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A SCELIONID WASP SURVIVING UNCHANGED SINCE TERTIARY
(HYMENOPTERA: PROCTOTRUPOIDEA)

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ABSTRACT—*Palaeogryon muesebecki*, n. gen. and n. sp. (Scelionidae: Scelioninae), is described from both late Oligocene Mexican amber and recent specimens from Mexico. This is the first evidence in Proctotrupeoidea of a species having survived unchanged during the past 30 million years. The fact is more surprising since this relict species constitutes a highly advanced (apomorphous) form of Scelionidae.

While studying the unsorted proctotrupoid wasps in the United States National Museum in Washington (1964) I found two specimens from Mexico marked by C. F. W. Muesebeck to constitute a new genus and species of Scelionidae. Two years later when studying Proctotrupeoidea from Mexican amber I discovered the same species and genus mentioned above. Closer examination of both the recent and fossil wasps revealed a perfect conspecificity. The identity can be made with certainty due to perfect preservation of the two females embedded in amber. I was able to detect even such minor details as the number of bristles on veins and the finest sculpture of the body (length of body 0.6 mm.). There is absolutely no difference between the recent and fossil specimens. This is a surprising fact as the new species is by no means an archaic type. The structure of the antennae in particular makes this genus a highly apomorphous form within the Scelionidae (Scelioninae).

The Proctotrupeoidea from the Mexican amber look generally younger than those of Baltic amber. It seems the climatic changes since the Tertiary of Central America were considerably less pronounced than those of Tertiary Baltic, allowing some species to survive until the modern era. The scelionid wasp described below is the first Tertiary relict known. In other groups of insects (e.g. termites, Snyder, 1960) the Tertiary relics are known from Mexican amber or at least species that can be claimed to be the direct ancestors of recent species (Sturtevant, 1963; Wille, 1959). All these forms are now distributed either in Mexico or in the adjacent areas (e.g., Caribbean).

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Family SCELIONIDAE
 Subfamily SCELIONINAE
Palaeogryon, n. gen.

Female. Head semiglobose, transverse; frons with deep impression from antennal insertion almost to median ocellus; eyes intensively hairy; lateral ocelli far from eyes, only a little closer to inner orbit than to median ocellus; mandibles bidentate; antenna 9-segmented, with abrupt 3-segmented club.

Thorax short and stout, rather convex dorsally; prothorax barely visible from above; mesoscutum transverse, with no specialized area anteriorly, parapsidal furrows wanting; scutellum semicircular, unarmed posteriorly; metanotum slightly produced medially but unarmed; fore and particularly hind wings with long fringes; submarginal vein reaching almost the middle of the wing's length, bearing several big bristles, marginal vein short, stigmal vein knobbed apically, postmarginal vein very long, almost 3 times as long as stigmalis, bearing along its length some 6-7 big bristles, basalis faintly indicated; propodeum short, unarmed, overlapped medially by the slight projection of metanotum; tarsi rather short, 5-segmented.

Metasoma short, stout, subsessile, distinctly carinated at sides, composed of 7 tergites; tergite 1 narrow, broadly transverse, tergites 2 and 3 the largest, the 3rd only a little longer than 2nd; tergite 7 with two pairs of large bristles up-curved apically; ovipositor slightly exerted.

Type species: *Palaeogryon musebecki*, n. sp.

In general habitus *Palaeogryon* is similar to *Gryon* Haliday (s. str.). It differs from the latter by having the second tergite shorter than third tergite. Moreover, it differs from all known genera of Scelioninae by 9-segmented antennae with 3-segmented club. This character, viz. the trend in reduction of antennal segments and the reduction of segments of the club, brings *Palaeogryon* close to *Embidobia* Ashmead (= *Efflatounina* Priesner), *Echthrodesis* Masner, *Mirobaeus* Dodd and *Mirobaeoides* Dodd. *Embidobia*, in particular, seems to be the closest of all, but the antenna is 11-segmented with a 4-segmented club (cf. Masner, 1964).

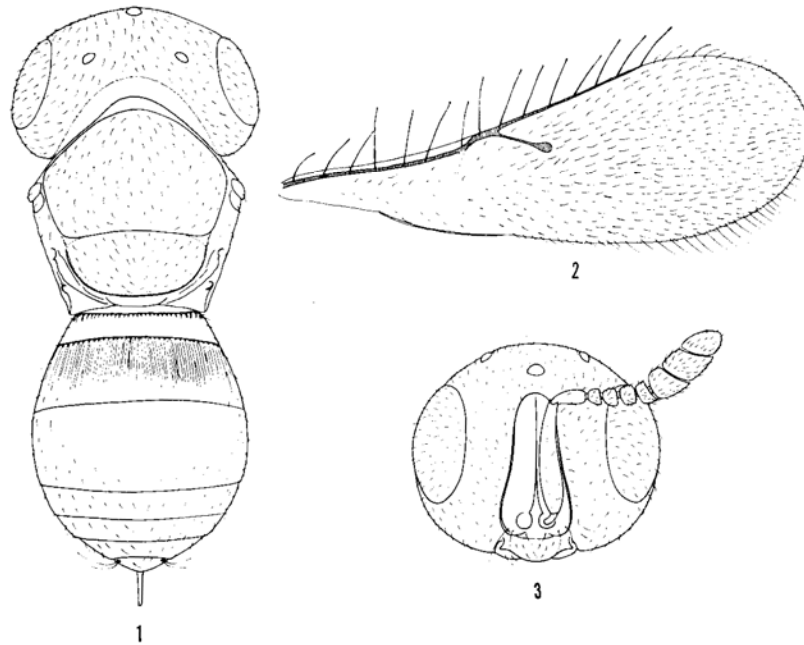
Palaeogryon musebecki,² n. sp.

Female (Holotype, U.S.N.M., Washington; well preserved); with orchids & bromeliads from Mexico at Nogales, Ariz., 23-6-55, Lot 55-2450; ? genus Scelionidae det. Muesebeck.

Length 0.6 mm. Dark chestnut brown, metasoma and legs (including coxae) bright yellow, antennae and mandibles dirty yellow; wings almost clear.

Head transverse (22:15), only slightly wider than thorax (22:19), covered with scattered silvery hairs, sculptured but shining; frontal impression bare, smooth and highly shining, bordered with sharp edge at sides, with median longitudinal carina that runs from antennal insertion to top of impression; frons and

² Named in honour of C. F. W. Muesebeck who first recognized this wasp to constitute a new genus and species.



Figs. 1-3. *Palaeogryon muesebecki*, n. gen. and n. sp., holotype (recent ♀): 1, dorsal view; 2, fore wing; 3, head, anterior view.

vertex with very fine sculpture consisting of delicate scaly-reticulation; occiput bordered with fine yet distinct carina; cheeks finely striated; lateral corners of clypeus acute, median part considerably convex; scape as long as the 5 following antennal segments combined, longer than wide (10:2.5), pedicel elongated (4:2), segments 3-6 transverse, gradually broadened, club (segments 7-9) abrupt, massive.

Mesoscutum and scutellum of much the same sculpture as head, covered with scattered silvery hairs; pleurae generally bare, smooth and polished; submarginal vein in fore wing with 7 big bristles; 7 similar bristles border the length of post-marginal vein.

Metasoma only slightly longer than wide (22:19); first tergite strongly transverse (13:3) with indication of weak longitudinal striation at sides rather than at middle; second tergite transverse (18:5), with very delicate longitudinal striation on basal $\frac{2}{3}$ (clearly visible from lateral aspect); third tergite transverse (19:6), almost smooth and highly polished; following tergites very narrow, sparsely hairy; ovipositor slightly exerted apically.

Material examined (paratypes): 1 ♀ (U.S.N.M.); On lettuce; Brownsville No. 15898; Mexico 4-7-1937; Gen. ? Baeinae, det. Muesebeck (Head broken off during handling of specimen). 2 ♀♀ (Univ. Calif., Berkeley); Mexican amber of Chiapas (Simojovel) B-8425-173 & B-8414-41.

Male: Unknown.

Biology: Unknown. From the apparent close relationship of *Embidobia* Ashmead to *Palaeogryon*, I assume the latter to be a parasite of Embiid eggs.

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REFERENCES

- Duby, G.** 1957. On the amber trail in Chiapas. *Pacific Discovery* 10(2):8-14.
- Hurd, P. D. and R. F. Smith.** 1957. The meaning of Mexico's amber. *Pacific Discovery* 10(2):6-7.
- and **R. L. Usinger.** 1958. Cretaceous and Tertiary Insects in Arctic and Mexican amber. *Proc. 10th Internat. Congr. Ent.* 1:851.
- Masner, L.** 1964. A comparison of some Nearctic and Palearctic genera of Proctotrupeoidea (Hymenoptera) with revisional notes. *Acta Soc. Ent. Čechosl.* 61:123-155.
- Snyder, T. E.** 1960. Fossil termites from Tertiary amber of Chiapas, Mexico (Isoptera). *Journ. Paleont.* 34(3):493-494.
- Sturtevant, A. H.** 1963. A fossil Periscelid (Diptera) from the amber of Chiapas, Mexico. *J. Paleont.* 37(1):121-122.
- Wille, A.** 1959. A new fossil stingless bee (Meliponini) from the amber of Chiapas, Mexico. *J. Paleont.* 33(5):849-852.