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# A Preliminary Revision of the Genus

## *Aphrastobracon* ASHMEAD

(Hymenoptera, Braconidae)

By

CHIHISA WATANABE

(With 2 Text-figures)

Up to the present time three genera have been erected for the reception of species belonging to this interesting and aberrant group of *Braconidae*: the Oriental species falling in *Aphrastobracon* ASHMEAD, the New Guinean and Australian species in *Megalomnum* SZÉPLIGETI and most of the Ethiopian species in *Curriea* ASHMEAD. It is the purpose of this paper to give a taxonomic revision of the group and to review the described species.

On this occasion I wish to express my sincere gratitude to Professor Dr. TOICHI UCHIDA for his kind advice. Sincere thanks are also due to Dr. C. L. REMINGTON, of Yale University, U. S. A., for his kind help in arranging the literature.

### Subfamily *Braconinae*

#### Genus *Aphrastobracon* ASHMEAD

*Aphrastobracon* ASHMEAD, Proc. U. S. Nat. Mus., Vol. 18, p. 646, 1896; DALLA TORRE, Cat. Hymen., Vol. 4, p. 256, 1898; ASHMEAD, Proc. U. S. Nat. Mus., Vol. 23, p. 136, 1900; SZÉPLIGETI, Gen. Insect., *Braconidae*, p. 10, 1904; VIERECK, Bull. U. S. Nat. Mus., No. 83, p. 14, 1914; BAKER, Philip. Jour. Sci., Vol. 12, p. 213, 1917; ENDERLEIN, Arch. Naturg., 84 A, Heft 11, p. 52, 1920; RAMAKRISHNA AYYAR, Bull. Ent. Res., Vol. 17, p. 91, 1926; *ibid.*, Mem. Dept. Agr. India, Ent. Ser., Vol. 10, p. 37, 1928; FAHRINGER, Opusc. bracon., Vol. 2, p. 404, 1935. (Genotype: *Aphrastobracon flavipennis* ASHMEAD, 1896).

*Megalomnum* SZÉPLIGETI, Term. Fü., Vol. 23, p. 50, 1900; *ibid.*, Gen. Insect., *Braconidae*, p. 17, 1904; VIERECK, Bull. U. S. Nat. Mus., No. 83, p. 90, 1914; RAMAKRISHNA AYYAR, Bull. Ent. Res., Vol. 17, p. 92, 1926. (Genotype: *Megalomnum oculatum* SZÉPLIGETI, 1900). **syn. nov.**

*Curriea* ASHMEAD, Proc. U. S. Nat. Mus., Vol. 23, p. 137, 1900; *ibid.*, Ent. News, Vol. 15, p. 18, 1904; SZÉPLIGETI, Gen. Insect., *Braconidae*, p. 17,

1904; *ibid.*, Ann. Mus. Nat. Hung., Vol. 4, p. 549, 1906; VIERECK, Bull. U. S. Nat. Mus., No. 83, p. 39, 1914; RAMAKRISHNA AYYAR, Bull. Ent. Res., Vol. 17, p. 92, 1926; FAHRINGER, Opusc. bracon., Vol. 1, p. 114, 1926 & Vol. 2, p. 154, 1928. (Genotype: *Curria fasciatipennis* ASHMEAD, 1904). **syn. nov.**

Most taxonomists in the *Braconidae* have recognized the close relationship between *Curria* and *Megalommum*. Although SZÉPLIGETI (1906) distinguished *Curria* from *Megalommum* by the crenulate 2nd suture on the abdomen, it is unquestionable that the former must be suppressed as a synonym of the latter as noted RAMAKRISHNA AYYAR (1926). On the other hand those taxonomists have been not so much concerned with the relationship between *Aphrastobracon* and these two genera. RAMAKRISHNA AYYAR is the only taxonomist who suggests that those three genera may have to be united. On the basis of the nature of the antefurcal nervulus, *Aphrastobracon* was given the rank of a tribe, *Aphrastobraconini*, by ASHMEAD (1900) and that of a subfamily, *Aphrastobraconinae* by SZÉPLIGETI (1904). The present investigations, however, have convinced me that the character upon which it was placed in the higher rank has no generic value. The combination of the characters, viz., the peculiar shape of the 2nd discoidal cell, the large eyes with the emarginate inner margin and the basal area of the 2nd tergite, rather brings those three genera to a single one.

*Aphrastobracon* ASHMEAD, which combines with the other two genera, may be recognized by the following general characterization:—

Head transverse or cubital; eyes very large, with the inner margin emarginate opposite the bases of the antennae. Thorax almost smooth, with the parapsidal furrows distinct. Abdomen more or less rhomboidal; 1st tergite longer than broad, with the lateral longitudinal furrows and the median wedge-shaped area well-developed; 2nd tergite quadrate with the basal raised area triangular, and with the lateral longitudinal furrows distinct; 3rd tergite broader than long, with the depression at each anterior angle of the tergite small and shallow; 2nd suture deeply impressed and crenulate or smooth. In the female the ovipositor as long as or shorter than the abdomen. Stigma of the wings large, longer than broad; radius reaching to the apex of the wing; 1st abscissa of the radius much shorter than the 2nd; 1st abscissa of the cubitus curved, making the 1st cubital cell narrow at the base; 2nd cubital cell much broader than long, slightly narrowed apically; basal nervure distinctly curved, where it bounds the 1st cubital cell; recurrent nervure received in the 1st cubital cell near the apex or interstitial; 2nd discoidal cell very different in shape, being elongate oval, almost circular or broadly oval, and the nervures around it thickened, especially at the junctures. On account of the different formation of the 2nd discoidal cell, the nervulus antefurcal

or interstitial. Basal nervure of the hind wings received into the radius just at the base or a short distance from it.

This newly combined genus might be placed in the subfamily *Braconinae* (*Vipioninae* of some authors) as pointed out by RAMAKRISHNA AYYAR. It is closely related to *Iphiaulax* FABRICIUS and other allied genera, from which it is distinguishable by the peculiar shape of the 2nd discoidal cell and by the large and emarginate eyes in both sexes.

This genus is distributed in the Oriental, Australian and Ethiopian regions, being represented by twenty-five described species.

Few definite host-records are available for species of this genus. Two Oriental species, however, are recorded: one attacks larvae of a species of *Noctuidae*, and the other is parasitic on larvae of a species of *Curculionidae*.

Furthermore, *Endovipio* TURNER\*, based on two male specimens from Ceres, Cape Province, South Africa, appears to be most similar to *Aphrastobracon*. It agrees with the latter in the antefurcal nervulus, in the 2nd tergite with a raised elongate triangular basal area and in the large eyes. In the original description, however, it is separated from the latter in having the cubitus of the fore wings straight, not bent at the base. From the description alone the proper position for that genus does not appear to be clearly indicated.

### The Oriental Region

In the Oriental region there are four species, all of which were originally placed in *Aphrastobracon*. Furthermore, *Melanobracon tibialis* ASHMEAD, a Japanese species, which was recently transferred to *Currica* by WATANABE (1937), should be referable to this genus.

The species may be distinguishable by the following key:—

#### Key to the species of the Oriental region

1. Nervulus antefurcal..... 2
  - Nervulus interstitial. Wings with a smoky brown marking on the 1st cubital cell. Legs entirely reddish yellow. Length, 7–8 mm. (♀). South India. .... *A. alcidiphagus* RAMAKRISHNA AYYAR
2. Basal nervure of the hind wings received into the radius just at the base, being interstitial with the subcostal nervure. Wings without smoky brown markings. .... 3
  - Basal nervure of the hind wings received into the radius a short distance from the base, not interstitial with the subcostal nervure. Wings with brown smoky markings. .... 4
3. Wings flavo-hyaline, the apical part faintly smoky and iridescent; stigma and nervers bright yellow. Legs reddish yellow, without black markings. Ovipositor as long as half the abdomen. Length, 4–6 mm. (♀) and 3–5.5 mm. (♂). Ceylon and South India. ... *A. flavipennis* ASHMEAD

\* Ann. Mag. Nat. Hist., (9) Vol. 10, p. 273, 1922. (Genotype: *Endovipio ceresensis* TURNER, 1922).

- Wings subhyaline, slightly fuscous; stigma and nervures almost dark brown. Hind tibiae, except at the base, and four posterior tarsi black. Ovipositor as long as two-thirds the length of the abdomen. Length, 7--10 mm. (♀). Japan. .... *A. tibialis* (ASHMEAD)
- 4. Second cubital cell 3 times as long as wide. Length, 7--8.5 mm. (♂). The Philippine Islands and Formosa. .... *A. philippinensis* BAKER
- Second cubital cell 2 times as long as wide. Ovipositor as long as half the abdomen. Length, 7--8 mm. (♀). South India. .... *A. ayyari* nom. nov.

### 1. *Aphrastobracon flavipennis* ASHMEAD

*Aphrastobracon flavipennis* ASHMEAD, Proc. U. S. Nat. Mus., Vol. 18, p. 648, ♂, 1896; DALLA TORRE, Cal. Hymen., Vol. 4, p. 256, 1898; SZÉPLIGETI, Gen. Insect., *Braconidae*, p. 10, 1904; RAMAKRISHNA AYYAR, Mem. Dept. Agr. India, Ent. Ser., Vol. 8, No. 12, fig. 12, 1925; *ibid.*, Bull. Ent. Res., Vol. 17, p. 91, ♀♂, 1926, & Vol. 18, p. 73, 1927; *ibid.*, Mem. Dept. Agr. India, Vol. 10, p. 38, Pl. XI, fig. 1, ♀ (1928).

This species was originally described from a single male specimen. In 1928 a detailed description of both sexes with a figure of the female was given by RAMAKRISHNA AYYAR. In that description he noted that the shape of the 2nd discoidal cell and the contour of the nervulus are considerably variable in his examined material of this species. Further in that figure it is indicated that the basal nervure of the hind wings is received into the radius just at the base, being interstitial with the subcostal nervure. This character is noted by ASHMEAD and RAMAKRISHNA AYYAR.

Host : *Eublemma scitula* RAMBUR (*Noctuida.*).

The host-relationship of this species is reported by RAMAKRISHNA AYYAR. His note reads as follows :—

"Though in the early years, when this insect was bred out from Coccid material, it was thought to be a natural enemy of the scale itself, it was later on found that the real host of the parasite is a Noctuid caterpillar, *Eublemma scitula*, RAMB., which latter is the real enemy of the scale-insect."

Distribution: Ceylon (after ASHMEAD); South India (Narasapur and Beswada in the Northern Circars, Mysore and Coimbatore, after RAMAKRISHNA AYYAR).

### 2. *Aphrastobracon tibialis* (ASHMEAD)

*Melanobracon tibialis* ASHMEAD, Proc. U. S. Nat. Mus., Vol. 30, p. 159, ♀, 1903.

*Atanycolus tibialis* FAHRINGER, Opusc. bracon., Vol. 1, p. 579, 1928.

*Curriea tibialis* WATANABE, Jour. Facul. Agr., Hokkaido Imp. Univ., Vol. 42, p. 15, ♀, Pl. IV, fig. 2, 1937.

This species was originally described from three female specimens, falling in the genus *Melanobracon*. In 1937 I transferred it to the genus *Curriea* and

gave a description. Accordingly, a detailed discussion of this species will not be repeated here.

This species is most similar to *A. flavipennis*, from which it is immediately distinct in the coloration of the legs and wings, in the size, and in the length of the ovipositor as mentioned above in the key. The male of this species has not yet been described.

Distribution : Japan (Gifu, after ASHMEAD ; Shizuoka, Kyoto, Kibune and Hakuba, after WATANABE).

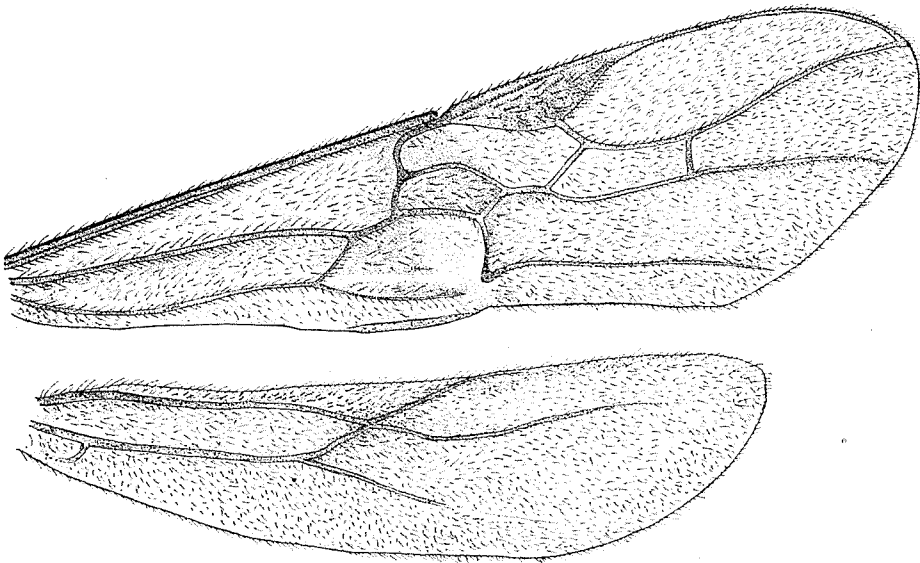


Fig. 1. *Aphrastobracon tibialis* (ASHMEAD) (♀) Wings (original).

### 3. *Aphrastobracon philippinensis* BAKER

*Aphrastobracon philippinensis* BAKER, Philp. Jour. Sci., Vol. 12, p. 213, ♂, 1917; RAMAKRISHNA AYYAR, Bull. Ent. Res., Vol. 17, p. 98, 1923.

This species was originally described from a single male specimen. The female has not yet been represented. The present male specimens from Formosa perfectly agree with the original description, except "the parallel vein is interstitial". The interstitial position of the nervus parallelus (parallel vein), however, is not a character of the subfamily in which this genus is included. Accordingly, it is not unnatural to suppose that in the original description this is the result of either drawing up from an abnormal specimen or misdescribing of the venation.

Examining the present specimens, the following characters which are not

noted by BAKER may be added:

Antennae 54—58 jointed, the two basal joints reddish yellow. Basal nervure of the hind wings received in the radius a short distance from the base, not interstitial with the subcostal nervure. Length, 7—8.5 mm.

Furthermore, those specimens differ from the original description in having the nervus parallelus originating below the middle of the 2nd discoidal cell, never interstitial with the medial nervure, and the 1st and 2nd discoidal cells with a smoky brown marking respectively, but very faintly.

Distribution: The Philippine Islands (Mount Maquiling, Laguna, Luzon Island, after BAKER); Formosa (Ako, 3 ♂♂. 10, VII, 1906, leg. S. MATSUMURA).

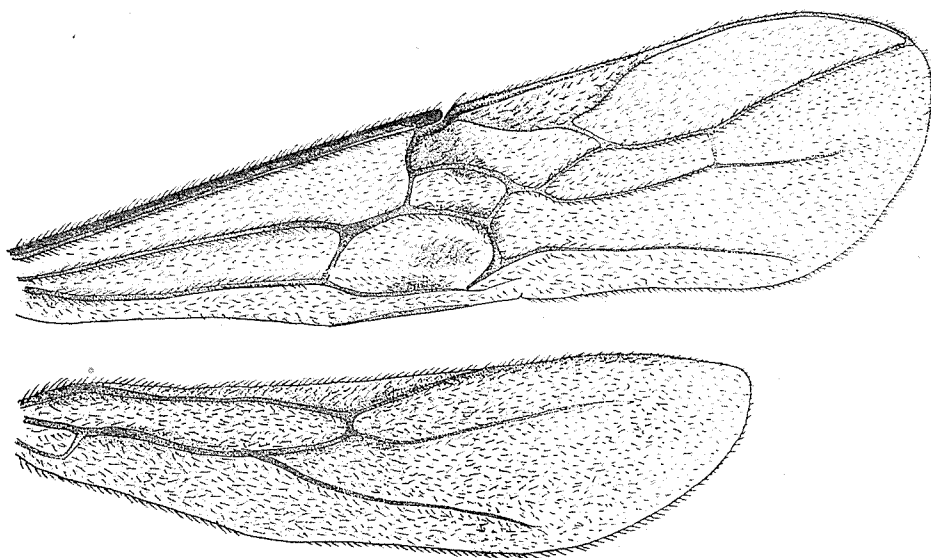


Fig. 2. *Aphrastobracon philippinensis* BAKER (♂) Wings (original).

#### 4. *Aphrastobracon ayyari* nom. nov.

*Aphrastobracon maculipennis* RAMAKRISHNA AYYAR, Bull. Ent. Res., Vol. 17, p. 96, ♀, fig. 1, 1926; *ibid.*, Mem. Dept. Agr. India, Ent. Ser., Vol. 10, p. 33, Pl. X, 1928. (nec *Megalommum maculipenne* CAMERON, 1914).

This species was originally described from five female specimens. According to the original description, apart from the nervus parallelus being not interstitial, this species differs from *A. philippinensis* in the following points:—

The submedian cell is not so small in this species as in *philippinensis*, nor is the 2nd discoidal cell quite so long as in that species. A smoky brown marking is apparent in the 1st and 2nd discoidal cells respectively. The 2nd

cubital cell is 2 times as long as wide in this species, while it is 3 times in *philippinensis*.

These characters, however, may be too indefinite to keep this species distinct from *philippinensis*. Accordingly, it is not impossible to believe that this species may be identical with the female of that species which has been represented only by the male.

Distribution : South India (Devankonda and Nandyal in Kurnool, and Coimbatore, after RAMAKRISHNA AYYAR).

##### 5. *Aphrastobracon alcidiphagus* RAMAKRISHNA AYYAR

*Aphrastobracon alcidiphagus* RAMAKRISHNA AYYAR, Mem. Dept. Agr. India, Ent. Ser., Vol. 10, p. 38, 1923.

This species was originally described from two specimens which are probably the female. According to the original description, it closely resembles *A. ayyari* (= *A. maculipennis* R. A.), but differs from the latter in the following characters : —

The 1st and 2nd discoidal cells are immaculate, only the surrounding nervures of the 2nd discoidal cell being slightly infumate. The 2nd discoidal cell is quite oval. The nervulus is interstitial with the basal nervure, and very feebly developed, very short and vertical, not curved or slanting.

These characters, however, may be considerably variable, with no specific value, since the changes in the shape of the 2nd discoidal cell and in the contour of the nervulus may frequently occur even in representatives belonging to the same species as stated RAMAKRISHNA AYYAR in *A. flavipennis*. It is therefore not unlikely that *A. philippinensis*, *A. ayyari* and *A. alcidiphagus* may have to be united, but I am much inclined to the opinion that they might be treated as different species until fuller examinations can be completed.

Host : *Alcides affaber* FAUST (*Curculionidae*).

According to RAMAKRISHNA AYYAR the type-specimens were reared as parasitic on the stem-boring weevil grub, *Alcides affaber* FAUST, attacking *Hibiscus cannabinus* (Gogu) plants in Coimbatore.

Distribution : South India (Coimbatore, after RAMAKRISHNA AYYAR).

### The Australian Region

The Australian fauna contains six species of this genus : one is described from Australia and Tasmania, and the others from New Guinea. All the species were originally placed in the Genus *Megalommum*.

It is very difficult to give a complete revision of these species in the present state of my knowledge, having no opportunity to examine the type-



specimens and any authentic representatives of these species.

The six species of the Australian region may be roughly distinguishable by the following key which is based on the descriptions alone.

#### Key to the species of the Australian region

1. Legs reddish yellow without black markings. .... 2
- Legs reddish yellow with black markings. .... 4
2. Abdomen black, with reddish yellow markings. Wings fusco-hyaline, with smoky brown markings. .... 3
- Abdomen black, with the 1st segment on the ventral and lateral sides and 3rd to 7th segments on the apical margin narrowly white. Wings fusco-hyaline with no smoky brown markings. Ovipositor shorter than the abdomen, 2 mm. Length, 9 mm. (♀) and 8 mm. (♂). Australia and Tasmania. .... *A. annulatus* (TURNER)
3. Ovipositor shorter than the abdomen. Length, 8 mm. (♀). New Guinea. ....
- ..... *A. oculatus* (SZÉPLIGETI)
- Ovipositor as long as the abdomen. Length, 9 mm. (♀). New Guinea. ....
- ..... *A. fuscitipennis* (CAMERON)
4. Ovipositor shorter than the abdomen. 8 mm. (♀). New Guinea. .... *A. birói* (SZÉPLIGETI)
- Ovipositor as long as the propodeum and abdomen united. .... 5
5. Hind legs reddish yellow with the femora, tibiae and tarsi black. New Guinea. ....
- ..... *A. maculipennis* (CAMERON)
- Hind legs reddish yellow with the tarsi for the greater part black. Length, 9 mm. (♀). New Guinea. .... *A. nigriceps* (CAMERON)

#### 6. *Aphrastobracon oculatus* (SZÉPLIGETI)

*Megalommum oculatum* SZÉPLIGETI, Term. Füz., Vol. 23, p. 51, ♀, 1900; ibid., Gen. Insect., *Braconidae*, p. 17, 1904; ibid., Ann. Mus. Nat. Hung., Vol. 4, p. 549, ♂, 1906.

This species was originally described from a single female specimen. In 1914 VIERECK designated it as the genotype of *Megalommum*.

Distribution: New Guinea (Astrolabe Bay and Simbang, after SZÉPLIGETI).

#### 7. *Aphrastobracon birói* (SZÉPLIGETI)

*Megalommum Birói* SZÉPLIGETI, Term. Füz., Vol. 23, p. 51, ♀, 1900; ibid., Gen. Insect., *Braconidae*, p. 17, 1904.

This species was originally described from a single female specimen, being distinct from *M. oculatum* by the shape of the 2nd discoidal cell and by the coloration of the abdomen and the hind legs.

Distribution: New Guinea (Astrolabe Bay, after SZÉPLIGETI).

#### 8. *Aphrastobracon nigriceps* (CAMERON)

*Megalommum nigriceps* CAMERON, Nova Guinea, Vol. 5, p. 45, ♀, 1906.

In the original description this species was placed nearest to *M. birói*,

from which it differs in the length of the abdomen.

Distribution: New Guinea (Wakobi, after CAMERON).

9. **Aphrastobracon maculipennis** (CAMERON)

*Megalommum maculipenne* CAMERON, Nova Guinea, Vol. 9, p. 241, ♀, 1914.

This species differs from the other New Guinean species by the color of the hind legs as mentioned above in the key.

Distribution: New Guinea (after CAMERON).

10. **Aphrastobracon fasciatiennis** (CAMERON)

*Megalommum fasciatienne* CAMERON, Nova Guinea, Vol. 9, p. 241, ♀, 1914.

Judging from the original description this species is closely related to *A. oculatus*, from which it may be merely distinguishable by the length of the ovipositor.

Distribution: New Guinea (after CAMERON).

11. **Aphrastobracon annulatus** (TURNER)

*Megalommum annulatum* TURNER, Trans. Ent. Soc. London, 1918, p. 97, ♀♂, 1918.

This is the only species described from Australia and Tasmania. According to the original description it is separated from the other described species by the eyes which are not quite so large as in typical species of the genus and the face therefore broader, and by the large tegulae.

Distribution: Australia (Yallingup, New South Wales, after TURNER); Tasmania (Eaglehawk Neck, after TURNER).

### The Ethiopian Region

This genus is represented in the Ethiopian region by fourteen described species, among which eleven were originally placed in *Curriea*, one in *Megalommum* and the other two in *Aphrastobracon*. These species were reviewed by BRUES (1926) and by FAHRINGER (1928) who gave a synoptical key to them. In the present state of my knowledge it is therefore unnecessary to discuss the Ethiopian species here further than merely to give a list of the described species.

In the following eight species the nervulus is interstitial.

12. **Aphrastobracon fasciatiennis** (ASHMEAD)

*Curriea fasciatiennis* ASHMEAD, Ent. News, Vol. 15, p. 18, ♀, fig. 1, 1904; SZÉPLIGETI, Wiss. Ergebn. Kilimandjaro-Meru Exped., Vol. 2, p. 28, 1910; *ibid.*, Ent. Mitt., Vol. 2, p. 383, 1913; *ibid.*, Mitt. Zool. Mus., Berlin, Vol. 7, p. 158,

1914; BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 359, 1926; FAHRINGER, Opusc. bracon., Vol. 1, p. 114, 1926 & Vol. 2, p. 157, 1928.

Distribution: Liberia (Mount Coffee, after ASHMEAD); Togo (Bismarckburg, after SZÉPLIGETI); Cameroons (Conradt, after SZÉPLIGETI); Morocco (after FAHRINGER).

13. **Aphrastobracon flavomaculatus** (CAMERON)

*Megalommum flavomaculatum* CAMERON, Rec. Albang Mus. Grahamstown, Vol. 1, p. 157, ♀ (1904).

*Curriea flavomaculata* CAMERON, Arch. Math. Naturvidens, Vol. 30, No. 10, p. 24, 1909; SZÉPLIGETI, Wiss. Ergebn. Kilimandjaro-Meru Exped., Vol. 2, p. 28, 1910; BRUES, Ann. South African Mus., Vol. 19, p. 71, 1924; *ibid.*, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 359, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 158, ♀♂, 1928.

According to FAHRINGER's key the nervulus of this species is interstitial in the female, while it is antefurcal in the male.

Distribution: Cape Province (Dunbrody, after CAMERON, & Algoa Bay, after FAHRINGER); Tanganyika Territory (Kilimanjaro, after SZÉPLIGETI).

14. **Aphrastobracon testaceus** (CAMERON)

*Curriea testacea* CAMERON, Arch. Math. Naturvidens, Vol. 30, No. 10, p. 24, ♂, 1909; BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 360, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 163, 1928.

Distribution: Mozambique (Delagoa Bay, after CAMERON).

15. **Aphrastobracon striatus** (CAMERON)

*Curriea striata* CAMERON, Arch. Math. Naturvidens, Vol. 30, No. 10, p. 24, ♀, 1909; BRUES, Ann. South African Mus., Vol. 19, p. 72, 1924; *ibid.*, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 360, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 162, 1928.

Distribution: Mozambique (Delagoa Bay, after CAMERON).

16. **Aphrastobracon pulchripennis** (SZÉPLIGETI)

*Curriea pulchripennis* SZÉPLIGETI, Wiss. Ergebn. Kilimandjaro-Meru Exped., Vol. 2, p. 28, ♀, 1910; *ibid.*, Mitt. Zool. Mus. Berlin, Vol. 7, p. 158, 1914; BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 359, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 160, 1928.

Distribution: Tanganyika Territory (Kilimanjaro and Kibwezi, after SZÉPLIGETI).

17. **Aphrastobracon fenestratus** (SZÉPLIGETI)

*Curriea fenestrata* SZÉPLIGETI, Mitt. Zool. Mus. Berlin, Vol. 7, p. 158, ♀, 1914; BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 359, 1926; FAHRINGER, Opusc. bracon., Vol. 1, p. 115, 1926 & Vol. 2, p. 158, 1928.

Distribution : Togo (Bismarckburg, after SZÉPLIGETI).

18. **Aphrastobracon testaceipes** (SZÉPLIGETI)

*Curriea testaceipes* SZÉPLIGETI, Ann. Soc. Ent. Bergique, Vol. 58, p. 109, ♀, 1914; *ibid.*, Mitt. Zool. Mus. Berlin, Vol. 7, p. 158, 1914; BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 360, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 163, 1928.

Distribution : French Congo (Chutes de Samlia Riv. N. Gami, after SZÉPLIGETI); Spanish Guinea (Uelleburg, after SZÉPLIGETI); Cameroons (Joh. Albrechtschöhe, after SZÉPLIGETI).

18a. var. **bruesi** (FAHRINGER)

*Curriea testaceipes* var. *bruesi* FAHRINGER, Opusc. bracon., Vol. 2, p. 164, 1928.

Distribution : Mozambique (Delagoa Bay, after FAHRINGER).

19. **Aphrastobracon simplex** (BRUES)

*Curriea simplex* BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 242, ♂ & p. 259, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 160, 1928.

Distribution : Belgian Congo (Bulawayo, Southern Rhodesia, after BRUES).

In the following six species the nervulus is antefurcal.

20. **Aphrastobracon nigriventris** (SZÉPLIGETI)

*Curriea nigriventris* SZÉPLIGETI, Ent. Mitt., Vol. 2, p. 383, ♂, 1913; BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 359, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 160, 1928.

Distribution : Cameroons (Conradt, after SZÉPLIGETI).

21. **Aphrastobracon transiens** (SZÉPLIGETI)

*Curriea transiens* SZÉPLIGETI, Mitt. Zool. Mus. Berlin, Vol. 7, p. 158, ♀, 1914; BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 360, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 164, 1928.

Distribution : Cameroons (Joh. Albrechtshöhe, after SZÉPLIGETI).

22. **Aphrastobracon antefurcalis** (SZÉPLIGETI)

*Curriea antefurcalis* SZÉPLIGETI, Ergebn. 2ten Zent-Afrika Exped., Vol. 1, p.

139, ♀, 1915; BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 359, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 157, 1928.

Distribution : Cameroons (Mukonje Farm, after SZÉPLIGETI).

**22a. var. longiseta (FAHRINGER)**

*Curriea antefurcalis* var. *longiseta* FAHRINGER, Opusc. bracon., Vol. 2, p. 157, ♀, 1928.

Distribution : Mozambique (Port Beira, after FAHRINGER).

**23. *Aphrastobracon graciosus* ENDERLEIN**

*Aphrastobracon graciosus* ENDERLEIN, Arch. Naturg., 84 A, Heft 11, p. 53, ♂, 1920; BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 369, 1926; RAMAKRISHNA AYYAR, Bull. Ent. Res., Vol. 17, p. 98, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 405, 1935.

Distribution : Spanish Guinea (Fernando Po, after ENDERLEIN).

**24. *Aphrastobracon guttifer* ENDERLEIN**

*Aphrastobracon guttifer* ENDERLEIN, Arch. Naturg., 84 A, Heft 11, p. 53, ♂, 1920; BRUES, Proc. Amer. Acad. Arts Sci., Vol. 61, p. 369, 1926; RAMAKRISHNA AYYAR, Bull. Ent. Res., Vol. 17, p. 98, 1926; FAHRINGER, Opusc. bracon., Vol. 2, p. 405, 1935.

Distribution : Cameroons (Barombi, after ENDERLEIN).

**25. *Aphrastobracon xanthoceph* (FAHRINGER)**

*Curriea xanthoceph* FAHRINGER, Opusc. bracon., Vol. 2, p. 164, ♂, 1928.

Distribution : Gold Coast (Addab, after FAHRINGER).

### Literature cited

ASHMEAD, W. H.

1896. On some reared Parasitic Hymenopterous Insects from Ceylon. (Proc. U. S. Nat. Mus., Vol. 18, pp. 644—648).

1900. Classification of the Ichneumon Flies, or the Superfamily Ichneumonoidea. (Proc. U. S. Nat. Mus., Vol. 23, pp. 1—120).

1904. Description of the Type of the Genus *Curriea* ASHM. (Ent. News, Vol. 15, p. 18).

1906. Descriptions of new Hymenoptera from Japan. (Proc. U. S. Nat. Mus., Vol. 30, pp. 169—201).

BAKER, C. F.

1917. A Philippine *Aphrastobracon*. (Philip. Jour. Sci., Vol. 12, pp. 213—215).

BRUES, C. T.

1924. Some South African Parasitic Hymenoptera of the Families *Braconidae*, *Alysiidae* and *Plumariidae* in the South African Museum, with a Catalogue of known Species. (Ann. South African Mus., Vol. 19, pp. 1—150).

1926. Studies on Ethiopian *Braconidae*, with a Catalogue of the African Species. (Proc. Amer. Acad. Arts Sci., Vol. 61, pp. 205—435).
- CAMERON, P.
1901. Descriptions of New Genera and Species of Hymenoptera from Dunbrody, Cape Colony. (Rec. Albany Mus., Grahamstown, Vol. 1, pp. 125—160).
1906. Hymenoptera I. Nova Guinea. Résultats de l'Expédition scientifique Néerlandaise à la Nouvelle-Guinée en 1903 sous les auspices de ARTHUR WICHMANN, Chef de l'Expédition. Vol. V, Zoologie, Livr. 1, pp. 41—65.
1909. On some African Species of *Braconidae* in the Royal Berlin Zoological Museum. (Arch. Math. Naturvidens., Vol. 30, No. 10, 27 pp.).
1914. Hymenoptera. Nova Guinea. Résultats de l'Expédition scientifique Néerlandaise à la Nouvelle-Guinée en 1907 et 1909 sous les auspices de Dr. H. A. LORENTZ, Vol. IX, Zoologie, pp. 185—248.
- DALLA TORRE, C. G. DE.
1898. Catalogue Hymenopterorum, Vol. 4, *Braconidae*, 323 pp.
- ENDERLEIN, G.
1920. Zur Kenntnis aussereuropäischer Braconiden. (Arch. Naturg., 84 A (1918), Heft 11, pp. 51—224).
- FAHRINGER, J.
- 1925—1935. Opuscula braconologica, Vol. 1, Palaearktische Region, I (pp. 1—60, 1925, pp. 61—220, 1926, pp. 221—421, 1927 & pp. 413—605, 1928); Vol. 2, Aethiopische Region, I. (pp. 1—224, 1928, pp. 225—304, 1929, pp. 305—334, 1931 & pp. 335—635, 1935).
- RAMAKRISHNA AYYAR, T. V.
1925. The Nim Mealy Scale (*Pulvinaria maxima* GREEN). (Mem. Dept. Agr. India, Ent. Ser., Vol. 8, No. 12, pp. 127—155).
1926. The Braconid Genus *Aphrastobracon*, ASHM. (Bull. Ent. Res., Vol. 17, pp. 91—98).
1927. The Parasitic Hymenoptera of Economic Importance noted from South India (Bull. Ent. Res., Vol. 18, pp. 73—78).
1928. A Contribution to our Knowledge of South Indian *Braconidae*, Pt. 1, *Vipioninae*. (Mem. Dept. Agr. India, Ent. Ser., Vol. 10, No. 3, pp. 29—60+6).
- SZÉPLIGETI, GY. V.
1900. Braconiden aus Neu Guinea. (Term. Füz., Vol. 23, pp. 49—65).
1904. Genera Insectorum, *Braconidae*, 253 pp.
1906. Braconiden aus der Sammlung des ungarischen National-Museums. (Ann. Mus. Nat. Hung., Vol. 4, pp. 547—618).
1910. *Braconidae* und *Ichneumonidae*. (Wiss. Ergebn. Schwed. Zool. Exped. Kilimandjaro-Meru, Vol. 2, pp. 25—96).
1913. Afrikanische Braconiden des Entomologischen Museums. (Ent. Mitt., Vol. 2, pp. 383—386).
1914. Afrikanische Braconiden des Belgischen Naturhistorischen Museums. (Ann. Soc. Ent. Belgique, Vol. 58, pp. 109—118).
1914. Afrikanische Braconiden des Königl. Zoologischen Museums in Berlin. (Mitt. Zool. Mus. Berlin, Vol. 7, pp. 155—230).
1915. *Braconidae*, in Ergebnisse der zweiten Deutschen Zentral-Afrika Expedition 1910—11. Vol. 1, Pt. 1, Section 6, pp. 139—154.
- TURNER, R. E.
1918. Australian *Braconidae* in the British Museum. (Trans. Ent. Soc. London, 1918, pp. 91—114).

VIERECK, H.

1914. Type Species of the Genera of Ichneumon Flies. (Bull. U. S. Nat. Mus., No. 83, pp. 1--186).

WATANABE, C.

1937. A Contribution to the Knowledge of the Braconid Fauna of the Empire of Japan (Hymenoptera). (Jour. Facul. Agr., Hokkaido Imperial Univ., Vol. 42, pp. 1--187).

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