), Ermanno Giglio-Tos (177 especies), and
Ewald Rübsaamen (2 especies), esto es, un total de 832 nombres específicos de las siguientes 51 familias
actuales (en orden filogenético): Tipulidae, Culicidae, Simuliidae, Anisopodidae, Bibionidae, Ditomyiidae,
Mycetophilidae, Scaridae, Xylophagidae, Stratodemyidae, Tabanidae, Rhagionidae, Pantophtalmidae,
Therevidae, Mydidae, Asilidae, Nematriniidae, Acroceridae, Bombyliidae, Empididae, Dolichopodidae,
Syrphidae, Conopidae, Micropezidae, Neriidae, Psilidae, Tanyzeidae, Richardiidae, Otitidae,
Platystomatidae, Tephritidae, Drosophylidae, Sepsidae, Sciomyzidae, Lauxaniidae, Lonchaeidae, Ephyrididae,
Drosophilidae, Chloropidae, Heleomyzidae, Rhinotoridae, Anthomyiidae, Scatophagidae, Muscidae,
Hippoboscidae, Stryblidae, Nyceribiidae, Calliphoridae, Sarcophagidae, Tachinidae y Cuterebridae. Se
presenta la referencia original, la localidad tipo, el museo o colección depositarios, el estado taxonómico
actual de cada nombre y referencias adicionales.

Palabras Clave: Historia, Diptera, México, taxonomía.

ABSTRACT

The life and works of entomologists who described species of Diptera from Mexico before the publication
of the Biologia Centrali-Americana are presented, including some commentaries about the collectors. Here
are listed all the Mexican Diptera species-names proposed by Thomas Say (15 species), Rudolph Wilhelm
Wiedemann (35 species), Pierre Justin Marie Macquart (71 species), John Obadiah Westwood (5 species),
Bracy Clark (1 species), Francis Walker (91 species), Luigi Bellardi (176 species), Camilo Rondani (5
species), F. Jaennicke (24 species), Edward Adolph Gerstaecker (8 species), Jaques Marie Frangille Bigot
(205 species), Alfred Dugès (1 species), Friedrich Moritz Brauer (3 species), F. M. Brauer & J. F. Bergenstamm (13 species), Ermanno Giglio-Tos (177 species), and Ewald Rübsamen (2 species). Included are a total of 832 specific names of the following 51 current families (in phylogenetic order): Tipulidae, Culicidae, Simulidae, Anisopodidae, Bibionidae, Ditomyiidae, Mycetophilidae, Sciaridae, Xylomyidae, Stratiomyidae, Tabanidae, Rhagionidae, Pantophtalmidae, Therevidae, Mydidae, Asilidae, Nemestrinidae, Acroceridae, Bombyliidae, Empididae, Dolichopodidae, Syrphidae, Conopidae, Micropogonidae, Neridiidae, Psilidae, Tanytarsinidae, Richardiidae, Otitidae, Platystomatidae, Tephritidae, Dryomyzidae, Sciomyzidae, Lauxaniidae, Lonchaeidae, Ephydridae, Drosophilidae, Chloropidae, Heleomyzidae, Rhinotoridae, Anthomyiidae, Scatophasidae, Muscidae, Hippoboscidae, Streblidae, Nycteribiidae, Calliphoridae, Sarcophagidae, Tachinidae, and Cuterebridae. The original reference, type-locality, depository museum or collection, present taxonomic status of each name and additional references are presented.

**Key Words:** History, Diptera, Mexico, taxonomy.

**HISTORY**

1. **The first species, described by Thomas Say and Rudolph Wilhelm Wiedemann**

   Before Mexican independence, in 1821, it was nearly impossible for Europeans to settle in Mexico, being difficult for naturalists to explore a good amount of the territory, principally due to the social and economical situation promoting the scarcity of roads and danger.

   The only exception to that rule, as is well-known, was the trip of Baron Alexander von Humboldt (Fig. 1) and Aimé Bonpland to several Spanish colonies in South, Central, and North America, from 1799 to 1804, thanks to special permission from the King of Spain, Charles IV. After travelling through Venezuela, Cuba, Nueva Granada, Ecuador, and Peru, the two naturalists left the Port of Guayaquil on February 15, 1803, heading for Acapulco, in the Vice-kingdom of New Spain, where they landed on March 23. They began their march to the interior of Mexico almost immediately, through the present State of Guerrero, passing by Chilpancingo, Taxco, and later by Cuernavaca in the present State of Morelos. In Mexico City, they were received by the Viceroy, Count Iturrigaray. After a stay in the Capital, they went, on August 1, 1803, to Guanajuato. On September 9, they arrived in Jorullo, near Uruapan, proceeding thence to Toluca, via Morelia, on the 21st. Returning to Mexico City, they packed their collections and on January 20, 1804, went to Veracruz, passing through Puebla. They arrived at the former city on February 19. On March 7, they sailed once more to Cuba, staying shortly in Havana, where they picked up the collections made in the Orinoco (Venezuela) and left there since 1801. Through the Consul of the United States, Humboldt received a letter from Thomas Jefferson, inviting him to visit the country. Humboldt and Bonpland sailed to the United States and after some weeks returned to Europe, arriving there in
August 1804 (Beck, 1959-1961; Chardón, 1949; Coats, 1970; Hemsley, 1887; Kellner, 1963; Koehler, 1904; Papavero, 1971b; Penell, 1945; Sprague, 1924; Stafleu & Cowan, 1979; Standley, 1920; Stearn, 1968; Stevens, 1956; Terra, 1955). The travels of Humboldt and Bonpland were published in 1814 (see also Humboldt, 1861-1862).

Figure 1
Almost twenty years afterwards, in 1823, William Bullock went to Mexico (Bullock, 1824) with the aim of acquiring abandoned gold and silver mines. Bullock was a former London goldsmith, well-known as the owner of the “London Museum”, which was sold by auction in 1819. When he returned to London at the end of 1823, he brought back with him all sorts of Mexican curiosities which served for public show, called “New Mexico”, in his “Egyptian Hall”. Farber (1982: 49) said:

“Bullock carefully labelled his specimens and displayed them in a scientific manner. William Jordan, in his “Men I have known” (1866: 70-71) recalled the opening of Bullock’s Museum:

‘Up to that date, there was nothing of the sort’ The British Museum was not, in those days, a place of popular resort. The Leverian Museum, in the Blackfriars Bridge Road, was a most heterogeneous medley of stuffed animals, without order or classification, and savage costumes, weapons, and products from the Pacific Ocean, or elsewhere in Asia, Africa, or America, as such curiosities were picked up by adventurous navigators and exploring travellers. In a visit to it a few desultory facts might be gathered; but as a means for solid or lasting instruction, its miscellaneous and aimless character rendered it useless. Mr. Bullock’s collection was quite the reverse of this- admirably preserved and scientifically arranged. After three or four experimental years in its original locality, it was transported to the Egyptian Hall, then finished for its reception, and not fewer than 32,000 subjects of animated nature were skill-fully grouped and conveniently displayed within its walls. The town was absolutely astonished by the individual acquisition of so vast and marvellous a treasure and crowds soon availed themselves of the privilege of reading its lessons. In one department were seen the quadrupeds, as natural as life, and as they would appear in a real Indian forest, with its rocks, caverns, trees, and all other adjuncts congenial to their habits and habitats. In another direction, 3,000 birds were set up with similar accuracy, and attended by well-selected accessories, so as to afford sufficient ideas of their motion, food, and mode of feeding, and peculiarities of every description’.

Bullock’s Museum was also described by Mullens (1917).

In Germany, the news that mysterious Mexico had become accessible to the ordinary traveller excited the curiosity of a wealthy nobleman, Count von Sack, “Zweiter Ober-Jägermeister” and chamberlain to the King of Prussia (Stresemann, 1954; Papavero, 1971b). He had recently returned from a voyage to Cyprus and Egypt, where he had made a small collection of birds, and at once felt inclined to
visit Mexico, provided that there was a collecting naturalist of good reputation to go with him.

A gardener by the name of Ferdinand Deppe (Binford, 1989; Ewan, 1955; Hemsley, 1887; Hitchcock, 1919; Lindemann, 1884-1885; Nelson, 1922; Papavero, 1971b; Penell, 1945; Schiede, 1829-1830; Smith & Smith, 1973), appointed to the Royal Gardens, was recommended for this task by Professor Hinrich Lichtenstein, director of the Zoological Museum of Berlin University. Deppe was an intelligent and energetic young man born in 1794. For a long while his connections with the Zoological Museum had been intimate, the more so as his elderly brother Wilhelm was accountant of the institution.

On Count von Sack's advice, Deppe gave up his job in 1821, and prepared for the voyage to Mexico. He trained himself in skinning birds and mammals, a technique which he soon mastered to great perfection. Besides, he studied books on the zoology, botany and geography of South America, took lessons in drawing and painting, and acquired English and Spanish. However, the wayward Count remained undecided for three more years, and it was only due to the insistence of Deppe that the plan to go Mexico was finally carried out in 1824.

The party, increased by the Count's domestic, arrived in London on August 23, 1824. There Deppe visited, besides the British Museum (the zoological section of which he judged far inferior to that of the Berlin Museum), Mr. Bullock's Show and Mr. Leadbeater's Shop (a dealer in natural history objects).

On October 8, they sailed from Falmouth on board a British ship to Jamaica via Barbados. There they took another vessel bound for Alvarado, Veracruz, arriving in mid-December 1824; shortly after the Count's footman died from a yellow fever attack.

Two years later, in January 1827, Deppe left Mexico, after having travelled via Mexico City to Oaxaca and Tehuantepec and back via Oaxaca to Alvarado. He and William Bullock's son who had joined him on the trip from Mexico City to Tehuantepec, are the first naturalists who ever collected birds for scientific purposes in Mexico.

The following itinerary has been compiled by Stresemann (1954) from Deppe's letters, kept in the archives of the Zoological Museum in Berlin, and from the entries in Lichtenstein's lists of acquisitions in the same museum. From December 25, 1824 to January 1825, an excursion was made from Alvarado to the swamps and lagunas near Tlacotalpan in Veracruz. In January 1825, he went from Alvarado to Jalapa, Veracruz, and in February from Jalapa to Mexico City. In April, an excursion was made from Mexico City to Temascaltepec, State of Mexico, where Deppe made the acquaintance of Mr. Bullock Jr., who, like his father, took the hobby of collecting birds and was an excellent shot. He had come over with his father in 1823 and lived in Temascaltepec as an agent of a British mining company. Deppe went back to
Mexico City on May 10. He stayed in and near Mexico City from May 11 to the end of the month. In June and July a trip was made to Chico and Toluca, in the State of Mexico, including a stay at Tlalpujahua and another at Cimapán (Zimapán). On August 25, Deppe, joined by Bullock Jr., started for a long trip to Tehuantepec. Taking the route via Puebla and Tehuacán, they reached the city of Oaxaca by September 6. Extensive field work was done in the vicinity. On one of these trips they reached Villa Alta, “37 leguas” from Oaxaca, on September 22. On October 22, Deppe and Bullock continued their journeys and six days later they reached Tehuantepec via San Bartolo. Early in November they proceeded to the Pacific shore (San Mateo del Mar, Santa María del Mar) and were back at the city of Oaxaca by the 22nd of that month. On December 5, Bullock left for Mexico City to meet his father. Deppe left Oaxaca the next day and chose a direct route to Alvarado, which proved very difficult. On December 19, he crossed the Cordillera Real at a place called Valle Real (?), Veracruz, clad with luxuriant forest. He was back in Alvarado on December 22.

Early in January 1826, Deppe paid another visit, this time an extensive one, to Valle Real. From there he returned to Alvarado in March and proceeded via Santuario to the city of Veracruz, which was reached by March 23. After a short stay, he left for Mexico City at the end of March. The time from April 13 to July 16 was devoted to excursions to the environs of Mexico City, including a trip to Chico and Ixmiquilpec (?). On July 17, Deppe left the Capital to visit his friend Bullock Jr. at his place in Rincón de Temascaltepec. He crossed the range of Las Cruces and proceeded via Tenancingo and Saculpañ (?), Mexico. His stay in Temascaltepec lasted from July 28 to late September, with excursions to Real (de) Arriba (?), Mexico, and to Jantepeque (?) and Cuernavaca in Morelos. In August, in Temascaltepec, Deppe met William Bullock (senior), who had made a business trip to Mexico in company of his wife and daughter. After his return to London in 1823, the senior Bullock founded a British mining company of which he was the director. At the end of September, Deppe went back to the Capital and prepared for a quick departure. He reached Jalapa by October 26 and embarked at Veracruz at the end of January 1827, for Hamburg, on the German vessel “Anna Maria”.

On April 9, 1827, after almost three years of absence, Deppe was welcomed back in Berlin.

Since the landing at Alvarado in December 1824, there was no mention of Count von Sack in this short review of the itinerary. The Count seems to have been a very queer and whimsical person. No longer disposed to suffer his employer's bad manners, Deppe parted company with him in May 1825 and carried out the rest of the expedition at his own risk. The Count returned to the coast in the autumn of 1825, sailed back to Jamaica, and reappeared in the summer of 1826 in Berlin, where three years later he died.
In the years 1825 and 1826 Deppe had gathered, all by himself, 958 bird skins, a number of mammals, a quantity of reptiles, amphibians, fishes, snails, and thousands of insects (but very few Diptera). Nor had botany been neglected by this indefatigable naturalist. All his zoological material was bought by the Zoological Museum of Berlin. But in vain, he had hoped to be rewarded with a post at one of the scientific institutions of the Prussian capital. This induced him to return to his beloved Mexico once more, this time in the company of a dear friend, the botanist Dr. Christian Julius Wilheim Schiede (1798-1836) (Barnhart, 1965; Hemsley, 1887; Knobloch, 1983; Lindemann, 1884-1885; Papavero, 1971b; Schiede, 1829-1830; Smith & Smith, 1973; Stafleu & Cowan, 1985). They expected to make their living in Mexico by selling zoological and botanical specimens to European museums and dealers.

In July 1828 they settled in Jalapa, whence they made distant excursions to various places, all within or near the boundary of the State of Veracruz; among others were the Pico de Orizaba, which they ascended almost to the summit, Misantla, Papantla, Veracruz, and the Laguna Huetulacán (?), west of the Cofre de Perote. But they were very soon disappointed. Lichtenstein was no longer able to buy quantities of Mexican materials at reasonable prices, and although some of the specimens collected up to May 7, 1829, were acquired by the Museums of Berlin and Vienna, the financial result of their efforts was far below what they had expected. Ferdinand Deppe and Wilhelm Schiede were forced to give up this kind of business in 1830. The latter died very soon afterwards. Deppe became a commission agent to merchants located in Acapulco and Monterey, California. In 1836 he was tricked out of all he had learned and decided to sail home to Germany once more. Back in Berlin in 1838, the unfortunate Deppe was again denied an official appointment. He died in oblivion about 1860 (Stresemann, 1954).

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Another collector in Mexico in those times was the illustrious North American entomologist Thomas Say (Fig. 2) (Stroud, 1992; Weiss & Ziegler, 1931). H. S. Barber (1928) called attention to this very little known trip of Say. Say, in the company of William McLure, travelled and collected along the old road between Veracruz, Jalapa, Mexico City, and Tacuba, beginning in the autumn of 1827; and on the approach of summer (1828) they returned to the United States. Barber reproduced in his paper several extracts from Say's papers and other commentaries by other authors confirming that Say had indeed collected in Mexico.
Say (1829) described the following Mexican species:


Say (1830) also described four new Mexican flies:


The first species of Mexican Diptera, collected by the travellers mentioned above, were described by the German dipterist Christian Rudolph Wilhelm Wiedemann (1770-1840) (*cf.* the excellent biography of Wiedemann published by Pont (1995)). Wiedemann's first paper on flies was published in 1819. In 1820 he published the first part of the first edition of his *Diptera exotica* (1820a) and a paper describing new genera of Diptera (1820b). In 1821 he published the second part of the first edition of the *Diptera exotica* (1821a, 1821b), and a much enlarged second edition of the same work (1821c). In this latter work, Wiedemann described the first Mexican species of flies, namely:

5. *Bombylus mexicanus*, p. 166. Curiously, Painter et al. (1978: 3) mentioned “U.S.A., Georgia” as type locality. This species, and the foregoing, still in *Bombylus*, according to Painter et al., 1978 (Bombyliidae).

6. *Laphria melanogaster*, p. 236. “Mexico and Savannah”. Same combination (Martin & Papavero, 1970: 38) (Asilidae). The specimen serving for the description of this species was also probably collected in Mexico by Humboldt, and in Savannah, Georgia, by Thomas Say.

All these flies were most probably collected in Mexico by Humboldt.

In his *Analecta entomologica* (1824), Wiedemann included only one additional Mexican species:

7. *Bombylus confusus*, p. 60. “Middle America”. Now in *Sparnopolius*, according to Painter et al. (1978: 7) (Bombyliidae).

In the first volume of the *Aussereuropäische zweiflügelige Insekten* (1828) no Mexican species were included. Only when the second volume was published (1830) did Wiedemann include new species collected in Mexico by Deppe. It is interesting to note that only a few species were included in the main body of the text; most of them were only described in the appendix to that work. Why did that happen? Why did it take such a long time for Wiedemann to obtain those specimens collected by Deppe and deposited in the Berlin Zoological Museum? Most of the species were from Oaxaca, where Deppe collected in 1825. It is an unsolved mystery.

The following species were described in volume II of the *Aussereuropäische zweiflügelige Insekten* (1830):


9. *Tabanus circumfusus*, p. 624. “Mexico”? Now in *Catachlorops* (*Catachlorops*). Fairchild (1971: 67) said this species is not Mexican, but from Southern Brazil and Uruguay; the type must have been mislabelled in the Berlin Museum (Tabanidae).


By 1830, Mexico was the least known part of the Americas. Consulting Appendix 1, we see that Wiedemann had included in his *Aussereuropäische zweiflügelige Insekten* (1828, 1830) 2,053 “exotic” (i.e., non-European) species; 688 were reported from South America (mainly Brazil and the Guianas); 319 from the United States (mostly collected by Say); the West Indies had only 48, and Mexico 28 (plus the species described by Wiedemann in 1821 and 1824 and the species described by Say).

2.- THE SPECIES DESCRIBED BY PIERRE JUSTIN MACQUART

Pierre Justin Marie Macquart (Fig. 3) was born in Hazebrouck, 45 km west of Lille, France, in 1776. In his parental home there was a garden where Macquart first became interested in natural sciences. His older brother, a fellow of the “Société des Sciences de Lille”, was an ornithologist, and assembled a sizeable collection which, after his death, served as the starting point for the Lille Museum. A second brother was interested in botany, and built a botanical garden with over 3,000 species. Macquart also became interested in natural history, choosing entomology as his field. His first paper, published by the Lille Scientific Society, dealt with Psyllids.

At the age of 21 he had to leave his native place to join the Army of the Rhine. He went to Mannheim, entering the Corps of Engineers. During his leaves he was able to explore the banks of the Rhine, so rich in natural productions. He served the commander of the Army of Rhine, General Armand Samuel, Marquis of Mariscot, in the quality of secretary and draftsman. With the Army he visited Schwetzingen, Heidelberg and Mainz, passing to Switzerland, to Arau and nearby places. Afterwards the general staff moved on to Zürich, returning to Arau and Basel. While Macquart stayed at Basel he received the sad news of his mother’s death. He return to Lille, after an absence of 18 months (1797-1798).

From the military campaign through Germany and Switzerland he brought home German books, a herbarium, insects and birds.

Once established again in Lille he dedicated himself entirely to natural history, and during the winters studied in the public library of Lille. On 27 nivôse, “An” XI (1802) he was elected fellow of the “Société des Sciences, de l’Agriculture et des Arts de Lille”.

Macquart also travelled frequently to several regions of France, especially to Paris, where he followed the entomological lectures of Latreille. The great entomologist identified the collections gathered by Macquart and encouraged him in his career.

After a trip to Holland, Macquart’s “wandering life settled down by a happy marriage, followed by a happy and numerous paternity” (Macquart, 1850a).
Following his marriage, he moved from Hazebrouck to Lestrem, living in a house made of two towers, remains of a castle from the XIV century, in the middle of a beautiful village near the banks of the Lawe, a tributary of the Lys. Eventually, he became the major Lestrem and a member of the “Conseil Général du Pas de Calais”.

Figure 3
Pierre Justin Marie Macquart. Photograph of his bust taken at the Museum of Natural History of Lille (N. Papavero).
He started then his studies of Diptera, made easier by Meigen's publications. With the help of the works of the great Master he started the study of the French Diptera, which resulted in his "Diptères du Nord de la France" (1828-1833). This work opened to him the important collections and libraries of the time: Blainville, Geoffroy de Saint-Hilaire, Férussac, Lepelletier de Saint-Fargeau, Audinet Serville, Audouin, Carcel, Al. Lefebvre, Brullé, Castelnau, Winthen, etc.

Soon after the publication of this work, Latreille thought of editing a special work on insects, in collaboration with several entomologists, and invited Macquart to take care of the Diptera. This project, whose execution was delayed by the health of the editor, was afterwards started again, under the editorship of N. E. Roret, and the name changed to "Collection des Suites à Buffon, formant avec les oeuvres de cet auteur un cours complet d'histoire naturelle" (82 volumes, 11 atlases). Macquart worked very hard, preparing the "Histoire Naturelle des Insectes Diptères", studying the collections in the Paris Museum and several private collections. Once the two volumes were published (1834-1835), he received a number of collections of exotic flies and established relations with all the leading entomologists of his time.

In the meantime, he travelled throughout France and Belgium. In 1839 he visited Meigen in Stolberg, where he saw the collections, 3,000 drawings of flies done by the great dipterist and Meigen's library, which contained exclusively his own writings. As Meigen was in straitened circumstances, Macquart offered to buy all those collections. After obtaining permission from the authorities of the Paris Museum, Macquart acquired all that material. The drawings made by Meigen remained unpublished in the Paris Museum, being rediscovered by Matile (1974) and finally published (Morge, 1975).

Returning to the Museum of Paris, and having at his disposition the great collections brought home by the French expeditions and collecting naturalists in almost every corner of the globe, Macquart undertook the description of the new species in the Museum, since these had not been examined by Wiedemann while working on exotic flies, and only a few had been dealt with before in the works of Guerin-Méneville, Olivier, Robineau-Desvoidy and Macquart's own "Histoire Naturelle des Insectes Diptères". In this great series, published from 1838 to 1855, in two tomes and five supplements, he described some 1,800 species. In the first volume of his "Diptères exotiques nouveaux ou peu connus" (1838a: 15) he gave a list of the collections studied. As new collections arrived from the explorations of several travelling naturalists, such as Durville, Goudot, Pilate, Sallé, d'Orbigny, Claussen, Ghiesbreght, Saint-Hilaire, and others, Macquart published new supplements to this work.
In 1845, he visited Switzerland again, calling on Perty in Berne, and thence passed to Germany. Returning to France, he put his newly acquired entomological collections in order and returned to his work of classifying the exotic flies.

In 1850, he wrote a book on the “Facultés intérieures des Animaux Invertébrés” (Macquart, 1850a), in whose introduction he published an autobiography of 82 pages.

Macquart was elected fellow of the entomological and scientific societies of France, Normandy, Bordeaux, Turin, Lyon, Zürich, Malta, Stettin, and others, such as the Linnaean Society.

He died in 1855, the year of publication of the 5th Supplement of his “Diptères exotiques nouveaux ou peu connus”. His bust was placed in the Museum of Natural History of Lille (Fig. 3).

Macquart's types of Diptera are partly in the “Muséum National d'Histoire Naturelle de Paris”, partly (those belonging to the Bigot collection) in Oxford University (OXF) and the British Museum (Natural History); a few remained in the Museum of Natural History of Lille. In the Diptera section of the “Muséum National d'Histoire Naturelle de Paris” (MNHNP) there exists a manuscript catalogue of the Diptera collection of Macquart still existing in Lille, organized by Julien Salmon, who saved what was left of the collection in 1899. The introduction to that catalogue says:


Notice: Le 15 décembre 1854, Macquart fit don de sa bibliothèque et de ses collections entomologiques à la Société des Sciences et Arts de Lille.

Ces précieuses richesses en reçurent malheureusement pas les soins qu’elles méritaient: lorsque je retrouvai la collection Macquart en 1897, au Musée d'Histoire Naturelle de Lille, les anthrènes avaient élu domicile dans tous les cartons et continuaient leurs ravages sans être inquiétés. J'entrepris de sauver tout d'abord les débris de la collection des Diptères. Ceux-ci étaient répartis en trois groupes: 1º une collection renfermant un grand nombre d'espèces-types (Indiquée T dans ce catalogue); 2º une collection composée en grande partie d'espèces exotiques (Marquée G dans ce catalogue); 3º une collection paraissant avoir été composée par Macquart pour le Musée; car le catalogue imprimé de 1850 lui correspond exactement (Indiquée par M dans ce catalogue). Après avoir donné à ces Diptères les soins de préservation que réclamait leur état, j'en ai opéré le transfert dans des cadres neufs, en respectant rigoureusement l'ordre dans lequel je les ai trouvés dans les vieux cartons, et sans essayer aucune intercalation. Puis, à l'aide des ouvrages de Macquart (Mémoires de la Société des Science de Lille) et du Catalogue du
Musée, j’ai établi l’numération des espèces qui avaient échappé à la destruction et de celles dont il subisstait des débris observables.

On remarquera que certaines espèces d’un même genre se trouvent répétées plusieurs fois avec des annotations différentes; cela tient à ce que je me suis borné, faute de connaissances spéciales, à retranscrire avec la plus grande exactitude, le libellé de chaque étiquette, laissant aux spécialistes le soin d’en tirer les conclusions qu’il leur plaira.

Il semble aussi, au premier abord, que ce catalogue soit bien restreint, en comparaison du nombre considérable de Diptères décrits par Macquart. Mais, après avoir fait la part des ravages causées par Antrênes et par l'humidité, il faut tenir compte de l'observation suivante, présentée par le savant entomologista lorsqu’il légua ses collections à la Société des Sciences: . . . les espèces qui me furent communiquées pour la détermination et particulièrement la collection du Jardin des Plantes, celles recueillies par les Commissions scientifiques de Morée et d’Algérie, celles rapportées des les Canaries par MM. Webb et Berthelot, etc., me furent simplement confiées, et je me réservau seulement par convention avec les possesseurs, un individu sur quatre de la même espèce, ce qui m'enrichit que très médiocrement ma collection. On y chercherait donc vainement les types d’un grand nombre de genres nouveaux que j’ai publiés, surtout dans l’ouvrage sur les Diptères exotiques, que la Société a bien voulu comprendre dans ses mémoires et qui, accompagné de 186 planches, en contient pas moins de 2300 descriptions d’espèces nouvelles.

J’espère cependant que l’énumération des débris de cette collection célèbre, sera de quelque utilité aux Diptèristes qui l’avaient considérée jusqu’à présent comme entièrement détruite.

Lille, le 20 janvier 1899
Signé: Julien Salmon*

Macquart studied the collections brought from Mexico by Fontaine, Pilate, Ghiesbrecht, Linden, and Funk. Let’s examine what is known about the lives and itineraries of those naturalists.

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A “Fontaine” (or “Fontaines”) was cited by du Petit-Thouars, in his telling of the voyage of the frigate “La Vénus” (1840-1843). Pierre-Antoine Fontana, “dit Fontaine”, was “capitaine d’armes de première classe” aboard the frigate “La Vénus”, commanded by du Petit-Thouars. The frigate left Brest on December 29, 1836, for Teneriffe (January 1837) and then for Fernando de Noronha and Cabo Frio
(February 3) in Brazil. The frigate landed in Rio de Janeiro, staying there from
February 4 to 16, going afterwards to Florianópolis, Montevideo (February 24),
Buenos Aires, Cape Horn, and Valparaíso (March 27), whence some members of
the expedition followed to Santiago overland. Leaving Valparaíso on May 13, they
visited several localities on the Peruvian coast, and from Callao (June 14) departed
for the Sandwich Islands and other places, returning afterwards to Monterey,
California. They then explored the localities of Guadalupe (November 19, 1837),
bahía de Magdalena, San Lucas, San Pedro del Cabo, Isla Venado, Mazatlán,
Golfo de Cortés, Isla Isabel, San Blas, Tepic, and Acapulco in Mexico. Proceeding
then to the Easter Island, they returned again to the South American Pacific coast,
touching the Juan Fernández Islands, landing in Valparaíso. After visiting some
islands, they headed for the Marquesas (du Petit-Thouars, 1840-1843). However,
no reference is made by Petit-Thouars to “Fontaine” as zoological collector, credit
being given to the ship surgeon, Adolphe Simon Néboux, “chirurgien de première
classe”, who sent collections of animals, especially birds and insects, to the Paris
Museum. Thus, we cannot be sure whether the “Fontaine” cited by Macquart is the
same as the one who participated in the “La Vénus” expedition.

Louis Pilate, according to Sallé (1852), travelled through the United States
(Alabama, Louisiana, and Texas) and explored the State of Yucatan in Mexico.
Returning to France, Pilate decided to visit Mexico again, and came to Yucatan for
a second time in 1849. After a prolonged stay in that part of the country, Pilate
moved to Mexico City, where he died on March 17, 1852, at the age of 36 years, of
“a hypertrophy of the heart”. The relation of Pilate’s activities and descriptions of the
regions he visited were published by himself in 1846, as follows (translation):

“The province of Yucatan, situated in the southeast of the Golf of Mexico,
extends nearly from 17-29º of latitude. Even in the north, the thermometer does not
go below 11º Réamur (=13.75ºC, 56.75ºF) during the coldest part of the winter; the
heat there is considerable in the summer. The northern part down to Campeche is
general arid; it is, so to say, only a vast rock, nearly level and with a wrinkled
surface. A single chain of hills about a hundred meters or more in elevation,
originates a little south of Campeche, follows the coast northward a few kilometres
inland for about 20 leagues, and then turns south-eastward to the rocky part of the
peninsula. One finds there, at various places, especially in the Northeast, a kind of
subterranean ponds called locally senotes (sic!); otherwise there is no water during
the dry season except in wells, that is, from November to the end of May. The
vegetation is poor, the thinness of the soil permits nothing to live but shrubs, mostly
of the Mimosa family, and rarely are there trees whose highest branches attain more
than 10 meters of height. I am not speaking of the cultivated places that are
continually irrigated. About a dozen leagues south of Campeche, a terrain of another nature starts -from the little river of Champoton, the land is low, flat, humid, and inundated for several months of the year. Finally, in the southern part, rivers abound and the vegetation is magnificent. There is never any dryness there and the country is very unhealthy. I lived in the capital (Merida, in the Northeast) for 5 years and made only short trips to other localities; there was hardly anything in the north that I could secure besides insects. It is easy to imagine that I would find little, and generally only small insects, in a dry and sterile land. I might add that except for a dozen Coleoptera, everything is rare; in 4 or 5 hours of searching I often found only a few specimens. However, in May and June there are more. In the rainy season diurnal Lepidoptera are abundant, but not of many kinds. Except for mosquitoes and the housefly, Diptera are very rare, and I would say the same about all other insects.

I needed plenty of perseverance, a very determined attitude, and the aid of a domestic for 10 years, with nothing else to do but collect, to gather here 8,000 Coleoptera comprising almost 720 species, of which 500 are new.

August B. Ghiesbreght (the Ghisbrecht or Ghiesbrecht of Macquart) (1810-1893; cf. Barnhart, 1927, 1965; Breedlove, 1981; Hemsley, 1887; Knobloch, 1983; Linden, 1867; Lorence & García, 1989; McVaugh, 1972; Papavero, 1971b; Pennell, 1945; Rovirosa, 1889; Rzedowski & Rzedowski, 1989) was the zoologist of a Belgian commission charged by the government to undertake a scientific exploration of Mexico and other tropical countries. The other two members were Jean Jules Linden (1817-1898) (Barnhart, 1927, 1965; Breedlove, 1981; Hemsley, 1887; Linden, 1867; Papavero, 1971b; Pennell, 1945; Röhl, 1936a, b; Stafleu & Cowan, 1981 (3:42); Standley, 1930), a botanist, and Nicholas Funck (1817-1896) (Barnhart, 1927, 1965; Hemsley, 1887; Linden, 1867; Papavero, 1971b), the artist of the expedition. Their first travel was to Brazil, where they arrived in December 1835, visiting the provinces of Rio de Janeiro, Espírito Santo, Minas Gerais, and São Paulo. In March 1837, they returned to Belgium with the zoological and botanical collections obtained. Their second travel was made to Cuba, where they arrived in December 1837. The Belgians spent 3 months on the island, exploring its northern and western districts, and left in March 1838 for Mexico. There they visited the plateau of Anáhuac, the volcanoes Popocatépetl and Iztaccihuatl, the peak of Orizaba, the Cofre de Perote, and all the eastern slope of the Cordillera. From Veracruz they sailed to Campeche, crossed Yucatan and then went by sea to visit the state of Tabasco and later Chiapas, entering also northern Guatemala. Linden then went to Havana and the United States and the commission returned in February 1841 to Belgium. It seems that, from 1840 on, Ghiesbreght travelled alone, living in Tabasco, and then in Chiapas; although repeatedly visiting Europe,
Ghiesbreght spent many years in Mexico. Although only the name Ghiesbreght is cited by Macquart, it is possible that in the same collections, insects collected by Linden and Funck were also included. According to the Paris Museum manuscript book of accessions (*catalogue des animaux sans vertèbres*, vol. 3, p. 83), Ghiesbreght sold insects to the Museum in 1842, for 30 francs per hundred specimens.

No Mexican species was described by Macquart in his “*Histoire naturelle des insectes diptères*” (1834-1835).

In his “*Diptères exotiques nouveaux ou peu connus*” (1838-1850), Macquart described 794 Neotropical species, only 71 being Mexican, as follows:

1838a:

1842:
4. *Volucella mexicana*, p. 25 (♀♂), “Mexique”- Type Nº 1645 (Box 53), in MNHN; also a specimen in Lille (M13). Now *Copestylum mexicanum* (Macquart) (Thompson et al., 1976: 79) (Syrphidae).

1843a:
14. Lucilia mexicana, p. 143 (%), "Mexique"- Types Nº 1850 (4 specimens) (Box 60) in MNHN. Now Phaenicia (Phaenicia) mexicana (Macquart) (James, 1970: 11) (Calliphoridae).
18. Olfersia mexicana, p. 297 (sex?), "Mexique"- Types Nº 2015 (2 specimens) (Box 66) in MNHN. Now Lynchia nigra (Perty, 1833) (Guimarães, 1968a:6) (Hippoboscidae).
21. Cyphomyia fenestrata, p. 48 (%&), "Mérida, Yucatán (Pilate)"- Specimen in Lille (M6). Now Cyphomyia albitarsis (Fabricius, 1805) (James, 1973: 26) (Stratiomyidae).
22. Hermetia coarctata, p. 50 (%), "Mexique (Coll. Fairmaire)". Same generic combination (James, 1973: 37) (Stratiomyidae).
23. Hermetia planifrons, p. 50 (%), "Mérida, Yucatán (Pilate)". Now Hermetia albitarsis Fabricius, 1805 (James, 1973:36) (Stratiomyidae).
25. Ephippium fenestrata, p. 54 (%&), "Mérida, Yucatán (Pilate)". Type Nº 1445 in MNHN, lost; specimen in Lille (G5). Now Adoxomyia fenestrata (Macquart) (James, 1973: 30) (Stratiomyidae).
26. Sargus speciosus, p. 56 (%), "Mérida, Yucatán (Pilate)". Same generic combination (James, 1973: 20) (Stratiomyidae).


35. Exoprosopa pilatei, p. 110, "Mérida, Yucatán (Pilate)". Now Ligyra pilatei (Macquart) (Painter et al., 1978: 44) (Bombyliidae).

36. Exoprosopa limbipennis, p. 110, "Mérida, Yucatán (Pilate)". Type Nº 1595 in MNHNP. Now Exoprosopa argentifasciata (Macquart, 1846) (Painter et al., 1978: 39) (Bombyliidae).

37. Geron rufipes, p. 119, "Mérida, Yucatán (Pilate)". Same generic combination (Painter et al., 1978: 17) (Bombyliidae).

38. Psilopus incisuralis, p. 120, "Mérida, Yucatán (Pilate)". Now Condylostylus incisuralis (Macquart) (Robinson, 1970: 8) (Dolichopodidae).


41. Syrphus delineatus, p. 139, "Mexique (Coll. Robyns)". Type in MRHNB. An unplaced species (Thompson et al., 1976: 39) (Syrphidae).

42. Baccha lineata, p. 139, "Texas ou Yucatán (Pilate)". Now Ocypogaster lineatus (Macquart) (Thompson et al., 1976: 21) (Syrphidae).

43. Trichopoda mexicana, p. 172, "Mexique (Coll. Robyns)". Same generic combination (Guimarães, 1971: 9) (Tachinidae).

44. Dexia rubriventris, p. 189, "Mérida, Yucatán (Pilate)". Now Ptildexia rubriventris (Macquart) (Guimarães, 1971: 33) (Tachinidae).

45. Dexia fuscanipennis, p. 188, "Mérida, Yucatán (Pilate)". An unrecognized Dexiinae (Guimarães, 1971: 122) (Tachinidae).


1847:


1850:
60. *Tabanus albiscutellatus*, p. 34 (♀), "Mexique (Ghiesbreght)". Type Nº 1365 in MNHNP. Now *Leucotabanus exaestuans* (Linnaeus, 1758) (Calliphoridae).
61. *Odontomyia flavifasciata*, p. 53 (♀), "Mexique (Ghiesbreght)". Type Nº 1442 in MNHNP. Now *R. lefebvrei* (Macquart, 1838) (Stratiomyidae).
63. *Dasypogon fasciventris*, p. 69 (♀), "Mexique (Coll. Bigot)". Type OXF. Now *Stichopogon trifasciatus* (Say, 1823) (Asilidae).
64. *Mallophora fulviventris*, p. 77 (♂), "Mexique (Ghiesbreght)". Type Nº 1101 in MNHNP. Same generic combination (Martin & Papavero, 1970: 74) (Asilidae).
66. *Mallophora pica*, p. 78 (♀), "Mexique ou Bolivie (M. d’Orbigny)". As d’Orbigny never collected in Mexico, this species is probably from Bolivia. Type Nº 1103 in MNHNP. Same generic combination (Martin & Papavero, 1970: 75) (Asilidae).
67. *Anisotamia eximia*, p. 115 (♀), "Mexique (Ghiesbreght)". Type Nº 1615 in MNHNP. Now *Bryodemina valida* (Wiedemann, 1830) (Bombyliidae).
70. *Prosena mexicana*, p. 231 (♀), "Mexique (Ghiesbreght)". Type Nº 1798 in MNHNP. Now *Mochlosoma mexicanum* (Macquart) (Tachinidae).
Finally, in an article from 1852, Macquart described from Mexico his last species:

71. *Megistopoda pilatei*, p. 332, pl. 4, fig. 4. (sex?), Mexico, Tabasco, Teapa (Pilate) (Wenzel, 1970: 9) (Streblidae).

3. THE SPECIES DESCRIBED BY JOHN OBADIAH WESTWOOD

John Obadiah Westwood (Fig. 4) was born at Sheffield, England, on December 22, 1805, and died shortly after completing his 87th year, on January 2, 1892, at Oxford. His father was a die sinker at Sheffield, but afterwards removed to Lichfield. When nearly 16 years of age, Westwood went to London to be articled to a solicitor, and though he devoted his attention more to the study of natural history than of law, he was admitted to the bar as a solicitor and became partner in a firm. Having some private means, which he augmented by writing and drawing, he was able to neglect his profession and devote himself entirely to entomology and archaeology. Westwood was actively associated with the Entomological Society of London, from its foundation in 1831, and was for many years its secretary. Subsequently, he was elected president when the Society celebrated its jubilee in 1833. He was also a fellow of the Linnaean Society from 1827.

Westwood's dipterological publications include short papers describing miscellaneous new species (1835a, 1835b), a revision of the Mydidae (1841), descriptions of a new species of *Systropus* (Bombyliidae) (1842), and two papers on Acroceridae (1848, 1876). Among his other publications, special mention must be made to his “Introduction to the modern Classification of Insects”, a systematic arrangement of the genera of British Insects (1840).

In 1858, the Reverend F. W. Hope, a wealthy amateur, who had been for years a warm friend and patron of Westwood, and had purchased his collection, gave the specimens to the University of Oxford, and founded a Professorship of Invertebrate Zoology, which bears his name. Westwood was appointed the first Hope Professor and in consequence removed to Oxford, where he was a conspicuous figure in the University for 35 years (Anon, 1893; Wandolleck, 1893).

Westwood described only a few species of Mexican Diptera:


Nothing is known about the collector “Coffin”.

**Figure 4**

John Obadiah Westwood. Photograph property of N. Papavero.
4. The first Cuterebridae, described by Bracy Clark

The oldest known reference to a Mexican Cuterebridae (now subfamily Cuterebrinae of Oestridae, according to Wood, 1987) is found in Fray Bernardino de Sahagun’s “Historia General de las cosas de la Nueva España”. Sahagun, who lived in New Spain from 1529 to 1590, said in that book that there existed “gusanos que crean en los brazos o miembros de los conejos y ratones” (worms that live in the marms or members of rabbits and rats); those worms could be seen “metidos dentro de la carne y miran hacia fuera” (placed within the flesh, looking to the outside). Those larvae, certainly of Cuterebra, were called “nacaocuilin” (from nahuatl “nacatl”= flesh, and “ocuilin”= worm) (Vogelsang & Martín del Campo, 1947: 50). Sahagun described the opening of the wound where the larva lives and its posterior spiracles, taken by him as “eyes”, “looking to the outside” (Guimarães et al., 1983: 241).

But the first scientific description of a Mexican Cuterebridae would be made only in 1848, by Bracy Clark, a veterinary surgeon and Fellow of the Linnaean Society of London. In that paper he described Cuterebra atrox from Mexico. Sabrosky (1986: 149) said:

“Holotype of atrox, female, Mexico (Oxford). Clark (1848) stated that the species, from a specimen in the Westwood collection, was “believed to inhabit Africa” (“Habitasse creditur in Africa”), but Westwood himself crossed out those words in the Oxford University copy of Clark’s paper and wrote in the margin “Habitat certe in Mexico, J. O. W.”, as already noted by Austen (1895). Austen also stated that the type is “apparently a male”, but he corrected this in 1933 to female”.

As also commented by Sabrosky (1972: 89), on November 1st, 1796, Bracy Clark (for a biography see Proc. Linn. Soc. London, 1861: xxi-xxiv) read to the Linnaean Society an important paper on “Observations on the genus Oestrus”, and the following year published it in the third volume of the Society’s Transactions. This was expanded and published in 1815 as his famous “An essay on the bots of horses and other animals”. Clark’s works are particularly significant contributions to the knowledge of oestroid flies, with their keen and direct observations on then little known, confused and misunderstood life histories and immature stages of the bot and warble flies. Over the next decades he published a few other papers, ending with three short comments in 1857, in his 87th year. He died in 1860.

Sabrosky (1972) published a very interesting paper on the “rediscovery” of the bot fly collection of Clark.
5. THE SPECIES DESCRIBED BY FRANCIS WALKER

Francis Walker (Fig. 5) was the seventh son, and the tenth and youngest child of Mr. John Walker, a gentleman of independent fortune, residing at Arno’s Grove, Southgate, where Francis was born on July 31, 1809. His father had a decided taste for scientific activities, especially natural history; he was a fellow of the Royal and Horticultural Societies and vice-president of the Linnaean, so that his son’s almost boyish propensity for those studies could be explained by those influences.

Figure 5
Francis Walker. Photograph.
In 1816 Walker’s parents were staying with their family in Geneva, then the center of a literary coterie in which they met, among other celebrities, Lord Byron, Madame de Staël, and the naturalists Saussure and Vernet. They spent more than a year in Geneva and Vevey, and in 1818 proceeded to Lucerne, from which place Francis, then a boy nine years of age, made the ascent of Mount Pilatus, in company with his elder brother Henry; their object, in addition to mountain climbing, being the collecting of butterflies. The family afterwards visited Neuwied and returned to Arno’s Grove in 1820.

In 1830 the two brothers, Henry and Francis, again visited the continent, and now it was purely an entomological tour; Mr. Curtis, the well-known author of “British Entomology”, being their companion. This party collected the French Satyridae most assiduously on the Island of Jersey and afterwards at Fontainebleau, Montpellier, Nantes, Vaucluse, etc.

Walker’s career as an author commenced in 1832. He contributed to the first number of the “Entomological Magazine”, the introductory chapter of his “Monographia Chalciditum”.

In 1834, somewhat reluctantly, he consented to undertake the editorial management of the Entomological Magazine, but resigned this office the following year, yet continued to be a constant contributor to its pages. The same year he visited Lapland.

From 1837 to 1863 he was hired by the British Museum to describe the insect collections, receiving £1 per genus and 1 shilling per species. During his lifetime, as calculated by Horn (1937: 432), Walker prepared some 20,000 (“zahllosen und trostlosen”= innumerable and untrustworthy) descriptions of insects in several orders.

Walker’s first paper on neotropical flies was published in 1837, containing the descriptions of the Diptera collected during Captain P. P. King’s survey of the Straits of Magellan.

In 1849 (May) Walker married May Elizabeth, the oldest daughter of Mr. Ford, of Ellel Hall, near Lancaster, and spent the summer on the Continent, again collecting in Switzerland.

In 1848 he had explored the Isle of Thanet, and in 1849 he went to the Island of Wright. During those two years the first four volumes of the “List of the specimens of Dipterous Insects in the collection of the British Museum” were published. In the succeeding years, 1850 and 1851, he visited Geneva and Interlaken. During 1850, he published the first part of a work on the Diptera in the collections of W. W. Saunders (1850a), and a smaller number of new species in the “Zoologist” (1850b). He also commenced work on Diptera for a projected series of works on British insects, to be called “Insecta Britannica”.


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In 1851 and 1852, the second and the third parts of his “Insecta Saundersiana” were published (1851, 1852a, b), and from 1854 to 1856 the three supplements (=vols. 5-7) of the “List”.

In 1856 appeared the last (fourth) part of the “Insecta Saundersiana”, and in 1857 Walker published the first part of the “Characters of undescribed Diptera in the collection of W. W. Saunders”, in the “Transactions of the Royal Entomological Society”.


In 1860, the second part of the “Characters” was published (and here he described the great majority of his new species of Mexican flies) and the summer of this same year was devoted to a thorough exploration of the Channel Islands. In 1861 Walker’s excursions were confined to North Devon, and the third part of the “Characters” was published. In 1863 he toured the English lakes.

In the spring of 1865 he visited North Wales and Ireland. In the autumn he again visited Paris, Geneva, Lucerne, Interlaken, and Altdorf, ascending the Righi, Mount Pilatus and the Mürren, proceeding to Kanderstag, the Oeschinen See and the Gemmi Pass.

In 1867, we find him again in France and Switzerland, ascending the Col de Voza and examining the Jardin of the Mer de Glace; thence over the Tête Noire to Martigny, Sion, and the Great St. Bernard, returning through St. Maurice and Villeneuve to Geneva.

In 1868 he made the tour of the Isle of Mann and returned to Holyhead; in 1870 he paid another visit to Llanberis, as well as to all the more beautiful scenery in North Wales, crossing over to Ireland and touring that island from south to north; and in 1874 he examined entomologically the Scilly Islands and the districts of the Lizard and the Land’s End.

In 1872 he turned his attention to Italy, visiting Rome, Piza, Lucca, Florence, Naples, Sorrento, Capri, Milan and Venice, as well as the lakes Como and Maggiore.

Finally, in 1874, he had again proceeded as far as Aberystwith, on his way to Ireland, when his intention was frustrated by illness, which terminated fatally on the 5th of October, 1874 (Newman, 1874).
Walker used to take the insects of the British Museum home to describe them. It is said by Horn (1937: 432) that “dem brave Fr. Walker passierte dabei nicht selten, dass ihm “die ganze Geschichte” auf die Strasse fiel” (Not seldom it happened to the brave Fr. Walker that whole “kit and kaboodle” fell into the street!). His careless descriptions aroused much argument, and it is stated by an anonymous writer at the “Entomological Monthly Magazine” for 1874 (p. 141):

“...The authorities of the British Museum who permitted the scandal came under the lash of such criticism as has happily seldom been directed against scientific men. This criticism had no other effect than (apparently) to increase the evil. Walker, by nature, appeared to be utterly indifferent to anything that could be hurled at him, and the only apparent answer on the part of the ruling power at the Museum was the commencement of catalogues of hitherto unassailed groups or orders”.

Baron Osten Sacken was especially acid when he wrote about Walker (1878: xvi-xix):

“Mr. Walker’s writings on the order of Diptera are no better than his publications on Lepidoptera, Hemiptera and Orthoptera, as characterized by other authors. The same species are often found described under several different specific names and placed in different genera; well characterized species of a certain genus are placed in the wrong, sometimes in very distant genera, or even in the wrong family. In the great majority of cases, the descriptions of a new species were drawn from a single, often hardly recognizable specimen; and when new species happen to be represented by more than one type-specimen, these are almost sure to belong to different species. (Here Osten Sacken cites several instances of Walker’s misidentifications and proceeds:) Mr. Walker’s identifications of the species of former authors are often, I may say in most cases, incorrect. These facts are given as a warning for entomologists not to trouble themselves too much about the interpretation of Mr. Walker’s descriptions, because in most cases they will find themselves mislead by the very data furnished by him... The authorities of the British Museum, in a most praiseworthy, and truly scientific spirit, have bestowed a great deal of labour upon preserving and labelling Mr. Walker’s types. But the task of singling out the original type of the description from among the specimens added afterwards is by no means an easy one, often hardly possible. Furthermore, it is a well-known fact that authors are apt not to be very careful with their own types; to remove and displace them, when made aware of an error; and Mr. Walker, in this respect, was not an exception. Neither this, nor any other types can, therefore, be
implicity relied upon, and we have, ultimately, to fall back on the descriptions. In rescuing those of Mr. Walker’s descriptions, which are available and in rejecting the remainder, as useless, we pursue, I think, a course consistent both with justice and scientific expediency”.

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Walker described over 750 species of Neotropical Diptera, 91 from Mexico (listed below). It is very difficult, if not impossible, to say in which part of Mexico they were collected, as Walker, with most other authors from the XIX century, was extremely careless in citing the type-locality. We also know practically nothing about the collectors who brought the specimens to the British Museum of Natural History. Walker cites only the names of Coffin and Glennie, about whom nothing is known.

The species of Mexican flies described by Walker are the following:

1849a:

1849b:
4. *Volucella metalifer*, p. 636 (&). “Venezuela (Mr. Dyson’s collection), Mexico (Coffin)”. Now *Copestylum mettalliferum* (Walker). The specimen from Venezuela is a junior synonym of *Copestylum dispar* Macquart (Thompson et al., 1976: 79) (Syrphidae).

1852:

1854a:
1854b:

1855:

1857:

1860:

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1861:
74. Pyrellia suspicax, p. 312 (%). Now Morellia bipuncta (Wiedemann, 1830) (Pont, 1972: 8) (Muscidae).
86. Lonchaea discrepans, p. 322 (no sex declared). “Mexico”. Without additional references (Lonchaeidae).
6. THE “SAGGIO DI DITTEROLOGIA MESSICANA” OF LUIGI BELLARDI

Luigi Bellardi was born in Genova, Italy, on May 18, 1818. To please his family he studied law, but as he always had been attracted to the study of natural sciences, he soon began studies on fossil molluscs. With his friend Michelotti he collected fossil shells in the hills of Turin. At only 20 years of age he published his first paper on fossil molluscs. In order to increase his field action, he traveled to Egypt, where he made a large collection of nummulitic fossils.

Between 1854 and 1874, however, he became interested in Diptera, publishing several papers on the fauna of the Piemonte, as well as a monograph on Mexican Diptera, the first in the history of Dipterology, the famous “Saggio di Ditterologia Messicana” (Essay on Mexican Dipterology) (1859-1862).

For the publication of the “Saggio”, Bellardi had access to several collections:

- Those collected by Eugenio Truqui (or Truqui) (sardinian consul in Cyprus; died in Rio de Janeiro in April, 1860), about whose life and travels we could find nothing else). Approximately 50 species, collected in the neighbourhood of Mexico City, by a certain Ettore Craveri (1815-1890), about whom nothing is known (Papavero, 1973; Morisi, 1980; Passerin d’Entrèves, 1983).
- The duplicates of Mexican species in the Paris Museum, sent to Bellardi by the director of the Museum, Milne-Edwards; some of these specimens had been studied by Macquart (cf. part II of this work).
- The collection of the Reale Museo di Zoologia di Torino, loaned by the Director, Filippo di Filippi.
- Specimens collected by Sallé in several parts of Mexico.
- Mexican material in the Bigot collection, which had been identified by Macquart.
- Approximately 100 specimens collected by Sumichrast and Saussure.

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Auguste Sallé died in Paris on May 5, 1896, in his 70th year. He travelled extensively in the United States, Mexico, the West Indies, Central America, and Venezuela, making collections in all branches of entomology. On his return to Europe he established himself as a natural history agent in Paris. His Central American collections were afterwards purchased by Godman and Salvin for the “Biologia Centrals-Americana”. Sallé was elected fellow of the French Entomological Society in 1875 and of the Entomological Society of London in 1875 (Anon., 1896; Barnhart, 1965; Binford, 1989; Sclater, 1858; Smith & Smith, 1973).
Adrien Louis Jean de Sumichrast was born in Yvonne, Canton de Vaud, Switzerland, on October 15, 1828. His studies were made in Lausanne, Geneva and Berne. He soon became interested in the study of natural history and, as the European fauna was not enough for him, he decided to accompany De Saussure on his trip to Mexico.

Henri Louis Frederic De Saussure was born at Geneva, Switzerland, on November 27, 1829, and died there on February 20, 1905. He received his elementary education at Briquet, and his advanced training at the Institute of Fellenberg. He studied under the entomologist François Jules Pictet de la Rive, who directed his attention to insects. The early part of his entomological career was spent in the study of the Hymenoptera and latter part in Orthoptera, his greatest reputation being made with the last named order. After several years of study in Paris, where he received the degree of licentiate of the Faculty of Paris, he began his travels in 1854, going first to the West Indies, then to Mexico, and finally to the United States, where he met Louis Agassiz and other scientists. He returned to Europe in 1856 with valuable collections of insects, myriapods, crustaceans, birds and other groups. Aside from his interest in entomology, he also studied geography and ethnology. In 1858, he founded the Geographical Society of Geneva and was its president from 1888 to 1889. For many years he was a member of the committee which managed the Natural History Museum of Geneva. There he amassed the finest collection of Hymenoptera and Orthoptera in the world. In 1892 he was elected an Honorary Fellow of the Entomological Society of London (Essig, 1931; Kellogg, 1932).

Sumichrast and Saussure arrived in Veracruz, Mexico, in April 1855, remaining for a few days in that city. Proceeding thence to Córdoba (written “Cordova” by Bellardi), they passed by tospán on April 16 (an “hacienda” not far from Córdoba), where they visited Auguste Sallé, who was exploring Mexico with Boucard. After the short stay in Córdoba the naturalists resumed their journey, going to Orizaba, Puebla, Mexico City, Tampico, and other cities in the interior. Sumichrast collected in those places with Saussure for about one year and those collections were taken back to Geneva by Saussure, when he left Mexico, due to the troubles of travelling and the political unrest caused by several revolutions. Sumichrast decided to stay in Mexico. He married in Cuchitán (Juchitán), Oaxaca on August 30, 1870, and from this time to his death he was occupied with the scientific exploration of Mexico, visiting the States of Veracruz, Puebla, Mexico, Oaxaca (Tehuantepec), and Chiapas. In the latter state death overtook him, in Tonalá, on September 26, 1882 (Boucard, 1884; Binford, 1989; Hemsley, 1887; Kellogg, 1932; Knobloch, 1983; Papavero, 1973; Smith & Smith, 1973; Wauer, 1992).

Sallé’s companion, Adolphe Boucard, seems to have been a general collector, but more especially devoted to birds and insects. He wrote an account of his
extensive travels through the United States, Mexico, Central America, Colombia, Chile and other countries (1894). In 1867, he published a catalogue of the natural history specimens he had gathered in Mexico. In 1878, he published another catalogue of the collections obtained in Guatemala, which were exhibited at the “Exposition Universelle de Paris” and perhaps about the same time a list of the Coleoptera offered for sale. According to Carriker (1910), he collected in Costa Rica in 1877. Boucard published a list of the birds collected during that trip (1878) (Papavero, 1971b).

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Bellardi was also assistant of the Mineralogical Museum (since 1844) and curator of the paleontological collections of the geological museum of Turin. He taught for 30 years at the girls college (Regina Margheritta) and in the “Liceo Reale Gilberti” in Turin. He was elected member of several cultural and scientific societies. From 1870 on, he went back to his studies of fossil molluscs, dying in Turin on September 17, 1889 (Lessona, 1884; Papavero, 1973; Sacco, 1889).

Bellardi’s “Saggio di Ditterologia Messicana” contains 266 species, 176 of which were proposed as new. The collection is housed at the Istituto e Museo di Zoologia2 Sistemática, Università di Torino, together with Bellardi’s library. The list of the species proposed by Bellardi in the “Saggio” is the following:

1859:
1. Culex mexicanus, p. 5 (§). “Messico (Sallé)”. Box 11. Apparently a distinct species, as currently interpreted, now Psorophora (Janthinosoma) mexicana (Bellardi), according to Belkin (1968: 27) (Culicidae).


14. *Plecia bicolour* (and var.), p. 16 (% &). "Messico, Cordova (the type) (Saussure), Messico, Orizaba (Saussure) (the variety)". Box 11. Same combination (Hardy, 1966: 2) (Bibionidae).


17. *Bibio fulgineus*, p. 19 (%). "Messico (Craveri e Sallé), Orizaba (Saussure)". Box 11. Same combination (Hardy, 1966: 6) (Bibionidae).

18. *Dilophus maculatus*, p. 19, pl. I, fig. 5 (%). "Messico (Truqui)". Box 11. Same combination (Hardy, 1966: 9) (Bibionidae).


21. *Hermetia lativentris*, p. 27, pl. I, fig. 9 (%). "Messico, Tampico (Saussure)". Box 11. Same combination (James, 1973: 38) (Stratiomyidae).

22. *Hermetia aurata*, p. 27, pl. I, fig. 8 (%, %). "Messico, Morelia (Saussure)". Box 11. Same combination (James, 1973: 37) (Stratiomyidae).

23. *Stratiomys gerstaeckeri*, p. 31, pl. I, fig. 10 (%). "Messico, contorni di Messico (Sallé)". Box 11. Now a junior synonym of *Hoplitimyia (Hoplitimyia) fasciata* (Fabricius, 1787) (James, 1973: 42) (Stratiomyidae).

24. *Odonthomyia truquii*, p. 34, pl. I, fig. 11 (%). "Messico, Morelos, Cuernavaca (Truqui)". Box 11. Now *Hedriodiscus truquii* (Bellardi) (James, 1973: 41) (Stratiomyidae).

25. *Odonthomyia quadrimaculata*, p. 37, pl. I, fig. 15 (%). "Messico (Craveri)". Box 2. Now a junior synonym of *Hedriodiscus euchlorus* (Gerstaecker, 1857) (James, 1973: 43) (Stratiomyidae).


27. *Odonthomyia viridis*, p. 36, pl. I, fig. 16 (%). "Messico, Morelos, Cuautla (as Cuautla) (Saussure)". Box 2. Now *Labostigmina viridis* (Bellardi) (James, 1973: 43) (Stratiomyidae).


1861:


93. *Erax cinerescens*, p. 139, pl. II, fig. 10 (\&). “Messico (Sallé), Tuxpango presso Orizaba (Sumichrast)”. Box 4. Now a junior synonym of *Efferia albibarbis* (Macquart, 1838) (Asilidae).


137. *Psillocephala univittata*, p. 190 (Messico, Puebla (Saussure) (Collection Bigot)). Type in Oxford; specimen of Turin lost. Now *Ozodiceromya univittata* (Bellardi) (Irwin & Lyneborg, 1980: 258) (Therevidae).


139. *Chrysopila mexicana*, p. 196 (Messico, contorni di Messico (Truqui)). Box 6. Now *Chrysopilus mexicanus* Bellardi (James, 1968: 3) (Rhapigoniidae).


141. *Empis bicolor*, p. 198 (Messico, Cuautla (as Cuautla) (Saussure)). Box 6. Same combination (Smith, 1967: 21) (Empididae).


1862:


7. The species described by Camillo Rondani

Camillo Rondani (pronounced Róndani) (Fig. 6), born in Parma on November 23, 1803, was a descendant of a very old, noble family of that city, which could boast of having produced men of distinction as early as the twelfth century. Among his ancestors was a painter of some renown, Francesco Maria Rondani (1490-1548). His family had decided that Camilo should have an ecclesiastical career. However, in 1818, Rondani began to show a great interest in natural history, after having read the works of Buffon, and he discontinued his religious studies. Afterwards he entered the University of Parma, and with Giorgio Jan, with whom he learned botany, Rondani undertook several excursions, collecting insects.

During his life in the University, Rondani became interested in the politics of his country. Parma was at that time a Duchy governed by Marie Louise, the ex-Empress of France. After the fall of Napoleon in Waterloo, she obtained this government from the Austrains, who again had dominated Italy since 1815. In 1831, following the example given by the revolution of the preceding year in France, which resulted in the ascension to power of Louis Philippe, the Parmese rebelled against
the Austrians. Marie Louise was deposed and fled to Piacenza. The liberal party assumed the government, and one of its members, Macedonio Melloni, offered a chair of natural history to Rondani, with the opportunity of travelling to France, where he was to study in order to take later the professorship in his native town. Rondani travelled to Paris, attending several lectures of the leading naturalists, especially Cuvier. However, with the Austrian troops having suppressed the Parmese revolution, Rondani was forced to leave Paris and return to his native place. In Parma, he stayed for a while helping his brother in commerce. In 1833 he married, and the following year left Parma, going to live in Guardasone, where he dedicated himself to entomological pursuits.

On December 17, 1847, with the death of Marie Louise, the government of the Duchy of Parma passed to Carlo Lodivo di Borbone, who assumed it with the title of Carlo II. The next year another revolution took place, taking him from power. In the same year Rondani published his first paper on exotic Diptera, a study of the Brazilian flies collected by Ghiliani (Rondani, 1848).
In 1849, Carlo Alberto di Savoia declared war on Austria and took Parma with his army. Rondani left the countryside and again came to that city, returning to the political life. He was elected deputy by Traversetolo. However, with the defeat of Novara, Parma was lost again to the Austrians, and Carlo III succeeded his father in the Duchy, exercising a tyrannical rule. Rondani took refuge again in Guardasone, returning to his entomological studies. In this he was rewarded by the excellent harvest brought by Cajetano Osculati from his trip through the equatorial regions of South America, then almost entirely unknown entomologically. The 31 species of Diptera reported by Osculati (17 of which were described as new) were studied by Rondani, who published the results in 1850 (Rondani, 1850a). In that same year, Rondani published another paper describing Diptera, principally from Venezuela and from the Island of São Sebastião (State of São Paulo), Brazil, the latter collected by Giovanni Casaretto (Rondani, 1850b).

In 1854, March 26, Carlo III was murdered, and his consort, Luigia Maria di Bourbon-Artois, assumed the government of Parma. The University experienced notable progress and Rondani was invited to assume the professorship of agronomy, also being named director of an agronomic institution. In 1860, with the unification of Italy and the definite defeat of the Austrians, Rondani went to teach natural history in the Liceo di Parma, as the agronomic institution had been closed. When it was reopened in 1865, Rondani was again appointed to it as director. In 1863, Rondani published one more paper on exotic Diptera, including mostly specimens sent to him by R. A. Philippi, from Chile. Also included were some other specimens caught by Ghilani in Belém, Pará, Brazil, and some materials given to him by Marquis Massimiliano Spinola. This paper (1863) included specimens from Colombia and Puerto Rico, collected by Giuseppe Bertero.

In 1868, Rondani described Argentinian flies collected by Pellegrino Strobel. In 1878, he published his last paper on Neotropical flies, describing some Pupipara found in the Museo Civico di Genova. This is his only paper describing Mexican flies, which includes the following:

In 1870, Rondani had collaborated in the foundation of the Italian Entomological Society, of which he was the vice-president. He died on September 17, 1879. A list of his publications was given by Baron Osten Sacken (1885). His biography was published by Lessona (1884) (see also Bezzi, 1908a, 1908b). Rondani’s types of exotic (i.e., Latin American) Diptera are deposited in the Museo de Instituto di Zoologia Sistematica della Università di Torino, in the Museo Civico di Storia Naturale di Milano, and in Naples (a list of types found in Naples, the majority of Rondani’s types, was given by A. Costa (1866)).

**8. DOMINIK BILIMEK**

Dominik Bilimek entitled himself “Kustos am National Museum in Mexiko” (Curador del Museo Nacional de México). During the unfortunate reign of Emperor Ferdinand Maximilian of Mexico, Bilimek explored the Cacahuamilpa Caves, 45 leagues from Mexico City, on January 14, 1866, leaving an account of his explorations, and a description of *Pholeomyia leucozona* (1867) (Milichiidae), the only Mexican fly described by him. According to labels in the Museum of Vienna he also collected extensively in Orizaba and Tacubaya. Before his arrival to Mexico he professed as Augustine monk, but being his principal fondness to collect insect specimens for the European museums. As soon as he deserted the monastic order, he organized a museum of natural history for Maximilian, using an abandoned abbey of La Chroma island, in the Adriatic Sea. Later in Mexico, he collected a great amount of insects around Mexico City and in Morelos, sometimes accompanied by Empress Charlotte and her ladies (Hoffmann et al., 1986). No other details are known about his life and travels (Papavero, 1973: 291-292. See also Barnhart, 1927, 1965; Hemsley, 1887; Linden, 1867).

**9. THE SPECIES DESCRIBED BY F. JAENNICK**

Unfortunately, we were not able to find data about the life of F. Jaennicke. In his paper of 1867 (reprinted in 1968) he described the following species from Mexico (most of the types are now in the Senckenberg Institution, Frankfurt a. M.):

3. *Anthrax castanea*, p. 338 (30), pl. 44, fig. 15 (% &). “Mexico”. Now Villa (Paravilla) castanea (Jaenicke) (Painter et al., 1978: 50) (Bombyliidae).
8. *Exoprosopa blanchardiana*, p. 341 (33), pl. 44, fig. 20 (% &). “Mexico”. Now Villa (Hemipenthes) sinuosa blanchardiana (Jaenicke) (Painter et al., 1978: 50) (Bombyliidae).
11. *Poecilognathus thlipsomyzoides*, p. 351 (43), pl. 43, fig. 11 (%). “Mexico”. Now Phthiria thlipsomyzoides (Jaenicke) (Painter et al., 1978: 15) (Bombyliidae).