

A NEW GENUS OF APIONINAE FROM GUYANA BASED ON A FABRICIAN TYPE (COLEOPTERA, BRENTIDAE)

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ABSTRACT

A new genus *Pnoia* **gen. nov.** is described based on the single syntype known of *Attelabus femoralis* Fabricius, 1801, from Guyana. This single syntype is designated as the lectotype. The **new combination** *Pnoia femoralis* is proposed, and, in addition, *Pnoia latipes* (Sharp, 1891), **comb. nov.** is proposed for *Apion latipes*. The characters of the new genus are discussed and it is placed in the subtribe Piezotrachelina.

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Keywords. *Apionion*; *Coelocephalapion*; J.C. Fabricius; Mexico; Neotropics; old collections; Panama; Peru.

RESUMEN

Un nuevo género de Apioninae de Guyana basado en un tipo de Fabricius (Coleoptera, Brentidae)

Se describe un nuevo género *Pnoia* **gen. nov.** basándose en el único sintipo conocido de *Attelabus femoralis* Fabricius, 1801, de Guyana. Este único sintipo se designa como lectotipo. Se propone la **nueva combinación** *Pnoia femoralis* y, además, *Pnoia latipes* (Sharp, 1891), **comb. nov.** se propone para *Apion latipes*. Se discuten los caracteres del nuevo género y se sitúa en la subtribu Piezotrachelina.

Palabras clave. *Apionion*; *Coelocephalapion*; J.C. Fabricius; México; Neotrópica; colecciones antiguas; Panamá; Perú.

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Introduction

When I had the opportunity of visiting the Museum of Zoology of the University of Copenhagen in October 2008, I could not resist the idea of studying some of the types of Johann Christian Fabricius (1745-1808) whose identity was unknown to specialists and cataloguers. One article that is fruit of this study has already appeared (Alonso-Zarazaga, 2014). Three other type specimens awaited a redescription and a taxonomic placement but, unfortunately, it was

possible only to study one apionid, *Attelabus femoralis* Fabricius, 1801, before the deadline for the return of the loaned specimens became due.

Fabricius (1801) described *Attelabus femoralis* from an unknown number of specimens from South America, collected by Smidt and housed in the collection de Sehestedt. Zimsen (1964) mentioned a single specimen in the “Copenhagen Collection”. I have studied this (a female) with some difficulty because of the extreme fragility of the animal and of its unstable mounting. During the study

the specimen fell off its mounting because of the crystallisation of the gum used to stick it to a small paper triangle, losing part of the right fore tarsus and separating the fore body and the hind body. I have carefully re-prepared the insect, sticking fore and hind body together, and then sticking the resulting structure to a new pointed card. To this card I have also glued the remains of the fore tarsus. In total, the specimen lacked the left antenna, part of the fore left tarsus and the middle left tarsus; the animal shows the results of a previous pinning so that the elytra are divaricate, the right elytron showing a hole and a longitudinal crack, being partially separated from the body; the abdomen is complete but separate from the body and hooked to it by some dry membranous tissues. I designate this specimen as the lectotype of *Attelabus femoralis* and I have added a lectotype label. I have kept the old paper triangle and the original pin with one red label with TYPE and one handwritten label with: Essequibo / Smidt / Mus. de Sehestedt / *Attelabus femoralis* F. The original description did not mention the exact locality “Essequibo” (a Dutch colony in present-day Guyana, sharing its name with a river), which now becomes the type locality of the species because of the lectotype designation.

The study of this specimen shows that it belongs to an undescribed genus, which is described below, even if the male genitalia is not known, since the characters are so clear. No attempt has been made to extract the female genitalia, since usually they are very similar in all Apioninae, and the fragile condition of the specimen advised against it.

Results

Genus *Pnoia* gen. nov.

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TYPE SPECIES. *Attelabus femoralis* Fabricius, 1801.

DIAGNOSIS. Vestiture minute, similar in most parts of the body, piliform; one very short specialised seta (trichobothrium) on end of 7th interstria (another on apex of 9th interstria in *P. latipes*). Forehead visibly convex in side view, in dorsal view medially sulcate, with 2 irregular lines of punctures on each side, narrower than tip of rostrum. Scape at least 1.4 × as long as width of mesorostrum (in female). Pronotum conical, sides straight, base bisinuate, basal flange absent, prescutellar fovea absent or just a superficial fine line. Femora reddish at middle. Elytra squarish, with a faint bluish violet shine. Striae at apex join 1, 2+9, 3+4, 5+6, 7+8, deepened apically, 3-8 foveate at junction, 2+9 with a continuous, elevated outer margin, 10th (costal) interstria at apex strongly convex and explanate apically.

ETYMOLOGY. The name is an anagram of *Apion*. Gender feminine.

Pnoia femoralis (Fabricius, 1801) comb. nov.

Attelabus femoralis Fabricius, 1801: 423.

Apion femorale (Fabricius): Schoenherr, 1839: 410.

Measurements (in mm): Total length (r.e.): 4.94. Rostrum: length: 2.51; width at apex: 0.30; mesorostral width: 0.36. Forehead width: 0.24. Distance from eye to antennal insertion: 1.01. Antennae (length × width): scape: 0.51 × 0.08; desmomere 1: 0.14 × 0.07; desmomere 2: 0.13 × 0.06; desmomere 3: 0.09 × 0.06; desmomere 4: 0.08 × 0.06; desmomere 5: 0.07 × 0.06; desmomere 6: 0.10 × 0.08; desmomere 7: 0.10 × 0.09; club: 0.34 × 0.15. Scutellum: length: 0.24; width: 0.16. Pronotum: length: 1.32; width at base: 1.42; width at apex: 0.92. Elytra: length: 3.14; width: 2.51.

Colour black, elytra with a faint violet blue shine, antennae, tibiae and tarsi dark piceous brown, femora black at extreme base and knee, remainder reddish.

Vestiture minute, ca. 50 µm long, whitish to semi-transparent, in 2-3 irregular rows on elytral interstriae, and one row in striae, a bit more condensed on elytral declivities and on sides of 5th sternite; one very short specialised seta (trichobothrium) on end of 7th interstria (I have been unable to confirm the presence of another on apex of 9th interstria, probably due to the bad state of the specimen).

Rostrum 8.4 × as long as wide at apex, 1.90 × as long as pronotum, in dorsal view subcylindrical, sides widening from base to mesorostrum, prorostrum widest at apex, metarostrum with a short median fine sulcus at base prolonged up to mesorostrum as an impunctate line, rest densely punctured, prorostrum more finely and sparsely punctate; in side view rostrum moderately curved, metarostrum with punctures rather confluent towards eyes.

Antennae inserted at 0.40 of base of rostrum; scape straight, 6.4 × as long as wide, as long as first 5 desmomes and as long as 1.4 × width of mesorostrum, first four desmomes oblong, fifth subisodiametric, sixth transverse, seventh slightly longer than wide, cup-shaped; club fusiform, ca. 2.3 × as long as wide, sutures marked, last segment almost as long as first and second together.

Cephalic capsule in dorsal view transverse, sides convex, constricted behind eyes; eyes convex, moderately prominent; in side view, forehead convex, making a weak angle with base of rostrum, punctures in one line behind eyes, large, longitudinally sulciform; in ventral view, with low, rounded lateral ridges reaching almost to hind level of eye.

Pronotum 0.93 × as long as wide at base, punctures smaller than those on head (ca. 20 µm in diameter), separated 1-4 × their diameters or even more on disc, denser on sides; prescutellar fovea reduced to a finely impressed line; base 1.54 × as wide as apex.



Fig. 1.— Lectotype of *Pnoia femoralis* (Fabricius, 1801), habitus, dorsal view.

Fig. 1.— Lectotipo de *Pnoia femoralis* (Fabricius, 1801), habitus, vista dorsal.

Scutellum $1.5 \times$ as long as wide at base, elongate triangular, depressed at middle, base weakly emarginate.

Elytra $1.25 \times$ as long as wide, markedly convex, subrectangular, sides strongly converging to apex, humeri not projecting beyond lateral margin, 9-striate; striae catenulate, at base 1st surpassing apex of scutellum, 2nd outcurved, 3rd strongly outcurved and joining base of 4th, others straight to base except 6th, shortened into the humeral callus, 9th biangulate before base, five inner striae stepped (i.e. the inner margin at a higher, more prominent level than the outer margin), others flat-margined; striae much thinner than interstriae (e.g. 3rd stria at one third of length of elytra ca. $\frac{1}{8}$ of width of 4th interstria); interstriae flat, weakly microreticulate, transversely rugulose.

Mesocoxae moderately separated by union of meso- and metaventral apophyses. Metaventral disc minutely punctate and transversely, finely strigose, sides of metaventrite with denser and larger punctures. Abdominal sternites uniformly convex, punctures separated 1-3 \times their diameter, except 5th sternite densely, rugosely punctate near margin, almost impunctate in a median posterior triangle.

Legs normal, tibiae without mucro, 1st protarsomere $1.5 \times$ as long as wide, triangular, 2nd triangular, subtransverse, 3rd strongly bilobate, $\frac{1}{3} \times$ as wide as 2nd, onychium short, robust, surpassing lobes of 3rd tarsomere by ca. $\frac{1}{3}$ length of onychium; claws acutely dentate.

Male: unknown. See Discussion

Discussion

Using current keys, with the added difficulty that these are prepared only for males, this species would be identified as either a *Coelocephalapion* Wagner, 1914 or an *Apionion* Kissinger, 1998, in most cases by elimination of other possible genera (Alonso-Zarazaga, 2004; de Sousa et al., 2019). Both genera are in all probability polyphyletic assemblages of species belonging to different evolutionary lines, a supposition that can be supported by an inspection of the different kinds of male genitalia portrayed in Kissinger (1968) for the species of both genera. However, in addition, *Pnoia femoralis* shows a peculiar character of *Piezotrachelina*, namely, the fine elytral striae deepened at apex around their union with the other



Fig. 2.— Lectotype of *Pnoia femoralis* (Fabricius, 1801), habitus, lateral view.

Fig. 2.— Lectotipo de *Pnoia femoralis* (Fabricius, 1801), habitus, vista lateral.

striae, so that the area between the tenth (costal) interstria and the umbo is depressed, and the tenth interstria is strikingly convex, ending externally in an explanate margin. This can be seen in most genera of Piezotrachelina, and it is perfectly visible in the Old World representatives, as well as in the two American genera of Apioninae hitherto included in this subtribe, namely *Chrysapion* Kissinger, 1968 and *Fallapion* Kissinger, 1968. *Pnoia* differs from the first by the separated mesocoxae (tangent in *Chrysapion*) and from the second by the conical, subtransverse pronotum (subturbinate and as long as wide or longer in *Fallapion*).

Kissinger (1998) extracted some species from his previous (Kissinger, 1968) “*Apion* (*Coelocephalapion*) *annulatum* species group”, which included *Apion annulatum* Gerstaecker, 1854, *A. championi* Sharp, 1890, *A. crassum* Fall, 1898, *A. derasum* Sharp, 1890, *A. dilatatum* Smith, 1884, *A. fenyesi* Kissinger, 1968, *A. howdeni* Kissinger, 1968, *A. inflatipenne* Sharp, 1891, *A. latipenne* Sharp, 1891, *A. latipes* Sharp, 1891, *A. lentum* Sharp, 1891, *A. neolentum* Kissinger, 1968, *A. samson* Sharp, 1891, and *A. subauratum* Sharp, 1890, to form his new genus *Apionion*, adding four new species, just on the basis of the conical shape of

the pronotum, which is a rather repeated, homoplastic formation in Apionini at least. I have been able to study several of these species, including the type species of *Apionion*, *A. crassum*, to convince myself that there are at least two different phyletic lines. Only two species in *Apionion* have the elytra bluish and the femora reddish at middle: *Apionion samson* and *A. latipes*. The first has the basal pronotal half with sides subparallel, not strictly conical and the second is smaller (3.59–3.75 mm vs. 4.94) with the rostrum in both sexes shorter (in female, $1.37 \times$ as long as pronotum vs. 1.90). However, *Apionion latipes* seems to be a closer relative of *P. femoralis*, showing the same rectangular elytral outline (cf. Kissinger, 1968: fig. 112g) and a very similar female rostrum, although a little more robust (cf. Kissinger, 1968: fig. 112i). Another character pointing to the congeneric relation is the union of the striae at apex, which Kissinger (1968) gives as 1; 2+(7+8)+9; 3+4; 5+6 for *Apionion latipes*, very similar to the one given here for *P. femoralis*. In the remaining *Apionion*, stria 1 is fused at apex with 9 or with 2+9 (except in *Apionion derasum*, which is not a Piezotrachelina from its male genitalia). The disposition of the striae at base of elytron in *A. latipes* seems

very similar to that in *P. femoralis*. For these reasons, the **new combination** *Pnoia latipes* (Sharp, 1891) is proposed as well. The male genitalia of this species depicted by Kissinger (1968: figs. 110 p-r) may serve as an example for the genus.

While the male of *P. femoralis* is unknown, we could extrapolate, if this similarity corresponds to a true phylogenetic relationship that is still to be demonstrated, what characters a male of *Pnoia femoralis* could show: tibiae 2 and 3 mucronate, rostrum always longer than prothorax and genitalia of piezotracheloid type, similar to figs. 110p-r (in Kissinger, 1968), in particular with the typical very short temones of the penis (Alonso-Zarazaga, 1990).

Both species can be distinguished as follows:

1. Length: 4.94 mm. Female rostrum 1.90 × as long as pronotum. Interstriae at middle ca. 8 × as wide as striae. Guyana ***P. femoralis*** (Fabricius, 1801)
- Length 3.59-3.75 mm. Female rostrum 1.37 × as long as pronotum. Interstriae at middle ca. 3 × as wide as striae. Mexico, Panama, Peru ***P. latipes*** (Sharp, 1891)

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