

## ON THE SYSTEMATICS OF *HEPTASCELIO* KIEFFER (HYMENOPTERA : SCELIONIDAE)

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The rare genus *Heptascelio* Kieffer was redefined with a diagnosis of the genus. The type species *H. lugens* Kieffer is redescribed. Two new species viz. *H. striatosternus* and *H. punctisternus* are described. A key to species is also provided.

### INTRODUCTION

The genus *Heptascelio* was established by Kieffer (1916) based on the type species *Heptascelio lugens* Kieffer, collected from Philippines. Though this species is reported from Oriental, Australian and Ethiopian regions (Masner, 1976; Johnson, 1992) no other species are so far described under this genus. In this paper we describe below two new interesting species of *Heptascelio* from Kerala state. The genus is redefined and a key to species is provided.

### Abbreviations used :

F = Female; F1 - F7 = Flagellar segments 1 - 7; M = Male; MS = Malar sulcus; MV = Marginal vein; OD = Front ocellar diameter; OOL = Ocellocular line; PMV = Postmarginal vein; POL = Postocellar line; SMV = Submarginal vein; STV = Stigmal vein; T1 - T6 = Gastral tergites 1 - 6; USNM = United States National Museum of Natural History, Washington D. C., U. S. A.

### Genus *Heptascelio* Kieffer

*Heptascelio* Kieffer, 1916, *Broteria*, Rev. Luso - Brasileira 14 : 58.

Type species : *Heptascelio lugens* Kieffer, by monotypy and original designation.

*Heptascelio* : Kieffer, 1926. 48 : 1, keyed.

*Heptascelio* : Muesebeck & Walkley, 1956 : 358. Citation of type species.

*Heptascelio* : Baltazar, 1966 : 176 Catalog of species of Philippines.

*Heptascelio* : Masner, 1976 : 6, 15. Description, keyed.

*Heptascelio* : Mani & Sharma, 1982 : 151. Keyed.

**Diagnosis** : Frons with scrobe deep, upper margin carinate. Frons and vertex deeply pitted. Antenna 12 segmented, interantennal projection projecting forwards; genal posterior margin carinate. Prepectus well developed; propleura with deep anterior depression (Figs. 4 & 8); skaphion absent. Scutellum apex well emarginate; with bidentate appearance. Notauli absent. Metanotum medially with a sharp spine. Posterolateral corners of propodeum with very prominent tooth on each side or acutely pointed. Forewing with MV not touching foremargin; PMV absent. Abdomen with deep longitudinal striae with interstices forming furrows.

The genus *Heptascelio* is related to *Oreiscelio* Kieffer and to *Scelio* Latreille. *Oreiscelio* differs from *Heptascelio* mainly in having metanotal projection bidentate apically. *Scelio* differs from *Heptascelio* mainly in having apex of scutellum perfectly rounded; metanotum unarmed or with bidentate protuberance and postero - lateral corners of propodeum not distinctly projecting or spined (except in a few species of Neotropical region; Masner, 1976).

### Key to species of *Heptascelio* Kieffer

1. Mesoscutum with sparse minute pits (Fig. 1.); distance between front ocellus and scrobe 1. 18x distance between front ocellus and eye margin; abdominal sternites distinctly striate; scape a little more than 3x length of pedicel; longest hair at distal end of pedicel longer than F1.... *lugens* Kieffer

- Mesoscutum with dense close longitudinal furrows (Figs. 3 & 7) containing deep pits; longest hair of pedicel shorter than F1; other characters may or may not be different .....2.
- 2. Abdominal sternites distinctly striate (Fig. 8); longest hair on distal end of pedicel (Fig. 10) less than 0.2x length of F1; scape 3.5x as long as pedicel; distance between front ocellus and scrobe a trifle more than 1.3x distance between front ocellus and eye margin ..... *striatosternus* sp. nov.
- Abdominal sternites with distinct small setigerous pits, not distinctly striate (Fig. 4); longest hair on pedicel (Fig. 6) 0.75 x length of F1; scape 3.2x as long as pedicel; distance between front ocellus and scrobe 1.06x distance between front ocellus and eye margin ..... *punctisternus* sp. nov.

***Heptascelio lugens* Kieffer (Figs. 1-2)**

*Heptascelio lugens* Kieffer, 1916. *Broteria*, Rev. Luso Brasileira 14 : 58, Luzon, Philippines (USNM)M. (examined).

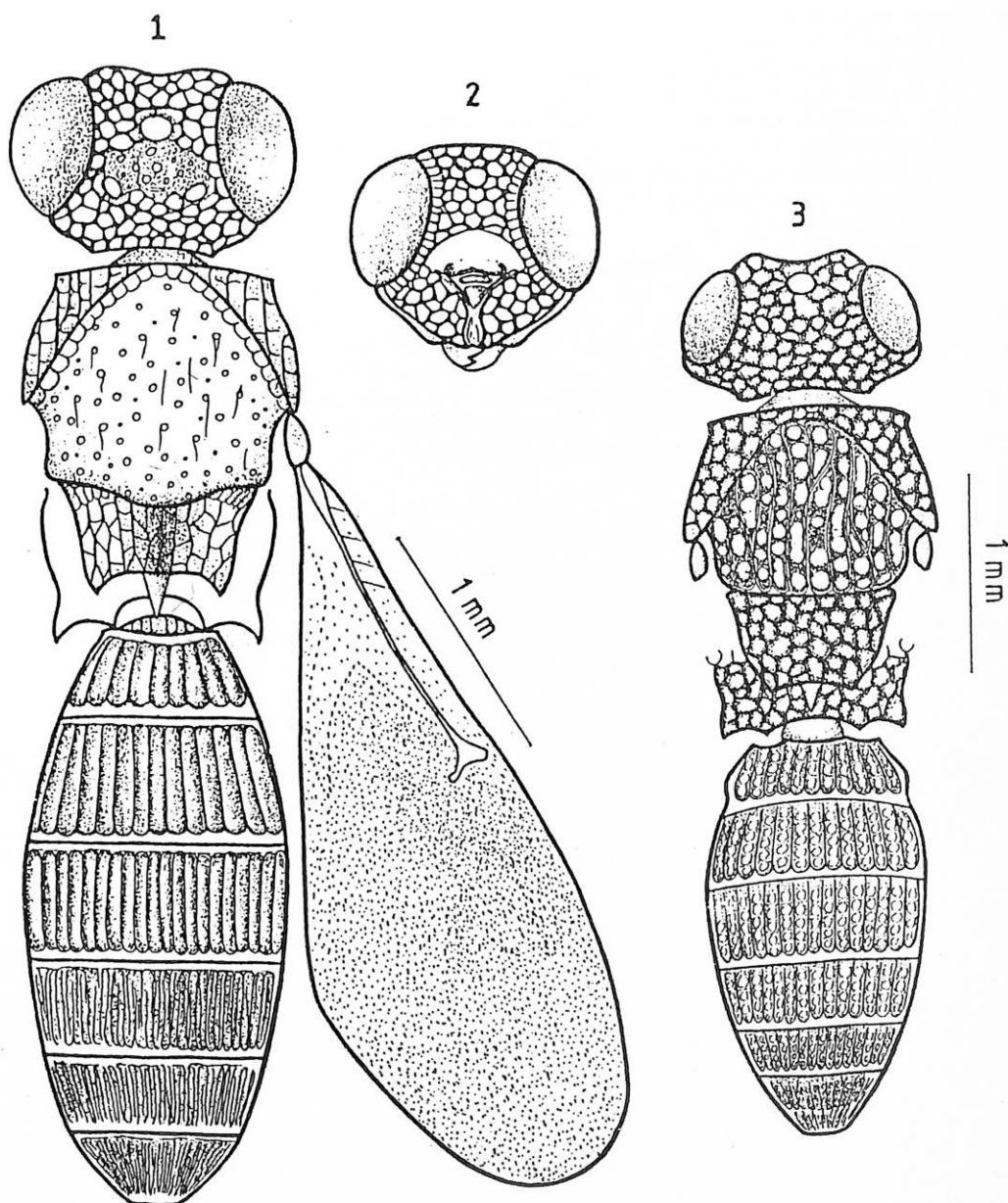
**Holotype Male** (Redescription) : Length 4.1 mm. Black with following parts otherwise : eye pale brownish yellow; ocelli pale brownish black; antenna pale brownish yellow with F1 and F2 more brownish yellow and scape brown; mandibles brown; all coxae brown, remaining parts of legs pale brownish yellow with all femora slightly more brownish in colour; abdomen liver brownish black. Wings hyaline with pilosity pale yellowish brown, veins pale brownish yellow. Pubescence pale brown.

**Head** : With deep close setigerous pits on occiput, vertex and frons; interstices narrower than half diameter of pits on most places, smooth and shiny. Head width in front view 1.5x distance between front ocellus and distal margin of clypeus; head width in dorsal view 2.6x distance between front ocellus and occipital margin, broader than maximum width of thorax. POL 3.5x OOL; OD 2x OOL; scrobe smooth and shiny, margins ecarinate on lateral sides, carinate on upper margin; distance between scrobe and front ocellus 1.6 x diameter of front ocellus, 1.18 x distance between front ocellus and eye margin. Maximum diameter of eye in profile a little more than 3x MS which is deep with its anterior and posterior margins strongly carinate, posterior marginal carina running upwards around posterior margin of eye. Gena closely and deeply punctate with postorbital carina running upwards towards temple; posterior margin of gena carinate. Both mandibles bidentate. Relative measurements of length and width of antennal segments (club missing) : scape - 10 : 3; pedicel = 3 : 2; F1 = 3 : 2.5; F2 = 2 : 3; F3 = 3 : 4; F4 = 2.5 : 4; F5 = 2.5 : 4; F6 = 2.5 : 4; F7 = 2.5 : 4. Single longest hair of pedicel longer than pedicel.

**Thorax** : With pronotum deeply emarginate on posterior border, obliterating dorsomedian area, sides with deep close pits, interstices carinate. Mesoscutum with shallow, small round pits, interstices ecarinate (Fig. 1), smooth, much wider than diameter of each pit, pits not forming longitudinal rows and not confluent, scutellum (Fig. 1) with deep close pits, interstices carinate, width of scutellum a trifle over 2x its median length, apex widely emarginate with a tooth on either side (tooth of right side missing in type). Metanotum with a sharp pointed median spine. Propodeum distinctly and closely pitted, interstices carinate, postero - lateral corners prominently acute, tooth like, posterior margin of propodeum forms two submedian teeth. Forewing as in Figure 1. Prepectus distinctly and coarsely pitted; mesopleura closely pitted, mesofemoral impression deep with narrow median smooth area; metapleuron distinctly and closely pitted.

**Abdomen** : Length 1.5x length of thorax. Tergites distinctly striate, interstices furrow - like containing minute pits. T1 shorter than T2 other tergites as in Figure 1. Abdominal sternites distinctly striate.

**Material examined** : Holotype : M. Philippines, Luzon, Mt. Makiling, Coll. Baker, C. F. (1922) (?) (USNM) No. 70486 - USNM.



**Figs. 1 - 3.** *Heptascelio lugens* Kieffer. Male : 1. Body (part only) dorsal view; 2. Head front view. 3. *Heptascelio punctisternus* sp. nov. Male : Body (part only) dorsal view.

***Heptascelio punctisternus* sp. nov. (Figs. 3 - 6)**

**Holotype Female :** Length 3.4 mm. Black with following parts otherwise; eye yellowish black; ocelli pale reflecting yellow; mandibles brown. Antenna brown with club and distal segments of funicle, apex of pedicel and radicula paler; front and middle legs pale brown with trochanter, bases and apices of femora, tibiae and tarsus paler; hind coxa blackish brown; trochanter, base of hind femur, hind tibia and tarsi pale brownish yellow; hind femur brown beyond base. Wings hyaline with pilosity and veins pale yellowish brown, MV and SMV slightly darker. Pubescence on body blackish brown.

*Head* : Width in anterior view 1.6x distance between front ocellus and distal margin of clypeus; width in dorsal view a little more than 2.4x distance between front ocellus and occipital margin. Vertex and occiput with deep close setigerous pits; interstices between pits narrower than half diameter of a pit, smooth and shiny. POL 4.6x OOL; OD 2.5x OOL. Scrobe smooth and shiny without punctures or striations, anterior margin distinctly carinate; the distance between scrobe and front ocellus 1.5x diameter of front ocellus and 1.06x distance between front ocellus and eye margin. MS deep with its anterior and posterior margin sharply carinate and as in Figure 4. Both mandibles bidentate. Maximum diameter of eye in profile a trifle more than 4.5x length of MS in side view. Antenna as in Figure 6.

*Thorax* : Pronotum (Fig. 3) deeply emarginate on posterior margin, obliterating dorsomedian area, sides with deep close pits, interstices carinate. Mesocutum with deep close pits forming longitudinal rows in furrows; pits on longitudinal furrows coalescing in many places, interstices narrow smooth, not distinctly carinate in most parts. Scutellum with deep close pits, interstices narrower than half diameter of each pit; width of scutellum a trifle less than 1.7x its medium dorsal length; apex of scutellum as in Figure 3. Metanotum with a median sharp spine. Propodeum distinctly and closely pitted, interstices carinate, posterolateral corners prominent and acute, with a pair of submedian teeth on posterior margin. Forewing as in Figure 4. Propleura, mesopleura and metapleura as in Figure 4.

*Abdomen* : Distinctly longer than 1.2x length of thorax but shorter than combined length of head and thorax. Tergites distinctly striate, interstices smooth but with setigerous minute and deep pits, pits coalescing in several places. Tergites as in Figure 3. Abdominal sternites with distinct small setigerous pits without striations (Fig. 4), interstices smooth and broader than diameter of a pit.

*Holotype* : M. India, Kerala, Calicut University Campus, Coll. T. C. Narendran, 1988 (USNM).

***Heptascelio striatosternus* sp. nov. (Figs. 7 - 10)**

*Holotype Female* : Length 3.7 mm. Black; eyes greyish yellow with reflecting yellow spots; ocelli pale blackish yellow; antennal radicle brown, scape and pedicel blackish brown, remaining segments black, mandibles black. Fore- and mid coxae blackish brown; hind coxa black; all femora blackish brown with bases and apices paler; all remaining segments of legs brown. Abdomen liver brownish black. Wings hyaline with a brownish tinge, pilosity brownish yellow, veins pale brown with MV dark brown. Pubescence on body blackish brown.

*Head* : Width in anterior view 1.4x distance between front ocellus and distal clypeal margin; width in dorsal view 2.4x distance between front ocellus and occipital margin. POL about 4.6x OOL; OD a trifle more than 1.5x OOL. Scrobe smooth and shiny on part as in Figure 9, remaining region irregularly cross striate. Upper margin carinate, lateral margins ecarinate on lower half. Distance between front ocellus and upper margin of scrobe a trifle more than 1.3x distance between front ocellus and eye, 2.16x diameter of front ocellus; maximum diameter of eye in profile a trifle over 3x length of MS which is deep with its anterior and posterior margins carinate, posterior margin running upwards towards temple. Both mandibles bidentate. Antenna as in Figure 10.

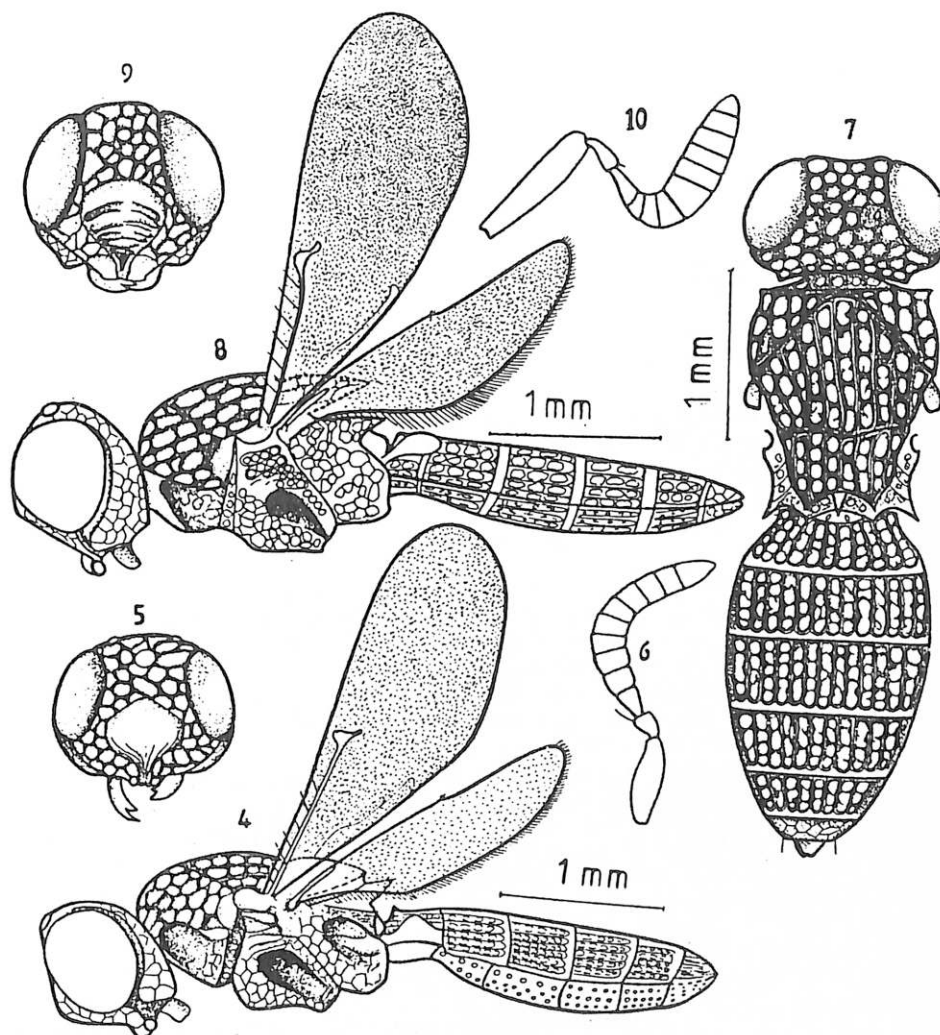
*Thorax* : With pronotum deeply emarginate on posterior margin, obliterating dorsomedian area, sides with deep close pits, interstices carinate. Mesoscutum with deep close pits forming longitudinal rows in furrows, interstices narrow, smooth, distinctly carinate in most parts, pits in longitudinal rows in several places coalescing. Scutellum with pits as in mesoscutum, maximum width 2.28x its median length; posterior margin of scutellum as in Figure 7. Metanotum with a median sharp pointed spine. Propodeum with deep close pits, posterolateral corners much more pointed than those of *lugens* and *punctisternus*. A pair of submedian teeth present on posterior margin of propodeum. Forewing as in Figure 8. Propleura with deep anterior depression; sides of thorax as in Figure 8.

*Abdomen* : A trifle longer than 1.4x thorax but shorter than combined length of head and thorax. Tergites distinctly striate with interstices containing deep pits, pits, often coalescing; relative size of tergites and sculpture as in Figure 7. Abdominal sternites with distinct striations (Fig. 8) and interstices between striae with small round pits.

*Male* : Unknown

*Host* : Unknown

*Holotype* : F. India, Kerala, Kuriarkutty, Coll. T. C. Narendran, 1981 (USNM).



**Figs. 4 - 10.** *Heptascelio punctisternus* sp. nov. Male : 4. Body profile; 5. Head front view; 6. antenna. 7-10. *H. striatosternus* sp. nov. Female : 7. Body (part only) dorsal view. 8. Body profile (partly); 9. Head front view; 10. Antenna.

#### ACKNOWLEDGEMENTS

We thank Dr. David Smith of Systematic Entomology Laboratory, USNM, Washington D. C. for a loan of the holotype of *H. lugens* Kieffer for our studies. We also thank Dr. Gary Gibson of Centre for Land and Biological Resources research Canada for making available a copy of the valuable publication by Masner (1976).

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