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ON SOME HYMENOPTERA FROM THE COLLECTION OF GUÉRIN-MÉNEVILLE IN THE LEIDEN MUSEUM

by

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About thirty years ago, while studying the Sphecinae of the Leiden Museum, I found two species of *Sphex*, described by F. E. Guérin-Méneville, represented here by specimens originating from the collection of this author. A note on these species, *Sphex lanierii* Guérin and *Sphex paulinieri* Guérin, was published a few years ago (van der Vecht, 1954).

Recently I came across a few more specimens from the same origin, and this has stimulated me to make a thorough search in the entire collection of Hymenoptera in this Museum. Since this work has led to the discovery of a few types which have generally been regarded as lost, the results appear to be well worth publication.

According to Horn & Kahle (1935-7), the Hymenoptera of Guérin-Méneville, who died in 1874, went partly to G. Gribodo, partly to the Natural History Museum in Paris and the Zoological Museum in Munich. An enumeration of the material in the Gribodo collection, at present in the Natural History Museum in Genoa, was recently published by Guiglia (1948). It is not generally known that a small number of specimens was obtained by the Leiden Museum. According to the labels, written by C. Ritsema Czn., curator of this Museum from 1873 to 1916, they were received from F. Monchicourt, a French entomologist who is mentioned by Horn & Kahle (l.c., p. 99) as having obtained certain families of Coleoptera from Guérin's collection. A note in the files of the Museum shows that Monchicourt exchanged Coleoptera with Ritsema in 1876. The Hymenoptera from the Guérin collection were probably acquired by the Museum at about this

same time, but the actual correspondence on this subject appears to be lost ¹⁾.

Besides from Monchicourt the Leiden Museum received a small number of Guérin's Hymenoptera through exchange with Gribodo; these are mostly duplicates of common species.

The following list gives for each species the name under which it was described by Guérin, a reference to the original description, and a copy of Guérin's label, if present. Where possible, some remarks on the present status of the species are added.

Dates of publication. — There has been considerable confusion with regard to the date of publication of some of Guérin's works. The plates of the "Voyage de la Coquille" were published several years before the text; the plates with the figures of the Hymenoptera appeared in 1831, the text in 1838, and these dates are now generally accepted (see Bequaert, 1926).

The date of publication of the "Iconographie du Règne Animal" has been discussed by various authors. Banks (1909) pointed out that most of the plates had already appeared before 1838, but that the text was not published before 1845. Kirkaldy (1910) showed that the text must have been published in 1844, and I have assumed that this is correct. McDunnough (1918) concluded that the plates of the Lepidoptera must have been issued about 1829-1831, but I have not seen any notes especially on the Hymenoptera, although the dates of publication, given by different authors, vary considerably. Fortunately, in contrast to the majority of the plates, most of the plates with figures of Hymenoptera bear a date, such as plate 68: "E. Guérin pt. Février 1835". The Hymenoptera cover the plates 64-75, and only the numbers 64-67 are not dated, the others ranging from January 1835 to April 1835. That these are not merely the dates of painting or printing, as I thought at first, can be concluded from the following remarks of Guérin in the text. Under *Eumenes Savignyi*, p. 446, Guérin writes: "Nous avons publié la figure de cette espèce en 1835" (pl. 72 fig. 4), and under *Bombus Dahlbomii* (p. 459): "M. Haliday ... a décrit cette espèce ... un an après que notre figure a été publiée, comme on le reconnaît à la date (avril 1835), inscrite au bas de la planche" (pl. 75 fig. 3). And what Guérin regarded as "publié" is well explained in his introduction to the Coleoptera, where he said (1844, p. 15): "Beaucoup des espèces que nous avons figurées depuis 1829, ont été publiées pour la première fois dans nos planches, et nous disons *publiées*, car nous pensons qu'une bonne figure doit aussi bien faire prendre date que la meilleure description...". Consequently, I have taken

¹⁾ Horn & Kahle (l.c., p. 181) incorrectly state under Monchicourt: "Hymenopt. via F. E. Guérin-Méneville an Rijksmus. Nat. Hist. Leiden."

1835 as the date of publication of the Hymenoptera plates of the "Iconographie".

Labels. — All specimens listed in this paper bear a round label in Ritsema's handwriting, with the name of either Monchicourt or of Gribodo, and the locality. These labels have been copied only if no older labels are present; if nothing is said about the origin, the specimens have been received from Monchicourt.

The other labels copied below are, unless otherwise stated, in Guérin's characteristic handwriting (compare Horn & Kahle, 1935-7, pl. XXVII no. 22); these yellowed labels generally give the name of the insect, the first publication, the locality, and often also the indication "(type)". The types of the species described in the "Voyage de la Coquille", however, have apparently never been marked as such.

Types. — When Guérin had two or more specimens of a new species before him, he evidently made no distinction between a (holo)type and paratypes, for frequently he indicated more than one specimen as "type". This happened in both specimens of *Bombus Dahlbomii* ♀ in the Leiden Museum, and also in some other species, the material of which is partly in Genoa¹), partly in Leiden.

Therefore I have generally used the term "syntype" for specimens which are regarded as members of the typical series. Single specimens of species which are not represented in Genoa are provisionally regarded as probable holotypes (monotypes), but additional material of such species may yet be found in other Museums.

Braconidae

Trachypetus clavatus Guérin, 1831, pl. 8 fig. 7; 1838, p. 202 — Port Jackson, Australia.

1 ♂, "Victoria, Australia, leg. Gribodo" (round label). — Perhaps from the collection Guérin, but there is no original label. — Tips of antennae missing.

This remarkable species was omitted by Dalla Torre (1898); in 1920 it was discussed and figured by Brues, and in 1926 Tillyard published a coloured figure in his handbook of the insects of Australia and New Zealand, pl. 20 fig. 4.

¹) I am much indebted to Dr. D. Guiglia, Museo Civico di Storia Naturale, Genoa, who kindly gave me some information on Guérin's labels of certain specimens in the Gribodo collection, Genoa.

Peleciniidae

Pelecinus polycerator (Fabricius) Guérin, 1844, p. 405 (Louisiana; Brazil).

1 ♀, "Pelecinus polycerator Fab., New Orleans, Am. bor." — Tips of antennae, and last tarsal segments of some legs missing.

In the collection under *P. polyturator* (Drury).

Pelecinus Guérinii Romand, 1840 a, pl. 49 fig. 2, p. 3, ♀ — Locality not mentioned; described from one specimen received on loan from Guérin.

1 ♀, "Pelecinus Guerinii De Rom (type), Brésil". — Tips of antennae, and several tarsal segments missing. — Apparently the holotype.

According to Dalla Torre (1902, p. 1087) this is a variety of *P. polyturator* (Drury).

Gasteruptionidae

Foenus flavitarsis Guérin, 1844, p. 407, ♀ — Swan River, Australia.

1 ♀, "Foenus flavitarsis Guér. ic. R. a. (type) Swan River". — Very probably the holotype.

This species has been misidentified for many years. Recently, Prof. J. Pasteels examined the specimen in the Leiden Museum and found it to be identical with *Gasteruption macrocephalum* Turner (Pasteels, 1956, p. 248).

Thynnidae

Thynnus flavilabris Guérin, 1842, p. 8 — Australia.

1 ♂, "Thynnus flavilabris Guérin Mag. Z., N. Holl. (type)" — Head damaged (eyes and ventral side eaten away by insects); fourth and following segments of right antenna missing. — As this species is not represented in the Gribodo collection (Guiglia, 1948), the specimen in the Leiden Museum is very probably the holotype.

In the collection under *Tachynothynnus* Turner, but according to Rohwer (1910, p. 349) this genus must bear the older name *Guerinius* Ashmead, 1903.

Thynnus variabilis (Kirby, 1818) Guérin, 1838, p. 223 (Australia; 8 specimens examined); 1842, p. 6, pl. 101 figs. 1-20.

1 ♂, "Thynnus variabilis Kirby, Guér., N. Holl." and another old label, in a different handwriting "port jack" (undoubtedly meaning Port Jackson in New South Wales, where the Expedition of the "Coquille" collected from January to March 1824). — Fifth and following segments of left antenna missing.

In the collection under *Hemithynnus apterus* Oliv.

Scoliidae

Scolia Petitii Guérin, 1838, p. 249, ♀ — Mexico, ex coll. Petit.

1 ♀, "Scolia Petitii ♀ Guér. Voyage Coquille Mexique" and 1 ♀ without label of Guérin, both with round label "Monchicourt, Mexico". — Heads slightly damaged. — Probably syntypes. The species was not mentioned by Guiglia (1948).

At present regarded as identical with *Campsomeris ephippium ephippium* (Say, 1837).

Formicidae

Ponera gagates Guérin, 1844, p. 423 (sex not mentioned; apparently ♀) — Bords de la Casamance, Sénégal.

1 ♂, "Ponera gagates Guér. ic. R. a. (type), Casamance". — This appears to be either the holotype or a syntype.

In the collection under *Palthothyreus tarsatus* (Fabr.).

Ponera Abyssinica Guérin, 1847, p. 352, ♀, pl. 7 fig. 6 — Abyssinia.

2 ♀, one with label: "Ponera abyssinica Guér. Abyss.", both with a printed label "Abyss." (1 ♀ leg. Gribodo). — Probably syntypes.

In the collection under *Megaponera foetens* (Fabr.).

Odontomachus insularis Guérin, 1844, p. 423, ♂ ♀ — Cuba.

1 ♂, "Odontomachus insularis Guérin, Typus, Cuba" (old label, probably in Gribodo's handwriting); received from Gribodo. — Evidently a syntype. — Head and prothorax are missing.

In the collection under *Odontomachus haematoda* (L.), subsp. *insularis* Guér.

Myrmica tigreensis Guérin, 1847, p. 351, pl. 7 fig. 7. — Abyssinia; Port Natal.

1 ♂, "Myrmica tigreensis Guér. Voy. de Lefèvre pl. 7 fig. 7, Port Natal". — Rather badly damaged. — Syntype; the species was based on a male ("très mutilé") from Abyssinia, and a series from Port Natal.

Atta insularis Guérin, 1844, p. 422, ♀ — Cuba.

1 ♀, "Oecodoma insularis Guérin, Typus, Cuba" (old label, perhaps in Gribodo's handwriting); received from Gribodo. — Evidently a syntype.

Formica sericeiventris Guérin, 1838, p. 205, ♀ — "Rio Janeiro au Brésil".

1 ♀, with small label "Br", perhaps in Guérin's handwriting, and with a round label "Monchicourt, Bresil". — Perhaps a syntype.

In the collection under *Camponotus (Myrmepomis) sericeiventris* (Guérin).

Eumenidae

Odynerus splendidus Guérin, 1838, p. 265, "♀" — Australia (description based on one specimen, said to be a female).

1 ♂, "*Odynerus splendidus* Guér. Voy. Coq. N. Holl." — Head damaged, left antenna missing. — Evidently the holotype, for it appears from de Saussure (1852, p. 99, nota 3) that the collection of Guérin-Ménéville contained only this specimen: "C'est bien un mâle et non une femelle que M. Guérin-Ménéville a décrit dans le voyage de la Coquille; l'individu type a sept anneaux à l'abdomen."

In the collection under *Abispa splendida* (Guérin).

Odynerus elegans Guérin, 1835, pl. 72 fig. 5; 1844, p. 446, ♀ ♂ — Cuba.

1 ♂, with small square label "Cuba", probably written by Guérin, and with round label "Monchicourt, Cuba". — Probably a syntype; there are 4 ♀ and 4 ♂ in Mus. Genoa.

Most authors give the date of publication of this species as 1842 or 1844, but the plate was published in 1835. However, Guérin's name is anyhow preoccupied by *Odynerus elegans* Wesm. 1833.

In the collection under *Odynerus enyo* Lep. (1841).

Pompilidae

Pompilus Bretonii Guérin, 1843, p. 4, ♂ ♀, pl. 115 fig. 2 (♀) — Senegal and Sicily.

1 ♂, "*Pompilus Bretonii* Guérin, Mag. Zool. 1842, Sénégal". — Head and abdomen damaged. — Undoubtedly a syntype; there are 2 ♂ and 3 ♀ in Mus. Genoa; the ♀ is not identical with the ♂, which is regarded as the type.

In the collection under *Cyphononyx croceicornis* Er., but the species described under this name by Arnold (1932, p. 301) must bear the name *Cyphononyx bretonii* (Guérin) (see Arnold, 1939, p. 57).

Pepsis spp.

The collection contains three specimens of *Pepsis* which I have not found discussed in Guérin's works.

1 ♀, "*Pepsis Thoreyi* Dlb. vel *P. auripennis* Dlb." in unknown handwriting; with round label "Monchicourt, Bresil".

1 ♂ "*Pepsis marginata*", with round label "Monchicourt, Cuba"; 1 ♀ (head damaged) "St. Thomas" in unknown handwriting, with round label "Monchicourt St. Thomas". — In the key of Haupt (1952, p. 357) the male runs to *P. domingensis* Lep., not to *P. marginata* Pal.-B.

Ampulicidae

Ampulex compressiventris Guérin, 1835, pl. 70 fig. 4, ♀; 1844, p. 436 — Sénégal.

1 ♀ “*Ampulex compressiventris* Guér. ic. R. a. Sénég. (type)”. — Head and last abdominal segment damaged by insects. — Very probably the holotype.

At present regarded as identical with *A. sibirica* (Fabr.), see Turner, 1912, p. 369.

The collection of the Leiden Museum contains another female of this species from Senegal, received more than a century ago from the Berlin Museum (exchange with Klug). It was identified as *Ampulex aenea* (Fabr.), but according to Schulz (1912, p. 80) *Dryinus aeneus* Fabr. (1804, p. 200, “Guinea”, leg. Mejer) is an older name for *A. dahlbomi* Kohl. Kohl’s species, however, is a very insufficiently known insect; it was described (Kohl, 1893, p. 486, 493) from a male with a label “*A. guerini* Dahlb.”, from unknown locality, in the Berlin Museum, and appears not to have been rediscovered. Since, according to Kohl, *A. guerini* Dahlb. is a composite species, the female being identical with *A. compressiventris* Guérin, a renewed study of the type of *Dryinus aeneus* Fabricius appears desirable. It seems possible that Schulz misidentified this insect and that it will prove to be the same as the older *Ampulex sibirica* (Fabr.).

Sphecidae

Sphex fulviventris Guérin (published?).

Sphex ichneumoneus var. *fulviventris* (Guérin) Kohl, 1890, p. 431.

Kohl uses the name *fulviventris* Guérin without any reference to earlier literature; Dalla Torre (1897) refers to “Voy. Coquille, Zool. II, P. 1, 1830, p. ?” and this has been cited by later authors as “Voy. Coquille, Zool. II, p. 1” (Fernald, 1906, p. 403; Murray, 1951, p. 972). However, I have not been able to find the original description in this work or in other publications of Guérin.

1 ♀, “Cuba” (probably in Guérin’s handwriting), 1 ♂ without old label, both with round label “Monchicourt, Cuba”.

In the collection under *Sphex ichneumoneus* L., var. *fulviventris* Guér.

Sphex Lanierii Guérin, 1844, p. 433, sex not mentioned. — Cuba (= *Sphex aurulenta* Guérin, 1835, pl. 70 fig. 2, not *Sphex aurulenta* Fabr.).

1 ♂, “*Sphex Lanierii* Guér. ic. R. a. Cuba (type)”. — Head damaged. — Syntype; the Mus. Genoa possesses 1 ♂ and 1 ♀; the ♀ is marked as type on Guérin’s label,

This appears to be the correct name for the species described by Kohl (1890) as *Sphex clavipes*.

Sphex Paulinierii Guérin, 1843, p. 8, pl. 114, ♀ — Sénégal.

1 ♀ "Sphex Bruyerii Guér. h. Sénég. ♀". — The species was published under a name different from that on the label, but the specimen, which is set with wings and legs expanded, agrees so well with the figure accompanying the description, that I have little doubt that this is indeed the holotype. Not mentioned by Guiglia (1948).

For literature references see Leclercq, 1955, p. 8.

Monedula Orbignyi Guérin, 1844, p. 437. — "Les bords de la Plata (M. Petit) et la Patagonie (d'Orb.)".

1 ♀, "Monedula Orbignyi Guér. ic. R. a. Patagonie (type)". — Head slightly damaged. The Mus. Genoa possesses another female from the same locality, also marked as type.

At present regarded as a synonym of *Zyzyx chilensis* (Eschsch., 1823), see Willink, 1947, p. 550.

Halictidae

Andrena femoralis Guérin, 1835, pl. 73 fig. 1 — Cuba; 1844, p. 447, ♂ (name *Agapostemon* proposed for this and allied species, as subgenus of *Andrena*).

1 ♂ "Andrenus femoralis Guér." in unknown handwriting; round label "Monchicourt, Cuba", written by Ritsema. — Second and following abdominal segments missing. — Perhaps a syntype; there is another specimen in Mus. Genoa.

In the collection under *Agapostemon femoralis* (Guérin).

Megachilidae

Megachile rufiventris (Guérin, 1834, p. 502, ♀, pl. 4 fig. 5, Coromandel) Guérin, 1844, p. 450 ("apparently incorrectly recorded from Coromandel; the species inhabits Mauritius, Réunion, and Madagascar, and is perhaps the same as *Apis mystacea* Fabr., though this species was described from Australia").

1 ♀ with round label "Monchicourt, Mauritius" and 1 ♀ with round label "Gribodo, Madagascar". — Perhaps both members of the series which induced the remarks made by Guérin in 1844.

Coelioxys abdominalis Guérin, 1844, p. 453, ♀ ♂ — St. Thomas.

1 ♀ with round label "Monchicourt, St. Thomas". — Apparently a syntype; there are 3 ♀ and 2 ♂ from this locality in Mus. Genoa.

Apidae

Crocisa pulchella Guérin, 1835, pl. 74 fig. 2.

Crocisa nitidula Fabr., var. *pulchella* Guérin, 1844, p. 454 — Port Praslin, New Ireland.

1 ♀, "*Crocisa nitidula* Fab. var. *pulchella* Guér. ic. R. a. (type) Port praslin, ♀". — This is very probably the holotype. The species is not mentioned by Guiglia (1948).

According to Guérin (1844, p. 454) this species was figured and described in the English edition of the "Règne animal", pl. 3 fig. 2, but in a copy of this edition of 1837 I only found a poor reproduction of Guérin's figure in vol. IV, pl. 84 fig. 2.

Rhathymus bicolor Lep.

1 ♀, "*Rhathymus bicolor* Lep. Serv. Encycl. ♀ *Liogastra bicolor* Perty Delect. an. art., Bres. Claussen".

Evidently from the collection of Guérin, but not recorded in his papers.

Acanthopus splendidus (Klug) Guérin, 1835, pl. 75 fig. 1.

Acanthopus splendidus (Fabr.) Guérin, 1844, p. 456 (Cayenne).

1 ♂, "*Acanthopus splendidus* Klug, Cayenne, Dom. Petit".

Acanthopus Goryi Romand, 1840b, p. 248, ♂ — Monte-Video (coll. Guérin-Ménéville).

Ctenioschelus Goryi Romand, 1840c, p. 336; 1841, pl. 69, p. 4, ♂ (Monte-Video, coll. Guérin-Ménéville).

1 ♂, "*Ctenioschelus Goryi* De Rom. Mag. Zool. 1841 ins. Pl. 69 (type) Monte Video ♂". — In good condition.

In the collection under *Acanthopus* Klug.

Euglossa dentata (Linn.) Guérin, 1844, p. 457, ♀ ♂ — Cayenne; Brazil.

1 ♀, "*Eugl. armata*, coll. Desm., Cayenne" in pencil, in unknown handwriting; with round label "Monchicourt, Cayenne". — Doubtfully from the collection of Guérin.

In the collection under *Exaerete* (= *Chrysantheda*) *dentata* (L.).

Euglossa smaragdina Guérin, 1844, p. 458, ♀ ♂ — Brazil, Bay of Cam-pêche, and Para.

1 ♀, "*Euglossa smaragdina* Guér. ic. R. a. Para, ♀ (type)". — Syntype; a female from Campêche, also labelled "type", is in Genoa.

Another female and male in the Leiden collection bear only a round label "Monchicourt, Cayenne".

In the collection under *Exaerete* (= *Chrysantheda*) *smaragdina* (Guér.); the specific name was misspelt "*smargdina*" by Michener (1954, p. 162).

Euglossa piliventris Guérin, 1844, p. 458, ♀ ♂ — Para.

1 ♀, "*Euglossa piliventris* Guér. ic. R. a. Para (type)"; under this label is a sketch of the antenna. — Second and following segments of right antenna missing. Syntype; there is another typical specimen in Genoa.

Bombus Dahlbomii Guérin, 1835, pl. 75 fig. 3; 1844, p. 459, ♀ ♂ — Chili.

2 ♀, both with label "*Bombus Dahlbomii* Guér. ic. R. a. Chili, ♀ (type)". Evidently syntypes. — There is a third female, with a label in what is probably Guérin's handwriting: "*Bombus nigripes* Haliday, Chili"; it was also received from Monchicourt.

Melipona fulvipes Guérin, 1835, pl. 75 fig. 6; 1844, p. 462, ♀ ♂ — Cuba (described from over 200 workers and 5 or 6 females).

1 ♂, "*Melipona fulvipes* Guér. Cuba, iconogr.", 2 ♂ with label "Guérin, Cuba" (one in unknown handwriting, one written by Ritsema), and one with round label "Gribodo, Guérin, Cuba". Probably all from the typical series.

LITERATURE

- ARNOLD, G., 1932. The Psammocharidae (olim Pompilidae) of the Ethiopian region, part I. — Ann. Transv. Mus., vol. 14, pp. 284-396, 1 pl., 61 figs.
- , 1939. Notes on some African Pompilidae, with descriptions of new species. — Occ. Pap. Mus. S. Rhodesia, no. 8, pp. 49-65, 15 figs.
- BANKS, N., 1909. Dates of Guérin's Iconographie Règne Animal. — Ent. News, vol. 20, p. 396.
- BEQUAERT, J., 1926. The data of publication of the Hymenoptera and Diptera described by Guérin in Duperrey's "Voyage de la Coquille". — Entom. Mitt., vol. 15, pp. 186-195.
- BRUES, C. T., 1920. The Braconid genus *Trachypetus* Guérin. — Psyche, vol. 27, pp. 59-62, fig. 1.
- DALLA TORRE, C. G. DE, 1897. Catalogus Hymenopterorum, vol. 8, Fossores; 1898, do., vol. 4, Braconidae; 1902, do., vol. 3, Trigonalidae - Pelecinidae. — Lipsiae.
- FERNALD, H. T., 1906. The digger wasps of North America and the West Indies belonging to the subfamily Chlorioninae. — Proc. U. S. Nat. Mus., vol. 31, pp. 291-423, 5 pls.
- GUÉRIN-MÉNEVILLE, F. E., 1831. Hymenoptera (plates 8 and 9), in: Duperrey, Voyage de la Coquille, Zoologie, vol. 2, part 2.
- , 1834. Insectes, in: C. Bélanger, Voyage aux Indes Orientales, Zoologie, pp. 441-512, 5 col. pls.
- , 1835. Plates 68-75 of: Iconographie du Règne Animal de G. Cuvier. — Paris, 1829-44.
- , 1838. Crustacés, Arachnides et Insectes (text), in: Duperrey, Voyage de la Coquille, Zoologie, vol. 2, part 2, div. 1, 319 pp.
- , 1842. Matériaux sur les Thynnides, destinés à faire suite à un travail publié dans le voyage autour du monde du Capitaine Duperrey. — Mag. Zool., vol. 12, Nrs. 99-105, 15 pp., 7 col. pls.
- , 1843. Description de quelques espèces inédites d'Hyménoptères fouisseurs de l'ancien continent, etc. — Mag. Zool., vol. 13, Nrs. 114-116, 9 pp., 3 col. pls.

- , 1844. *Iconographie du Règne Animal* de G. Cuvier, vol. 3 (text). — Paris.
- , 1847. Insectes, in: C. T. Lefebvre, *Voyage en Abyssinie exécuté pendant les années 1839-1843*, vol. 4, pt. 6 (Hyménoptères: pp. 345-363, pls. VII, VIII).
- GUIGLIA, D., 1948. I tipi di Imenotteri del Guérin esistenti nelle collezioni del Museo di Genova. — *Ann. Mus. Civ. Stor. Nat. Genova*, vol. 63, pp. 175-191, 5 figs.
- HAUPT, H., 1952. Alte und neue Pepsis-Arten. — *Nova Acta Leop., Halle (N. F.)*, vol. 15, pp. 311-414, 50 figs.
- HORN, W., & KAHLE, I., 1935-7. Ueber entomologische Sammlungen. — *Entomologische Beih. Berlin-Dahlem*, vol. 2-4, VI + 536 pp., 38 pls.
- KIRKALDY, G. W., 1910. (Date of publication of Guérin's *Iconographie*). — *Ent. News*, vol. 21, p. 47.
- KOHL, F. F., 1890. Monographie der natürlichen Gattung *Sphex* Linné — *Ann. Naturh. Hofmus. Wien*, vol. 5, pp. 77-194, 317-462, 5 pls.
- , 1893. Ueber *Ampulex* Jur. (s.l.) und die damit enger verwandten Hymenopteren-Gattungen. — *Ann. Naturh. Hofmus. Wien*, vol. 8, pp. 455-516, 3 pls.
- LECLERCQ, J., 1955. Hymenoptera Sphecoidea (Sphecidae I, Subfam. Sphecinae). — *Expl. Parc Nat. Upemba*, fasc. 34, 137 pp.
- MCDUNNOUGH, J., 1918. Date of issue of the plates of Guérin's *Iconographie du Règne Animal*. — *Ent. News*, vol. 29, pp. 378-380.
- MICHENER, C. D., 1954. Bees of Panama. — *Bull. Amer. Mus. Nat. Hist. New York*, vol. 104, 175 pp., 155 figs.
- MURRAY, W. D., 1951. Sphecinae, in: Muesebeck, Krombein & Townes, *Hymenoptera of America North of Mexico*, Synoptic Catalog. — Washington.
- PASTEELS, J., 1956. Révision du genre *Gasteruption*, II. — *Nova Guinea*, new series, vol. 7, part 2, pp. 207-248.
- ROHWER, S. A., 1910. Turner's Genera of Thynnidae with notes on Ashmeadian genera. — *Ent. News*, vol. 21, pp. 345-351.
- ROMAND, M. DE, 1840a. Note sur le genre *Pelecinus*. — *Mag. Zool.*, vol. 11, Nrs. 48, 49, pp. 1-3, 2 pls.
- , 1840b. Description d'un insecte Hyménoptère de la famille des Mellifères (*Acanthopus* Goryi). — *Rev. Zool.*, vol. 3, p. 248.
- , 1840c. Sur l'Hyménoptère nommé *Acanthopus* Goryi. — *Rev. Zool.*, vol. 3, pp. 335-336.
- , 1841. Notice sur divers Insectes Hyménoptères de la famille des Mellifères. — *Mag. Zool.*, Nrs. 68-70, pp. 1-6, 3 pls.
- SAUSSURE, H. DE, 1852-3. *Etudes sur la famille des Vespides*, vol. 1. — Paris.
- SCHULZ, W. A., 1912. Aelteste und alte Hymenopteren skandinavischer Autoren. — *Berl. Ent. Zeitschr.*, vol. 57, pp. 52-102.
- TILLYARD, R. J., 1926. *The insects of Australia and New Zealand*. — Sydney.
- TURNER, R. E., 1912. Notes on fossorial Hymenoptera, no. X. — *Ann. Mag. Nat. Hist.*, ser. 8, vol. 10, pp. 361-377.
- VECHT, J. VAN DER, 1954. The probable types of *Sphex lanierii* Guér. and *Sphex paulinierii* Guér. — *Proc. Ent. Soc. Wash.*, vol. 56, p. 147.
- WILLINK, A., 1947. Las especies argentinas de "Bembecini". — *Acta Zool. Lilloana*, vol. 4, pp. 509-651.