

Revue suisse Zool.	Tome 95	Fasc. 1	p. 51-86	Genève, avril 1988
--------------------	---------	---------	----------	--------------------

Terrestrial Isopods from Sri Lanka, IV: Philosciidae (Crustacea, Oniscidea): part 2

by

S. TAITI * and C. MANICASTRI **

With 22 figures

ABSTRACT

Seventeen species of the genus *Burmoniscus* Collinge, 1914 (Philosciidae) are recorded from Sri Lanka. All the species (*B. gibbosus*, *B. beroni*, *B. stilifer*, *B. anderssoni*, *B. micropunctatus*, *B. longicaudatus*, *B. bartolozzii*, *B. besucheti*, *B. cederholmi*, *B. loebli*, *B. xanthocephalus*, *B. calcaratus*, *B. setiger*, *B. clarus*, *B. parviocellatus*, *B. (?) davis* and *B. (?) rowei*) are described as new. The composition of the family Philosciidae in Sri Lanka is discussed.

This second paper on the family Philosciidae from Sri Lanka deals with the genus *Burmoniscus* Collinge, 1914, which includes the largest number of species (17). The first contribution (MANICASTRI & TAITI, 1987) examined the genera *Littorophiloscia* Hatch, 1947, *Tropicana* Manicastro & Taiti, 1987, *Sinhaloscia* Manicastro & Taiti, 1987, *Serendibia* Manicastro & Taiti, 1987, *Platycytoniscus* Herold, 1931 and *Pseudosetaphora* Ferrara & Taiti, 1986. In Sri Lanka all these genera are represented by a single species.

The genus *Burmoniscus* (= *Formososcia* Verhoeff, 1928 = *Rennelloscia* Vandel, 1970) has recently been redefined and discussed by TAITI & FERRARA, 1986a. Until now, it included 21 species distributed in the Afrotropical, Oriental and Australian Regions.

Abbreviations used throughout the text:

LUCE = Lund University Ceylon Expedition 1962 (P. Brinck, H. Andersson and L. Cederholm);

* Centro di Studio per la Faunistica ed Ecologia Tropicali del Consiglio Nazionale delle Ricerche, Via Romana 17, 50125 Firenze, Italy.

** Istituto di Scienze Morfologiche, Università degli Studi di Urbino, Via M. Oddi 23, 61029 Urbino, Italy.

— Research financed by "Consiglio Nazionale delle Ricerche, Gruppo Biologia Naturalistica" and "Ministero della Pubblica Istruzione".

- MF = Museo Zoologico dell'Università, Firenze;
 MHNG = Muséum d'Histoire naturelle, Genève;
 MZUR = Museo Zoologico dell'Università, Roma;
 NNHMS = National Natural History Museum, Sofia;
 USNM = National Museum of Natural History, Smithsonian Institution, Washington, D.C.;
 ZIUL = Zoological Institute, University of Lund.

For details on the collecting localities of the Lund University Ceylon Expedition see BRINK et al. (1971).

Genus *Burmoniscus* Collinge, 1914

Type-species: *Burmoniscus moulmeinensis* Collinge, 1914 (= *Philoscia coeca* Budde-Lund, 1895).

Burmoniscus gibbosus sp. nov. (Figs 1-2)

MATERIAL examined. — Holotype: Sabaragamuwa Prov.: 1♂, Deerwood, Kuruwita, 6 mi NNW of Ratnapura, 300-350 m, loc. 90: II: 1, leg. LUCE, 18.II.1962, ZIUL.

Paratypes: Sabaragamuwa Prov.: 1♀, Deerwood, Kuruwita, 6 mi NNW of Ratnapura, 300-350 m, loc. 90: II: 1, leg. LUCE, 18.II.1962, ZIUL; 1♂, same data, MF. Western Prov.: 1♂, Yongammulla, 3 mi E of Yakkala, 18 mi NE of Colombo, 30-90 m, leg. LUCE, 24.I.-6.III.1962, MHNG; 1♂, same data, MZUR; 1♀, same data, 19.I.1962, ZIUL.

DESCRIPTION. — Length: 9 mm. Body outline as in Fig. 1A. Brown with yellowish muscle spots; a round pale spot at the base of pereonal epimera. A few gland pores along the whole lateral margin of pereonal epimera. Noduli laterales with b/c and d/c coordinates as in Fig. 1B. Eye with 18-20 ommatidia. Cephalon with distinct supra-antennal line; frontal line absent. Pereonite 7 with postero-lateral angles largely rounded. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with concave sides, largely rounded apex. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 8: 4: 3. Mandible with molar penicil consisting of a single unbranched seta. Maxillule outer branch with 4 + 6 (5 cleft) teeth; inner branch with two unequal penicils and a small posterior point. Endite of maxilliped with a penicil. Uropod protopodite grooved on outer margin; insertion of endo- and exopodite at the same level.

Male. Pereopod 7 ischium with sternal margin straight and equipped with a tuft of long setae on distal half. Pleopod 1 exopodite with an acute point on outer margin and an evident hump on posterior margin; endopodite with distal part bent outwards and without specializations. Pleopod 2 as in Fig. 2C. Pleopod 5 exopodite subrectangular.

Etymology. — *L. gibbosus* = humped. The name refers to the evident hump on the posterior margin of the male pleopod 1 exopodite.

Remarks. — *B. gibbosus* is well characterized by the male pereopod 7 ischium and shape of the male pleopod 1 exopodite.

This and the following species are described as new since they do not fit the description of any of the known species ascribed to *Burmoniscus* (see list in TAITI & FERRARA, 1986a). However it must be pointed out that the descriptions of many species of philosciids from the Oriental Region (see DOLLFUS, 1898; BUDDE-LUND, 1902; COLLINGE, 1914,

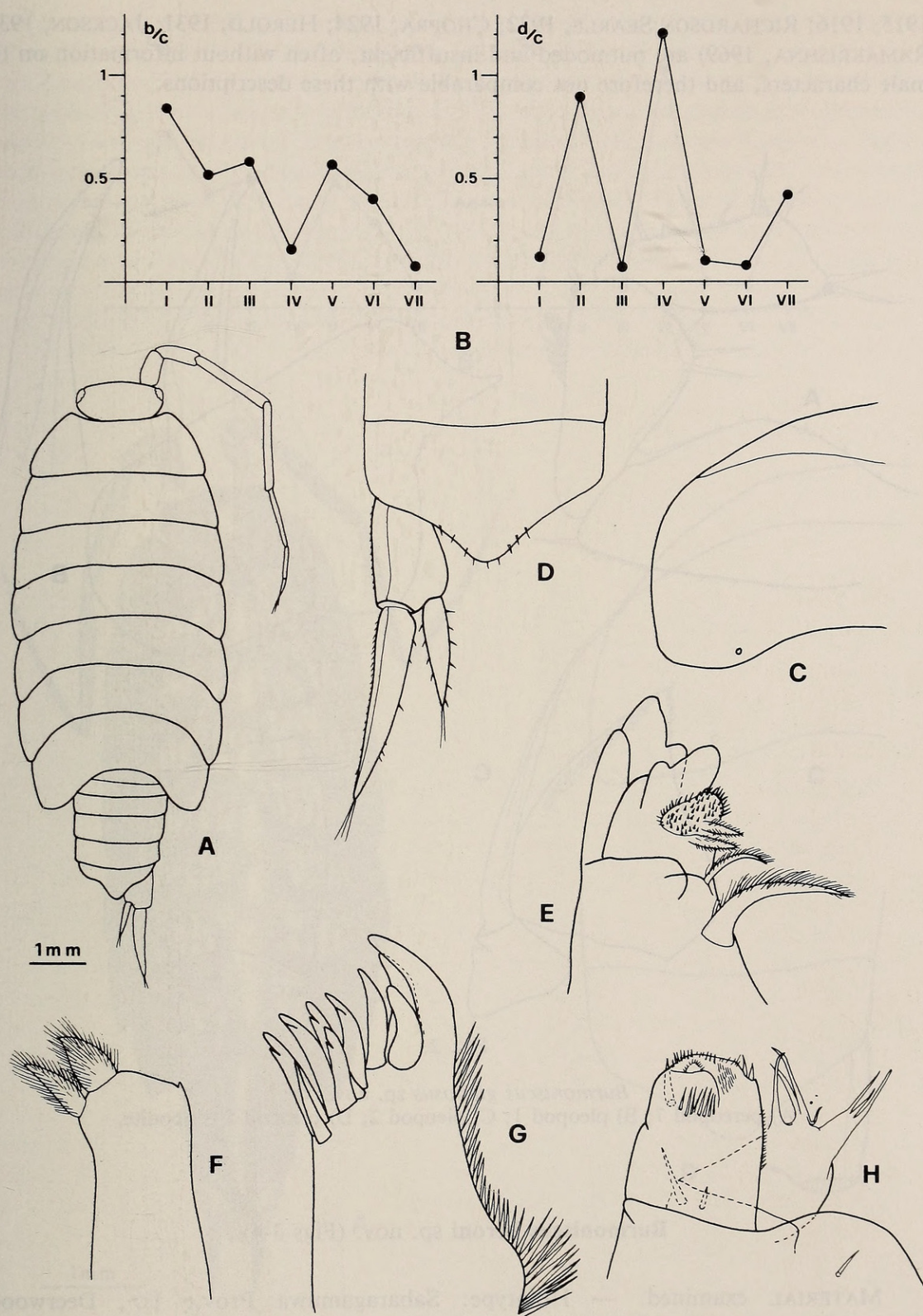


FIG. 1.

Burmoniscus gibbosus sp. nov.: A) adult male in dorsal view; B) Co-ordinates of the noduli laterales; C) left epimeron of pereonite 7; D) telson and left uropod; E) mandible; F) inner branch of the maxillule; G) outer branch of the maxillule; H) maxilliped.

1915, 1916; RICHARDSON SEARLE, 1922; CHOPRA, 1924; HEROLD, 1931; JACKSON, 1936; RAMAKRISHNA, 1969) are outmoded and insufficient, often without information on the male characters, and therefore not comparable with these descriptions.

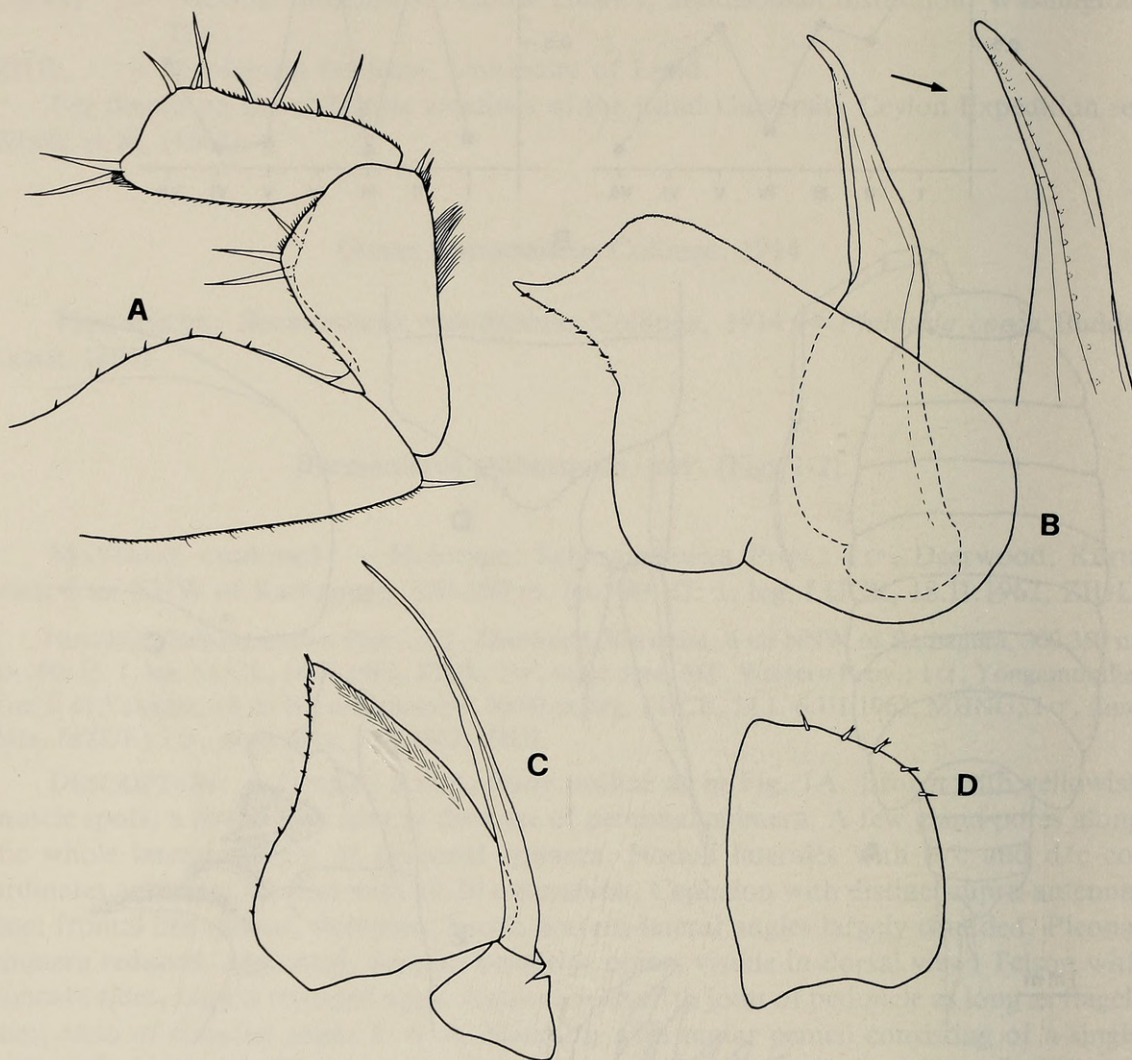


FIG. 2.

Burmoniscus gibbosus sp. nov., ♂:

A) pereopod 7; B) pleopod 1; C) pleopod 2; D) pleopod 5 exopodite.

***Burmoniscus beroni* sp. nov. (Figs 3-4)**

MATERIAL examined. — Holotype: Sabaragamuwa Prov.: 1♂, Deerwood, Kuruwita, 6 mi NNW of Ratnapura, 300-350 m, loc. 90: II: 1, indigenous forest, leg. LUCE, 18.II.1962, MHNG.

Paratypes: Sabaragamuwa Prov.: 1♂, 1♀, Deerwood, Kuruwita, 6 mi NNW of Ratnapura, 300-350 m, loc. 90: II: 1, indigenous forest, leg. LUCE, 18.II.1962, ZIUL; 1♀, Kuruwita, leg. P. Beron, 1.XII.1984, NNHMS.

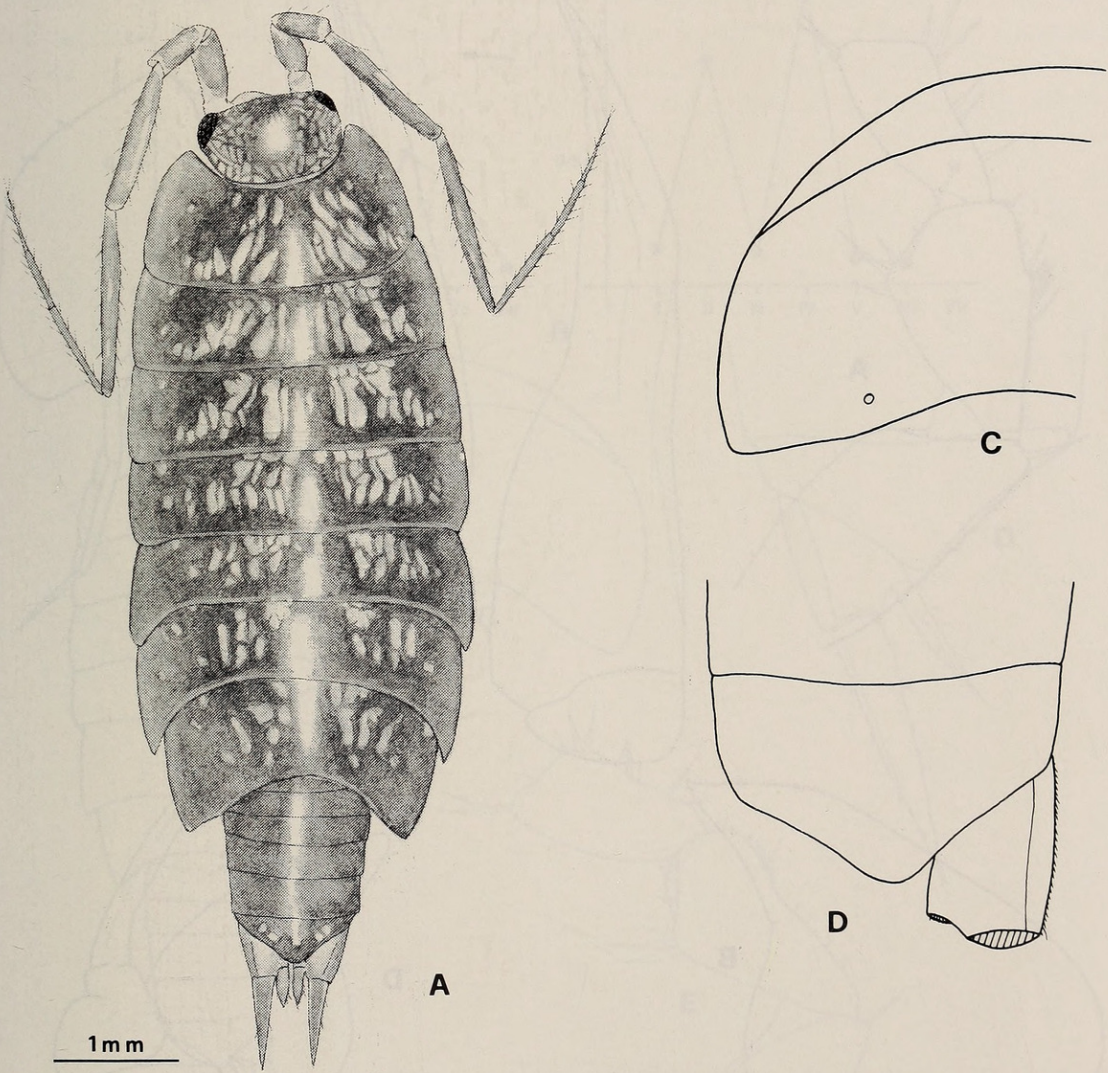
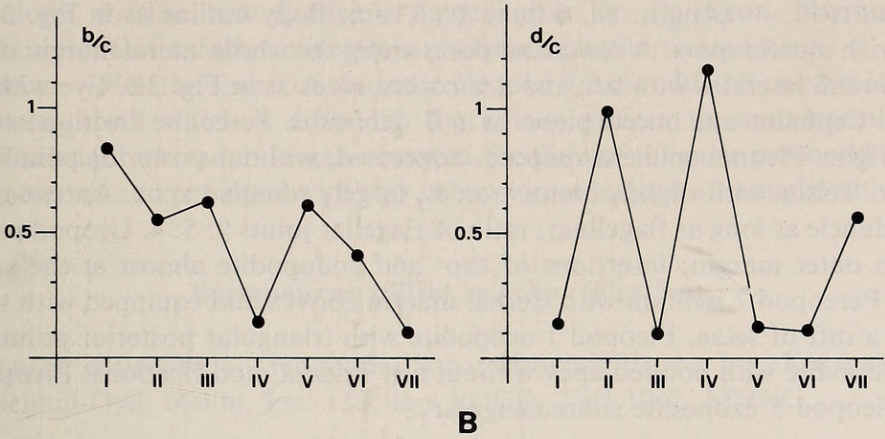


FIG. 3.

Burmoniscus beroni sp. nov.: A) adult male in dorsal view; B) co-ordinates of the noduli laterales; C) left epimeron of pereonite 7; D) telson and protopodite of right uropod.

DESCRIPTION. — Length: ♂, 6 mm; ♀, 7 mm. Body outline as in Fig. 3A. Brown with yellowish muscle spots. A few gland pores along the whole lateral margin of pereonal epimera. Noduli laterales with b/c and d/c co-ordinates as in Fig. 3B. Eye with about 18 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles subright. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with slightly concave sides, largely rounded apex. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 9: 5: 4. Uropod protopodite grooved on outer margin; insertions of exo- and endopodite almost at the same level.

Male. Pereopod 7 ischium with sternal margin convex and equipped with two strong spines and a tuft of setae. Pleopod 1 exopodite with triangular posterior point bent outwards; endopodite with pointed apex without any evident modifications. Pleopod 2 as in Fig. 4D. Pleopod 5 exopodite subrectangular.

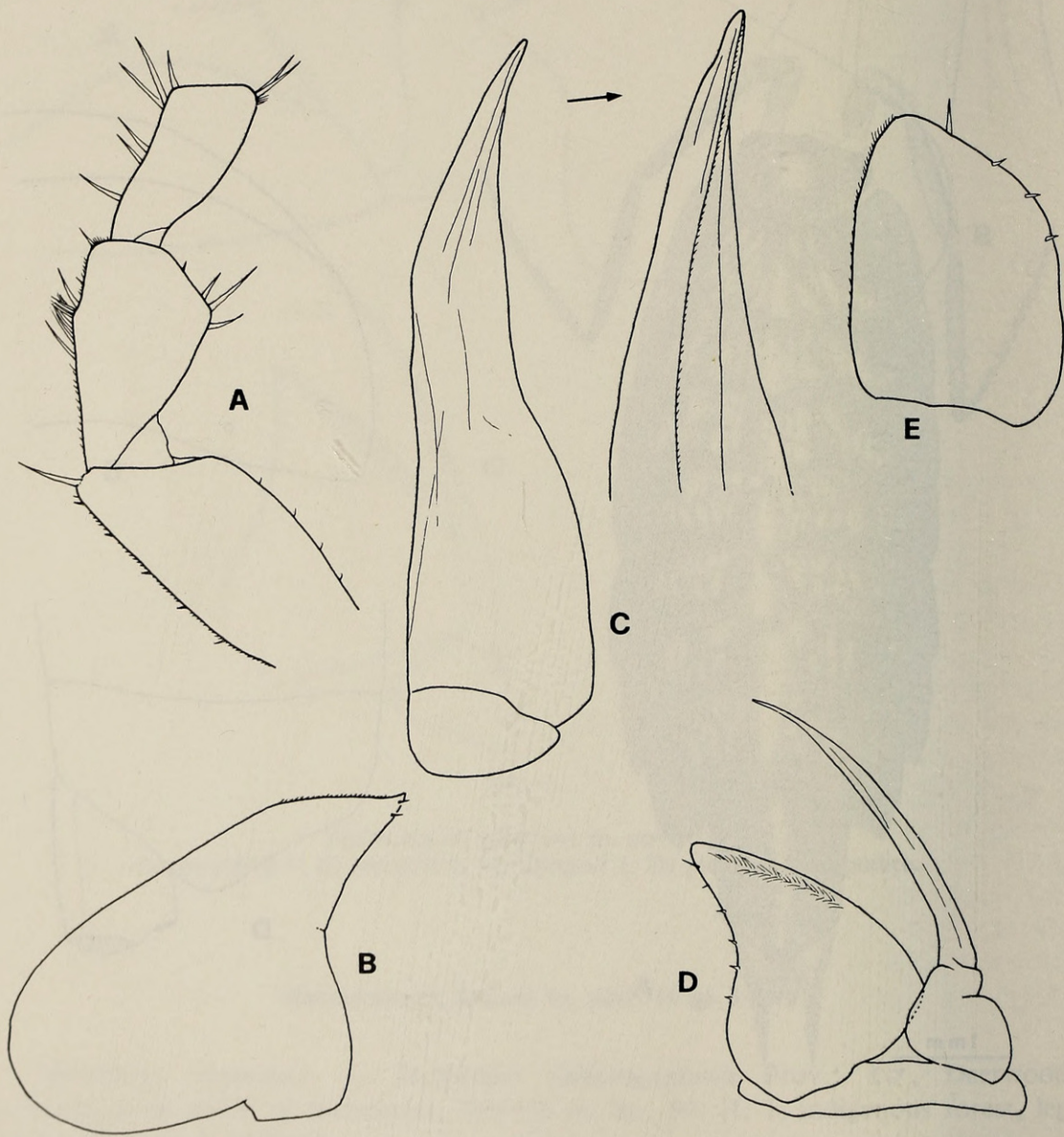


FIG. 4.

Burmoniscus beroni sp. nov., ♂: A) pereopod 7; B) pleopod 1 exopodite; C) pleopod 1 endopodite; D) pleopod 2; E) pleopod 5 exopodite.

Etymology. — The new species is named after Dr. P. Beron, National Natural History Museum, Sofia, who collected part of the material treated here.

Remarks. — For the shape of the male pleopod 1 exopodite, *B. beroni* is very close to *B. gibbosus* from which it differs in the colour pattern, postero-lateral angles of pereonite 7 subright instead of largely rounded, ischium of the male pereopod 7 with sternal margin convex and equipped with two strong spines instead of straight with no spines.

***Burmoniscus stilifer* sp. nov. (Figs 5-6)**

MATERIAL examined. — Holotype: Sabaragamuwa Prov.: 1♂, Karagal-Oya, 3 mi ENE of Belihul-Oya, 600 m, loc. 110, leg. LUCE, 2.III.1962, MHNG.

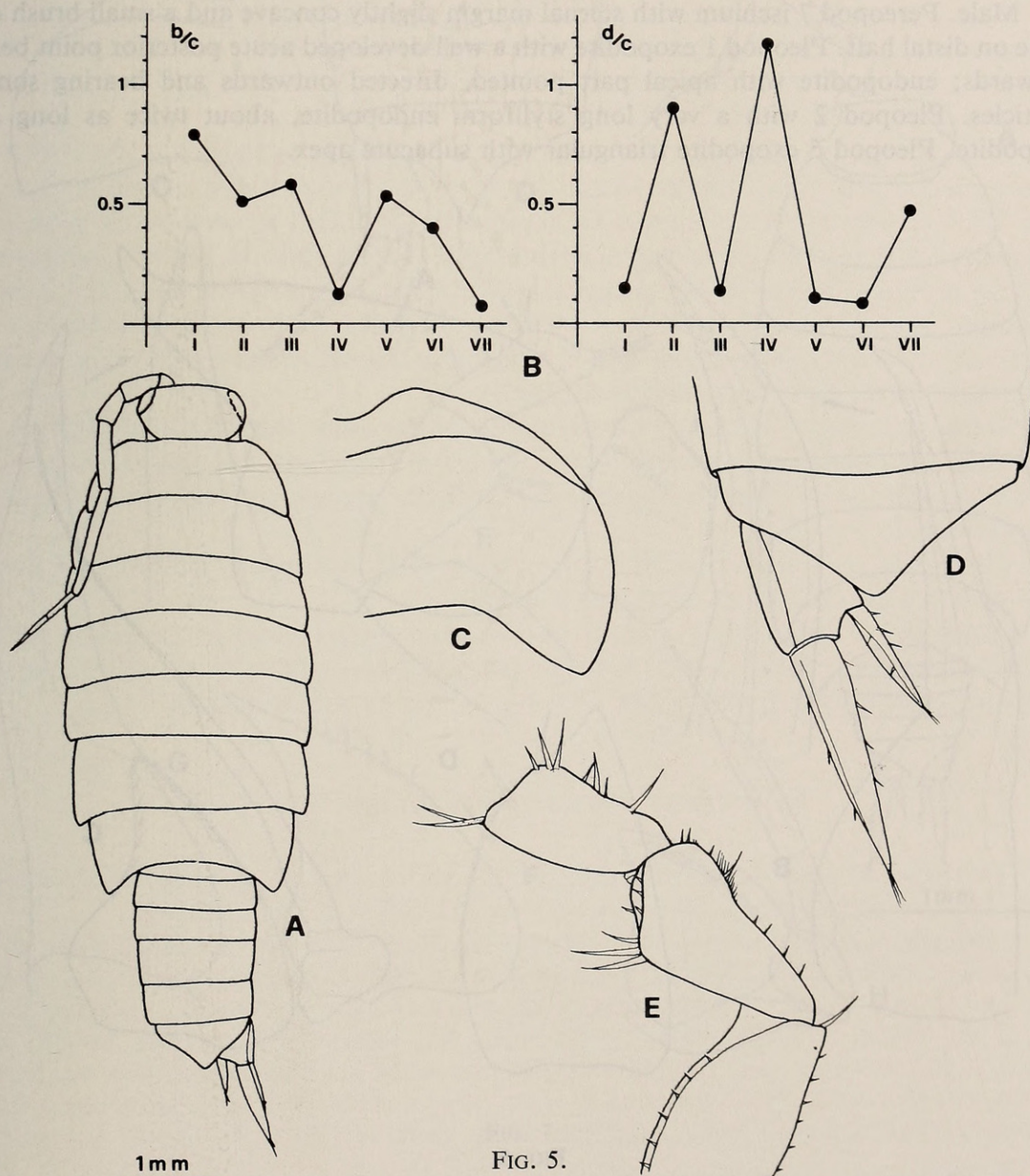


FIG. 5.

Burmoniscus stilifer sp. nov.: A) adult male in dorsal view; B) co-ordinates of the noduli laterales; C) right epimeron of pereonite 7; D) telson and left uropod; E) male pereopod 7.

Paratypes: Sabaragamuwa Prov.: 1 ♀, Deerwood, Kuruwita, 6 mi NNW of Ratnapura, 300-350 m, loc. 90: II: 1, leg. LUCE, ZIUL. Uva Prov.: 1 ♂, 2 mi NW of Haldummulla, 1100 m, loc. 111, leg. LUCE, 2.III.1962, ZIUL.

DESCRIPTION. — Length: 7 mm. Body outline as in Fig. 5A. Brown mottled with yellow; a small pale spot at the base of pereonal epimera. Dorsum with some small upright setae. A few gland pores along the whole lateral margin of pereonal epimera. Noduli laterales with b/c and d/c co-ordinates as in Fig. 5B. Eye with 20-22 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles subacute. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with slightly concave sides, rounded apex. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 3: 2: 2. Uropod protopodite grooved on outer margin; insertion of endopodite slightly proximal to that of exopodite.

Male. Pereopod 7 ischium with sternal margin slightly concave and a small brush of setae on distal half. Pleopod 1 exopodite with a well-developed acute posterior point bent outwards; endopodite with apical part pointed, directed outwards and bearing some denticles. Pleopod 2 with a very long styliform endopodite, about twice as long as exopodite. Pleopod 5 exopodite triangular with subacute apex.

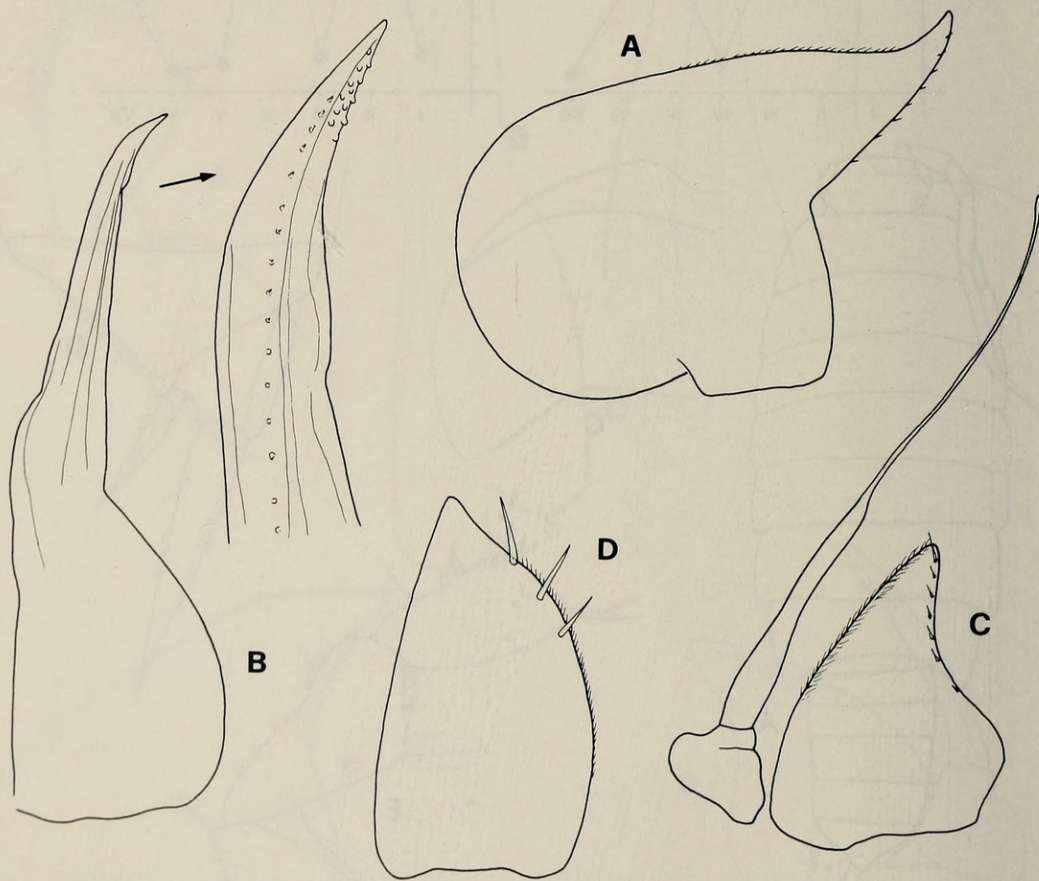


FIG. 6.

Burmoniscus stilifer sp. nov., ♂: A) pleopod 1 exopodite; B) pleopod 1 endopodite; C) pleopod 2; D) pleopod 5 exopodite.

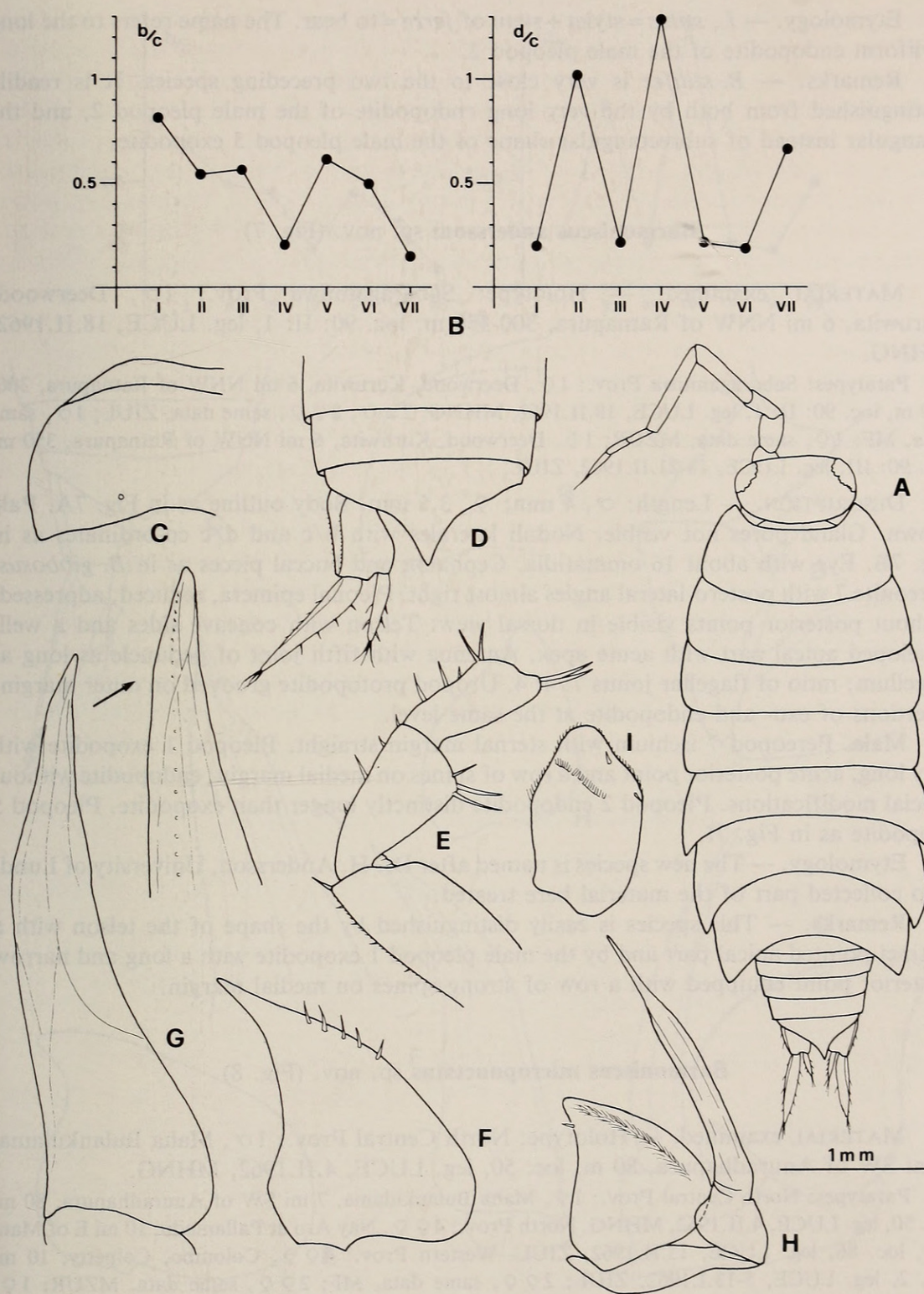


FIG. 7.

Burmoniscus anderssoni sp. nov., ♂: A) adult specimen in dorsal view; B) co-ordinates of the noduli laterales; C) left epimeron of pereonite 7; D) pleonites 4-5, telson and left uropod; E) pereopod 7; F) pleopod 1 exopodite; G) pleopod 1 endopodite; H) pleopod 2; I) pleopod 5 exopodite.

Etymology. — *L. stilus* = stylet + stem of *ferre* = to bear. The name refers to the long styliform endopodite of the male pleopod 2.

Remarks. — *B. stilifer* is very close to the two preceding species. It is readily distinguished from both by the very long endopodite of the male pleopod 2, and the triangular instead of subrectangular shape of the male pleopod 5 exopodite.

***Burmoniscus anderssoni* sp. nov. (Fig. 7)**

MATERIAL examined. — Holotype: Sabaragamuwa Prov.: 1♂, Deerwood, Kuruwita, 6 mi NNW of Ratnapura, 300-350 m, loc. 90: II: 1, leg. LUCE, 18.II.1962, MHNG.

Paratypes: Sabaragamuwa Prov.: 1♀, Deerwood, Kuruwita, 6 mi NNW of Ratnapura, 300-350 m, loc. 90: II: 1, leg. LUCE, 18.II.1962, MHNG; 2♂♂, 2♀♀, same data, ZIUL; 1♂, same data, MF; 1♀, same data, MZUR; 1♀, Deerwood, Kuruwita, 6 mi NNW of Ratnapura, 350 m, loc. 90: III, leg. LUCE, 18-21.II.1962, ZIUL.

DESCRIPTION. — Length: ♂, 4 mm; ♀, 3.5 mm. Body outline as in Fig. 7A. Pale brown. Gland pores not visible. Noduli laterales with b/c and d/c co-ordinates as in Fig. 7B. Eye with about 16 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles almost right. Pleonal epimera, reduced, adpressed, without posterior points visible in dorsal view. Telson with concave sides and a well-developed apical part with acute apex. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 7: 4: 4. Uropod protopodite grooved on outer margin; insertions of exo- and endopodite at the same level.

Male. Pereopod 7 ischium with sternal margin straight. Pleopod 1 exopodite with very long, acute posterior point and a row of spines on medial margin; endopodite without special modifications. Pleopod 2 endopodite distinctly longer than exopodite. Pleopod 5 exopodite as in Fig. 7I.

Etymology. — The new species is named after Dr. H. Andersson, University of Lund, who collected part of the material here treated.

Remarks. — This species is easily distinguished by the shape of the telson with a distinct pointed apical part and by the male pleopod 1 exopodite with a long and narrow posterior point equipped with a row of strong spines on medial margin.

***Burmoniscus micropunctatus* sp. nov. (Fig. 8)**

MATERIAL examined. — Holotype: North Central Prov.: 1♂, Maha Bulankulama, 7 mi SW of Anuradhapura, 80 m, loc. 50, leg. LUCE, 4.II.1962, MHNG.

Paratypes: North Central Prov.: 1♀, Maha Bulankulama, 7 mi SW of Anuradhapura, 80 m, loc. 50, leg. LUCE, 4.II.1962, MHNG. North Prov.: 4♀♀, Nay Aru at Pallamadu, 10 mi E of Mannar, loc. 86, leg. LUCE, 15.II.1962, ZIUL. Western Prov.: 4♀♀, Colombo, Colpetty, 10 m, loc. 2, leg. LUCE, 5-13.I.1962, ZIUL; 2♀♀, same data, MF; 2♀♀, same data, MZUR; 1♀, Colombo, leg. P. Beron, 2.XII.1984, NNHMS; 1♀, Beruwala, 34 mi SSE of Colombo, loc. 20, leg. LUCE, 25.I.1962, ZIUL. North Western Prov.: 1♀, 10 mi E of Puttalam, 20 m, loc. 45, leg. LUCE, 2.II.1962, ZIUL. Southern Prov.: 1♀, Hikkaduwa, 11 mi NW of Galle, loc. 22, leg. LUCE, 25.I.1962, ZIUL.

DESCRIPTION. — Length: 4.5 mm. Pale brown with yellowish muscle spots. Numerous gland pores along the whole lateral margin of pereonal epimera. Noduli

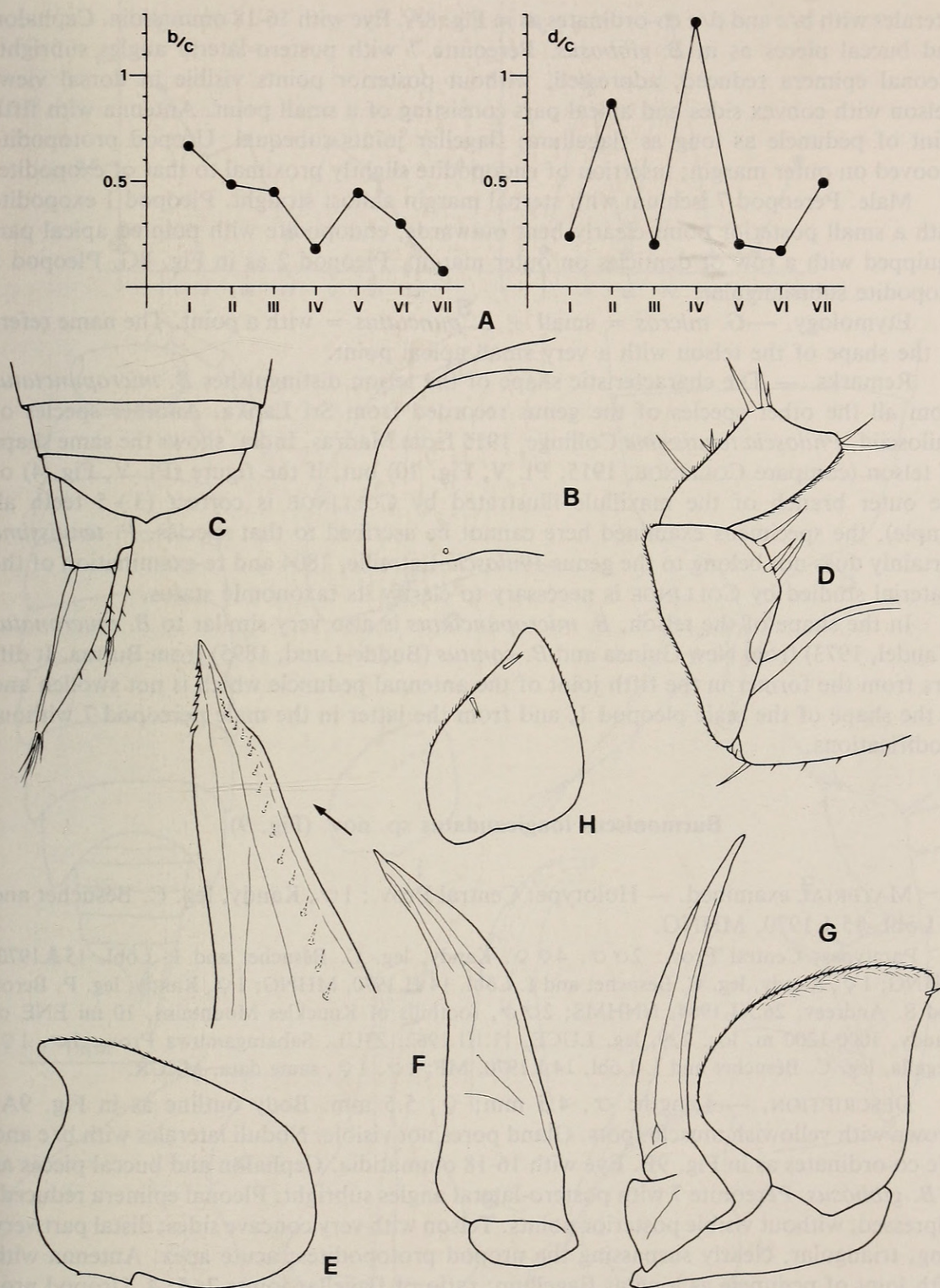


FIG. 8.

Burmoniscus micropunctatus sp. nov., ♂: A) co-ordinates of the noduli laterales; B) left epimeron of pereonite 7; C) pleonites 4-5, telson and left uropod; D) pereopod 7; E) pleopod 1 exopodite; F) pleopod 1 endopodite; G) pleopod 2; H) pleopod 5 exopodite.

laterales with b/c and d/c co-ordinates as in Fig. 8A. Eye with 16-18 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles subbright. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with convex sides and apical part consisting of a small point. Antenna with fifth joint of peduncle as long as flagellum; flagellar joints subequal. Uropod protopodite grooved on outer margin; insertion of endopodite slightly proximal to that of exopodite.

Male. Pereopod 7 ischium with sternal margin almost straight. Pleopod 1 exopodite with a small posterior point clearly bent outwards; endopodite with pointed apical part equipped with a row of denticles on outer margin. Pleopod 2 as in Fig. 8G. Pleopod 5 exopodite subtriangular.

Etymology. — *G. micros* = small + *L. punctatus* = with a point. The name refers to the shape of the telson with a very small apical point.

Remarks. — The characteristic shape of the telson distinguishes *B. micropunctatus* from all the other species of the genus recorded from Sri Lanka. Another species of philosciid, *Philoscia tenuissima* Collinge, 1915 from Madras, India, shows the same shape of telson (compare COLLINGE, 1915, Pl. V, Fig. 10) but, if the figure (Pl. V, Fig. 4) of the outer branch of the maxillule illustrated by COLLINGE is correct (3+5 teeth all simple), the specimens examined here cannot be ascribed to that species. *P. tenuissima* certainly does not belong to the genus *Philoscia* Latreille, 1804 and re-examination of the material studied by COLLINGE is necessary to clarify its taxonomic status.

In the shape of the telson, *B. micropunctatus* is also very similar to *B. mucronatus* (Vandel, 1973) from New Guinea and *B. comtus* (Budde-Lund, 1895) from Burma. It differs from the former in the fifth joint of the antennal peduncle which is not swollen and in the shape of the male pleopod 1, and from the latter in the male pereopod 7 without modifications.

***Burmoniscus longicaudatus* sp. nov. (Fig. 9)**

MATERIAL examined. — Holotype: Central Prov.: 1♂, Kandy, leg. C. Bésuchet and I. Löbl, 15.I.1970, MHNG.

Paratypes: Central Prov.: 2♂♂, 4♀♀, Kandy, leg. C. Bésuchet and I. Löbl, 15.I.1970, MHNG; 1♀, Kandy, leg. C. Bésuchet and I. Löbl, 14.II.1970, MHNG; 1♀, Kandy, leg. P. Beron and S. Andreev, 26.XI.1984, NNHMS; 2♂♂, foothills of Knuckles Mountains, 10 mi ENE of Kandy, 1000-1200 m, loc. 129, leg. LUCE, 11.III.1962, ZIUL. Sabaragamuwa Prov.: 1♂, 1♀, Kegalla, leg. C. Bésuchet and I. Löbl, 14.I.1970, MF; 1♂, 1♀, same data, MZUR.

DESCRIPTION. — Length: ♂, 4.5 mm; ♀, 5.5 mm. Body outline as in Fig. 9A. Brown with yellowish muscle spots. Gland pores not visible. Noduli laterales with b/c and d/c co-ordinates as in Fig. 9B. Eye with 16-18 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles subbright. Pleonal epimera reduced, adpressed, without visible posterior points. Telson with very concave sides; distal part very long, triangular, clearly surpassing the uropod protopodites; acute apex. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 7: 5: 4. Uropod protopodite grooved on outer margin; insertion of endopodite slightly proximal to that of exopodite.

Male. Pereopod 7 ischium with sternal margin straight with some small spines. Pleopod 1 exopodite with long rounded posterior point bent outwards; endopodite with apical part pointed and bent regularly outwards. Pleopod 2 endopodite distinctly longer than exopodite. Pleopod 5 exopodite as in Fig. 9I.

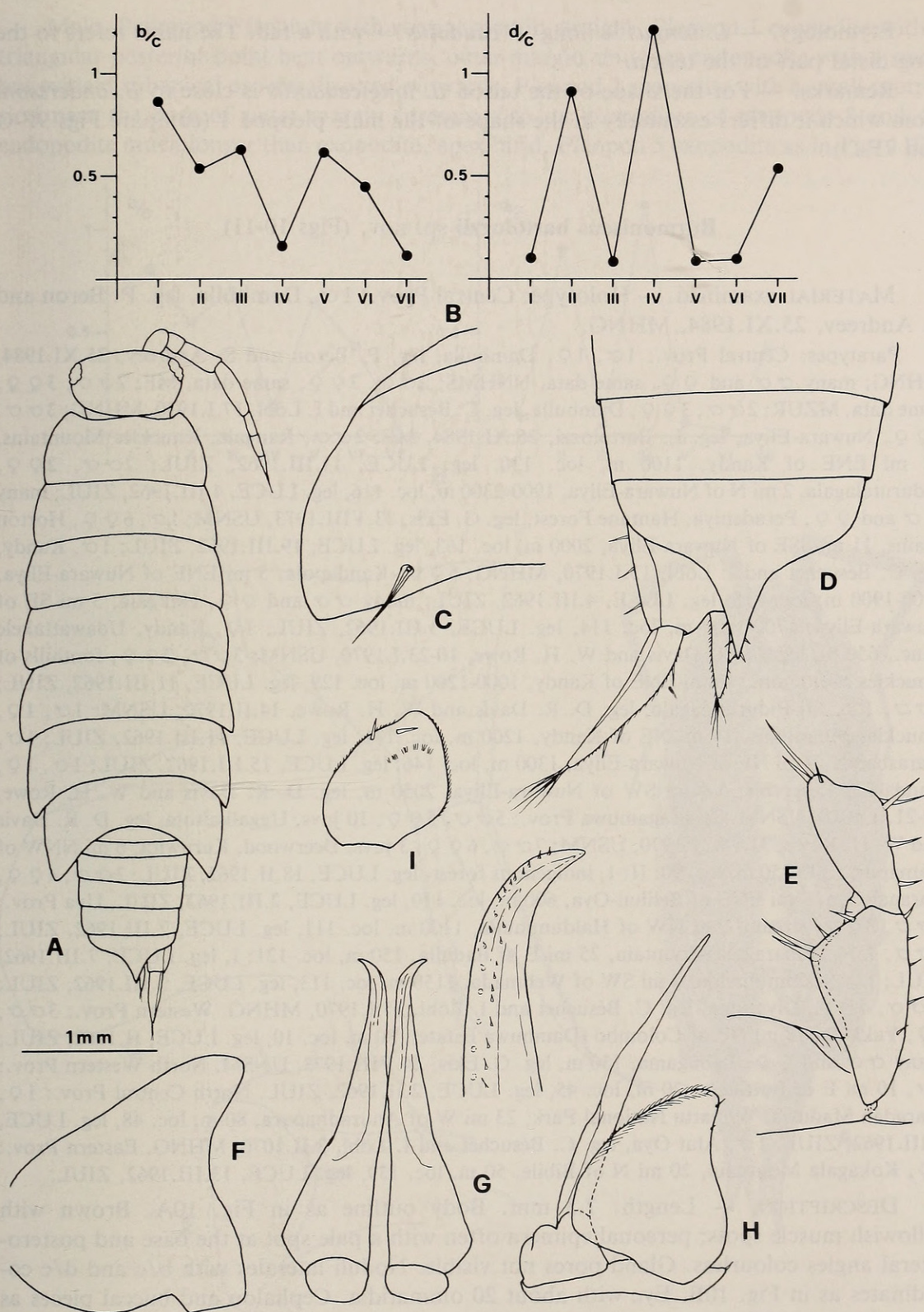


FIG. 9.

Burmoniscus longicaudatus sp. nov., ♂: A) adult specimen in dorsal view; B) co-ordinates of the noduli laterales; C) left epimeron of pereonite 7; D) pleonites 4-5, telson and left uropod; E) pereopod 7; F) pleopod 1 exopodite; G) pleopod 1 endopodite; H) pleopod 2; I) pleopod 5 exopodite.

Etymology. — *L. longus* = long + *caudatus* = with a tail. The name refers to the long distal part of the telson.

Remarks. — For the shape of the telson *B. longicaudatus* is close to *B. anderssoni* from which it differs essentially in the shape of the male pleopod 1 (compare Figs 9F-G and 7F-G).

***Burmoniscus bartolozzii* sp. nov. (Figs 10-11)**

MATERIAL examined. — Holotype: Central Prov.: 1♂, Dambulla, leg. P. Beron and S. Andreev, 25.XI.1984, MHNG.

Paratypes: Central Prov.: 1♂, 1♀, Dambulla, leg. P. Beron and S. Andreev, 25.XI.1984, MHNG; many ♂♂ and ♀♀, same data, NNHMS; 2♂♂, 3♀♀, same data, MF; 2♂♂, 3♀♀, same data, MZUR; 2♂♂, 3♀♀, Dambulla, leg. C. Bésuchet and I. Löbl, 17.I.1970, MHNG; 3♂♂, 2♀♀, Nuwara-Eliya, leg. L. Bartolozzi, 26.XI.1984, MF; 2♂♂, Rangala, Knuckles Mountains, 12 mi ENE of Kandy, 1100 m, loc. 130, leg. LUCE, 11.III.1962, ZIUL; 2♂♂, 2♀♀, Pidurutalagala, 2 mi N of Nuwara-Eliya, 1900-2300 m, loc. 116, leg. LUCE, 4.III.1962, ZIUL; many ♂♂ and ♀♀, Peradeniya, Hantane Forest, leg. G. Ekis, 13.VIII.1973, USNM; 1♂, 6♀♀, Horton Plains, 11 mi SSE of Nuwara-Eliya, 2000 m, loc. 163, leg. LUCE, 19.III.1962, ZIUL; 1♂, Kandy, leg. C. Bésuchet and I. Löbl, 15.I.1970, MHNG; 5♀♀, Kandapola, 5 mi ENE of Nuwara-Eliya, 1700-1900 m, loc. 115, leg. LUCE, 4.III.1962, ZIUL; many ♂♂ and ♀♀, Hakgala, 5 mi SE of Nuwara-Eliya, 1700-1900 m, loc. 114, leg. LUCE, 3.III.1962, ZIUL; 1♀, Kandy, Udawattakele Sanc., 650 m, leg. D. R. Davis and W. H. Rowe, 10-23.I.1970, USNM; 3♂♂, 2♀♀, foothills of Knuckles Mountains, 10 mi ENE of Kandy, 1000-1200 m, loc. 129, leg. LUCE, 11.III.1962, ZIUL; 2♂♂, 1♀, Mt-Pidurutalagala, leg. D. R. Davis and W. H. Rowe, 14.II.1970, USNM; 1♂, 1♀, Knuckles Mountains, 14 mi NE of Kandy, 1200 m, loc. 131, leg. LUCE, 11.III.1962, ZIUL; 1♂, Harasbedda, 9 mi NE of Nuwara-Eliya, 1300 m, loc. 146, leg. LUCE, 15.III.1962, ZIUL; 1♂, 1♀, Kanda-Ela Reservoir, 5-6 mi SW of Nuwara-Eliya, 2050 m, leg. D. R. Davis and W. H. Rowe, 10-21.II.1970, USNM. Sabaragamuwa Prov.: 5♂♂, 5♀♀, 10 juvs, Uggalkaltota, leg. D. R. Davis and W. H. Rowe, 31.I-8.II.1970, USNM; 7♂♂, 6♀♀, 3 juvs, Deerwood, Kuruwita, 6 mi NNW of Ratnapura, 300-350 m, loc. 90: II: 1, indigenous forest, leg. LUCE, 18.II.1962, ZIUL; 3♂♂, 4♀♀, Karagal-Oya, 3 mi ENE of Belihul-Oya, 600 m, loc. 110, leg. LUCE, 2.III.1962, ZIUL. Uva Prov.: 3♂♂, 3♀♀, stream 2 mi NW of Haldummulla, 1100 m, loc. 111, leg. LUCE, 2.III.1962, ZIUL; 2♂♂, 1♀, Monaragala Mountain, 25 mi E of Badulla, 150 m, loc. 121: I, leg. LUCE, 7.III.1962, ZIUL; 1♀, Kalumullanda, 4 mi SW of Welimada, 1150 m, loc. 113, leg. LUCE, 3.III.1962, ZIUL; 3♂♂, 4♀♀, Diyaluma, leg. C. Bésuchet and I. Löbl, 25.I.1970, MHNG. Western Prov.: 3♂♂, 1♀, Yakkala, 18 mi NE of Colombo (Dambuwa Estate), 30 m, loc. 10, leg. LUCE, II.1962, ZIUL; many ♂♂ and ♀♀, Labugama, 130 m, leg. G. Ekis, 24.VIII.1973, UNSM. North Western Prov.: 1♂, 10 mi E of Puttalam, 20 m, loc. 45, leg. LUCE, 2.II.1962, ZIUL. North Central Prov.: 1♀, Maradan Maduwa, Wilpattu National Park, 23 mi W of Anuradhapura, 80 m, loc. 48, leg. LUCE, 2.III.1962, ZIUL. 1♂, Alut Oya, leg. C. Bésuchet and I. Löbl, 3.II.1970, MHNG. Eastern Prov.: 1♀, Kokagala Mountain, 20 mi N of Bibile, 50 m, loc. 139, leg. LUCE, 13.III.1962, ZIUL.

DESCRIPTION. — Length: 7.5 mm. Body outline as in Fig. 10A. Brown with yellowish muscle spots; pereonal epimera often with a pale spot at the base and postero-lateral angles colourless. Gland pores not visible. Noduli laterales with b/c and d/c coordinates as in Fig. 10B. Eye with about 20 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles largely rounded. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with slightly concave sides, apex subacute. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 5: 3: 2. Uropod protopodite grooved on outer margin; insertions of exo- and endopodite at the same level.

Male. Pereopod 7 ischium with sternal margin straight. Pleopod 1 exopodite with a triangular posterior point bent outwards, outer margin sinuous; endopodite with a small but evident subapical process directed outwards. Pleopod 2 exopodite with a small protrusion near the base of outer margin (present also on exopodites of pleopods 3 and 4); endopodite much longer than exopodite, apex bifid. Pleopod 5 exopodite as in Fig. 11D.

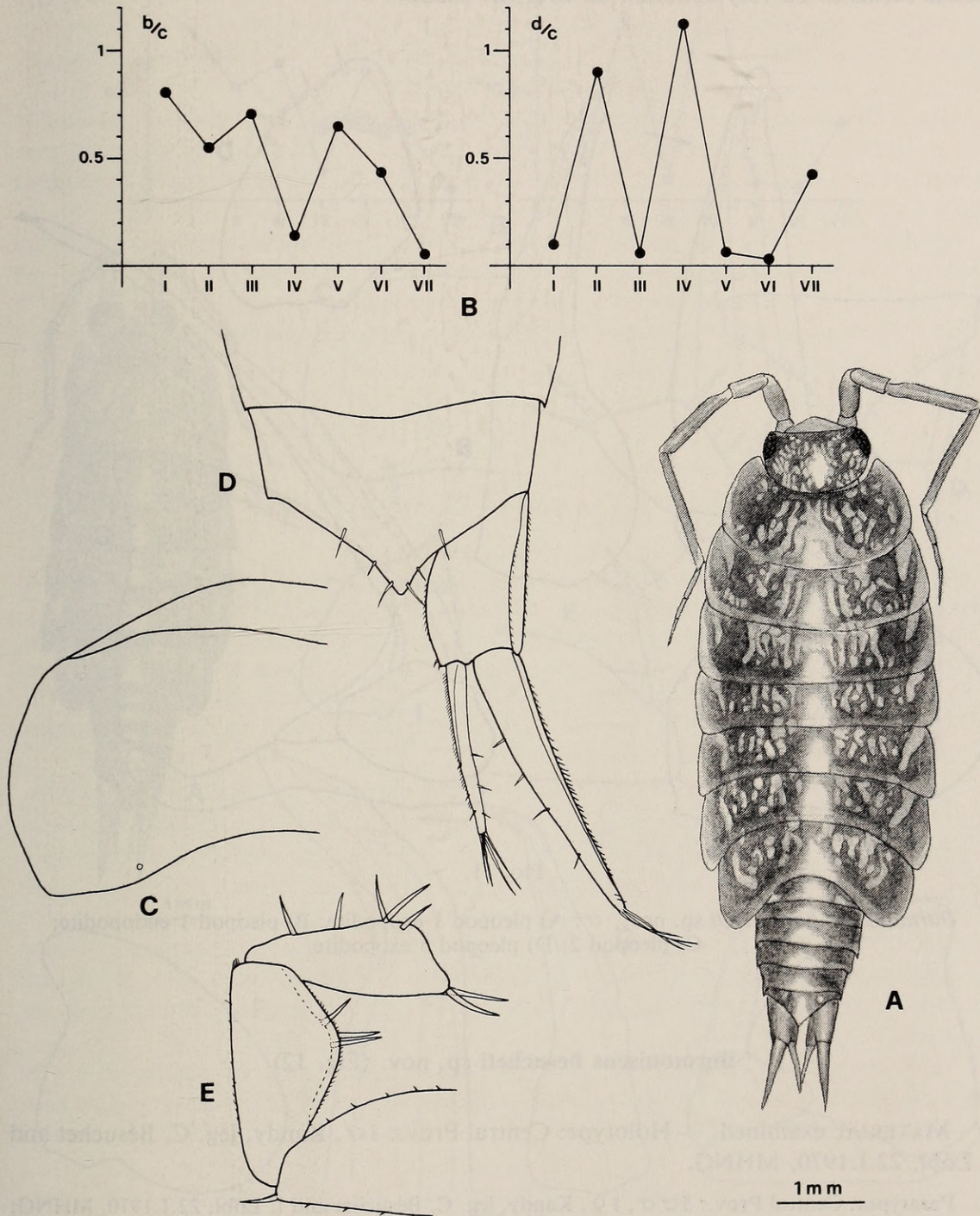


FIG. 10.

Burmoniscus bartolozzii sp. nov.: A) adult male in dorsal view; B) co-ordinates of the noduli laterales; C) left epimeron of pereonite 7; D) telson and right uropod; E) male pereopod 7.

Etymology. — The new species is named after Dr. L. Bartolozzi, Dipartimento di Biologia Animale e Genetica dell'Università, Florence, who collected part of the material here treated.

Remarks. — *B. bartolozzii* is well characterized by the shape of the male pleopod 1 endopodite with a small but evident process on the outer margin near the apex. This species seems to be very common all over the island.

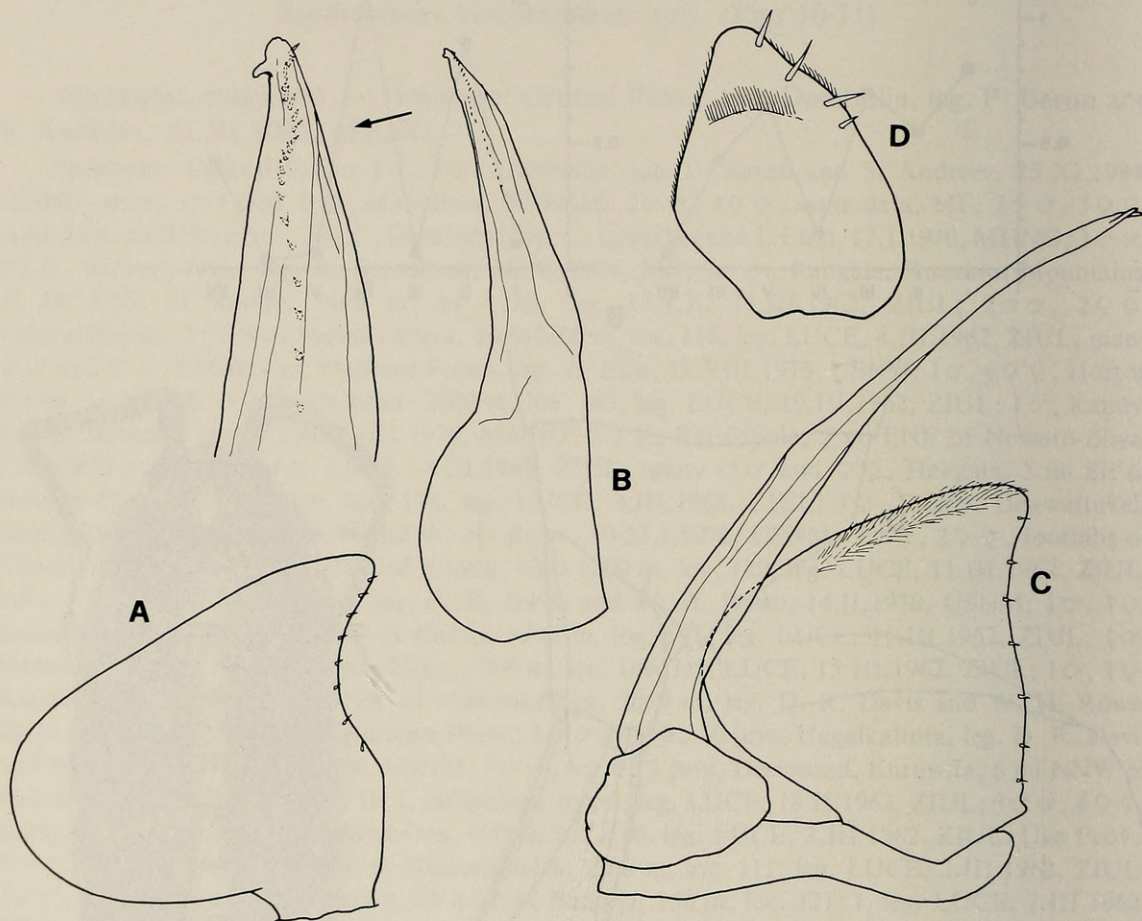


FIG. 11.

Burmoniscus bartolozzii sp. nov., ♂: A) pleopod 1 exopodite; B) pleopod 1 endopodite; C) pleopod 2; D) pleopod 5 exopodite.

***Burmoniscus besucheti* sp. nov. (Fig. 12)**

MATERIAL examined. — Holotype: Central Prov.: 1 ♂, Kandy, leg. C. Bésuchet and I. Löbl, 22.I.1970, MHNG.

Paratypes: Central Prov.: 5 ♂♂, 1 ♀, Kandy, leg. C. Bésuchet and I. Löbl, 22.I.1970, MHNG; 1 ♂, 1 ♀, same data, MF; 1 ♂, 1 ♀, same data, MZUR; 2 ♂♂, 3 ♀♀, Kandy, leg. P. Beron and S. Andreev, 26.XI.1984, NNHMS; 1 ♀, Peradeniya, upper Hantane Hill, 750 m, leg. D. R. Davis and W.H. Rowe, 12-16.I.1970, USNM. Western Prov.: 3 ♂♂, 6 ♀♀, Yakkala, 18 mi NE of Colombo (Dambuwa Estate), 30 m, loc. 10, leg. LUCE, 1-14.II.1962, ZIUL; 1 ♀, same locality,

15-31.I.1962, ZIUL; 1 ♀, Alawala, 26 mi NE of Colombo, 25 m, loc. 15, leg. LUCE, 17.I.1962, ZIUL; 1 ♂, Alawala, 10 mi ENE of Yakkala, 26 mi NE of Colombo, 150 m, loc. 13: II, leg. LUCE, 17.I.1962, ZIUL.

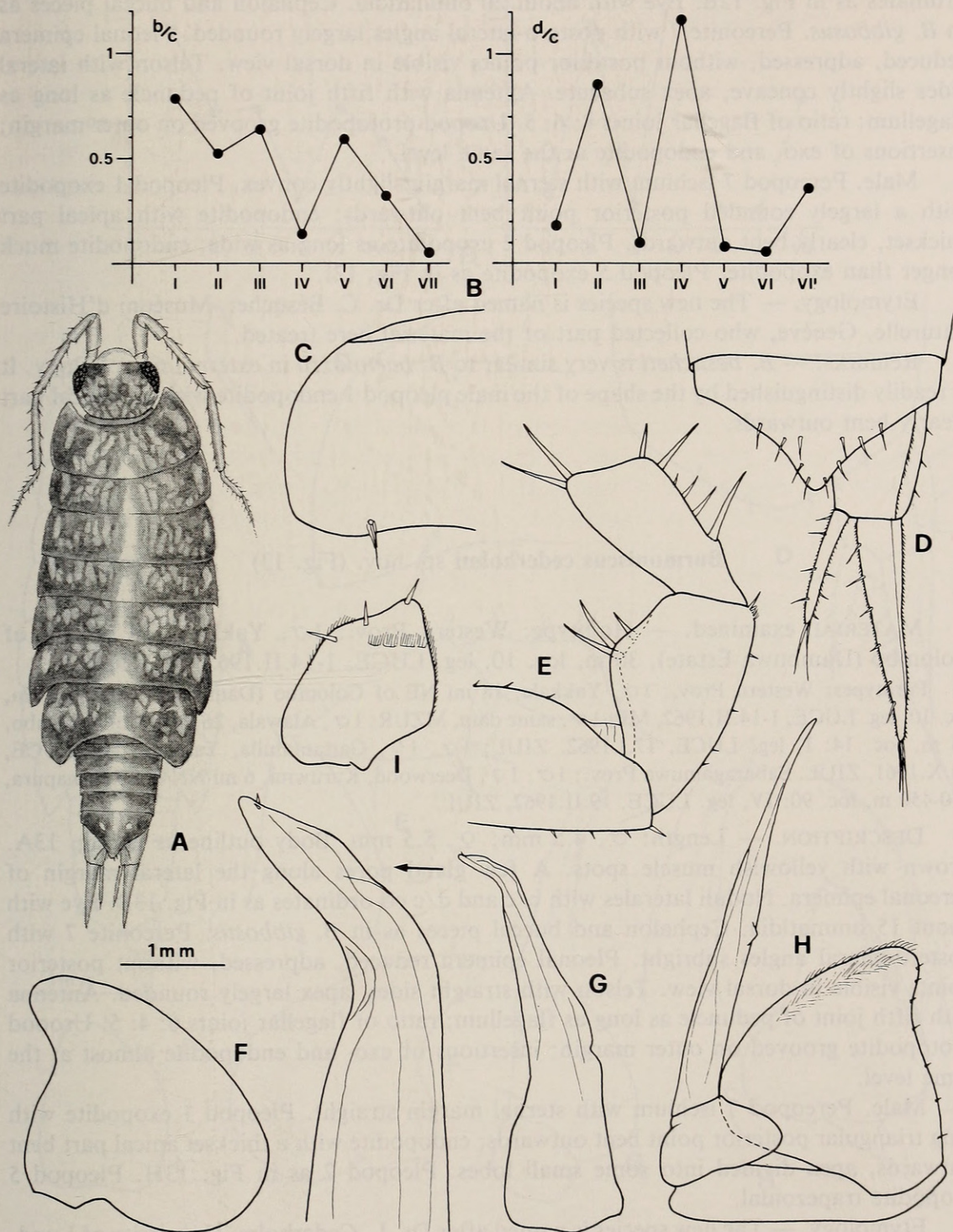


FIG. 12.

Burmoniscus besucheti sp. nov., ♂: A) adult specimen in dorsal view; B) co-ordinates of the noduli laterales; C) left epimeron of pereonite 7; D) telson and right uropod; E) pereopod 7; F) pleopod 1 exopodite; G) pleopod 1 endopodite; H) pleopod 2; I) pleopod 5 exopodite.

DESCRIPTION. — Length: ♂, 5 mm; ♀, 5.5 mm. Body outline as in Fig. 12A. Brown with yellowish muscle spots; a pale spot at the base of pereonal epimera. Dorsum with numerous upright setae. Gland pores not visible. Noduli laterales with b/c and d/c coordinates as in Fig. 12B. Eye with about 20 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles largely rounded. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with lateral sides slightly concave, apex subacute. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 8: 6: 5. Uropod protopodite grooved on outer margin; insertions of exo- and endopodite at the same level.

Male. Pereopod 7 ischium with sternal margin slightly convex. Pleopod 1 exopodite with a largely rounded posterior point bent outwards; endopodite with apical part thickset, clearly bent outwards. Pleopod 2 exopodite as long as wide; endopodite much longer than exopodite. Pleopod 5 exopodite as in Fig. 12I.

Etymology. — The new species is named after Dr. C. Bésuchet, Muséum d'Histoire naturelle, Genève, who collected part of the material here treated.

Remarks. — *B. besucheti* is very similar to *B. bartolozzii* in external morphology. It is readily distinguished by the shape of the male pleopod 1 endopodite with the apical part clearly bent outwards.

***Burmoniscus cederholmi* sp. nov. (Fig. 13)**

MATERIAL examined. — Holotype: Western Prov.: 1♂, Yakkala, 18 mi NE of Colombo (Dambuwa Estate), 30 m, loc. 10, leg. LUCE, 1-14.II.1962, MHNG.

Paratypes: Western Prov.: 1♂, Yakkala, 18 mi NE of Colombo (Dambuwa Estate), 30 m, loc. 10, leg. LUCE, 1-14.II.1962, MF; 1♂, same data, MZUR; 1♂, Alawala, 26 mi NE of Colombo, 25 m, loc. 14: I, leg. LUCE, 17.I.1962, ZIUL; 1♂, 1♀, Gattatamulla, Yakkala, leg. LUCE, 26.X.1961, ZIUL. Sabaragamuwa Prov.: 1♂, 1♀, Deerwood, Kuruwita, 6 mi NNW of Ratnapura, 350-450 m, loc. 90: IV, leg. LUCE, 19.II.1962, ZIUL.

DESCRIPTION. — Length: ♂, 4.5 mm; ♀, 5.5 mm. Body outline as in Fig. 13A. Brown with yellowish muscle spots. A few gland pores along the lateral margin of pereonal epimera. Noduli laterales with b/c and d/c co-ordinates as in Fig. 13B. Eye with about 15 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles subright. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with straight sides, apex largely rounded. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 6: 4: 5. Uropod protopodite grooved on outer margin; insertions of exo- and endopodite almost at the same level.

Male. Pereopod 7 ischium with sternal margin straight. Pleopod 1 exopodite with long triangular posterior point bent outwards; endopodite with a thickset apical part bent outwards, apex divided into some small lobes. Pleopod 2 as in Fig. 13H. Pleopod 5 exopodite trapezoidal.

Etymology. — The new species is named after Dr. L. Cederholm, University of Lund, who collected part of the material treated in this paper.

Remarks. — *B. cederholmi* is very close to *B. besucheti* in the shape of the male pleopod 1. It differs in the shape of the pereonite 7 (compare Figs 13C and 12C), telson (compare Figs 13D and 12D) and male pleopod 5 exopodite (compare Figs 13I and 12I).

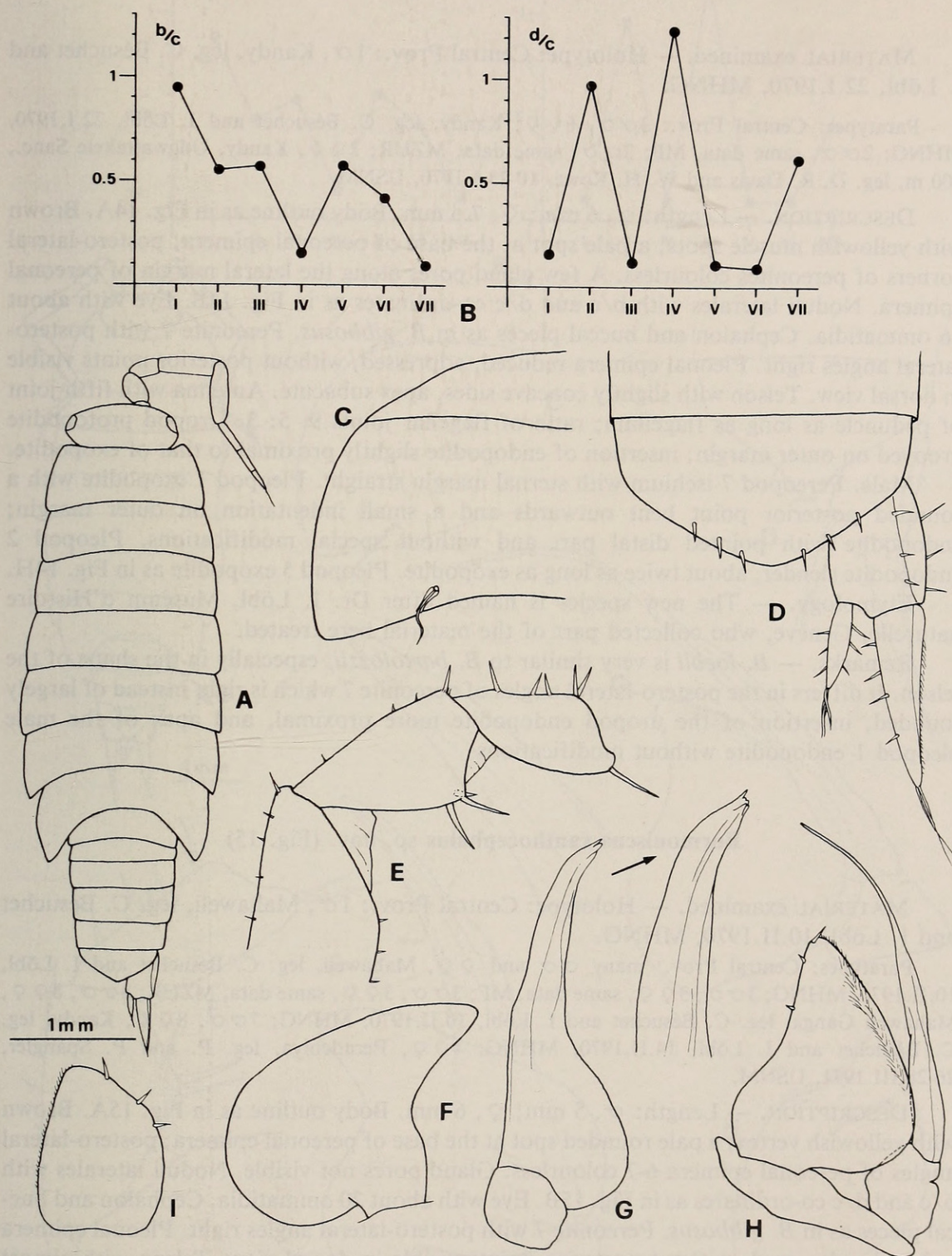


FIG. 13.

Burmoniscus cederholmi sp. nov., ♂: A) adult specimen in dorsal view; B) co-ordinates of the noduli laterales; C) left epimeron of pereonite 7; D) telson and right uropod; E) pereopod 7; F) pleopod 1 exopodite; G) pleopod 1 endopodite; H) pleopod 2; I) pleopod 5 exopodite.

Burmoniscus loebli sp. nov. (Fig. 14)

MATERIAL examined. — Holotype: Central Prov.: 1♂, Kandy, leg. C. Bésuchet and I. Löbl, 22.I.1970, MHNG.

Paratypes: Central Prov.: 3♂♂, 6♀♀, Kandy, leg. C. Bésuchet and I. Löbl, 22.I.1970, MHNG; 2♂♂, same data, MF; 2♂♂, same data, MZUR; 2♀♀, Kandy, Udawattakele Sanc., 700 m, leg. D. R. Davis and W. H. Rowe, 10-23.I.1970, USNM.

DESCRIPTION. — Length: ♂, 6 mm; ♀, 7.5 mm. Body outline as in Fig. 14A. Brown with yellowish muscle spots; a pale spot at the base of pereonal epimera; postero-lateral corners of pereonites colourless. A few gland pores along the lateral margin of pereonal epimera. Noduli laterales with b/c and d/c co-ordinates as in Fig. 14B. Eye with about 16 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles right. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with slightly concave sides, apex subacute. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 9: 5: 3. Uropod protopodite grooved on outer margin; insertion of endopodite slightly proximal to that of exopodite.

Male. Pereopod 7 ischium with sternal margin straight. Pleopod 1 exopodite with a rounded posterior point bent outwards and a small indentation on outer margin; endopodite with pointed distal part and without special modifications. Pleopod 2 endopodite slender, about twice as long as exopodite. Pleopod 5 exopodite as in Fig. 14H.

Etymology. — The new species is named after Dr. I. Löbl, Muséum d'Histoire naturelle, Genève, who collected part of the material here treated.

Remarks. — *B. loebli* is very similar to *B. bartolozzii*, especially in the shape of the telson. It differs in the postero-lateral angles of pereonite 7 which is right instead of largely rounded, insertion of the uropod endopodite more proximal, and apex of the male pleopod 1 endopodite without modifications.

Burmoniscus xanthocephalus sp. nov. (Fig. 15)

MATERIAL examined. — Holotype: Central Prov.: 1♂, Mahaweli, leg. C. Bésuchet and I. Löbl, 10.II.1970, MHNG.

Paratypes: Central Prov.: many ♂♂ and ♀♀, Mahaweli, leg. C. Bésuchet and I. Löbl, 10.II.1970, MHNG; 3♂♂, 3♀♀, same data, MF; 3♂♂, 3♀♀, same data, MZUR; 8♂♂, 8♀♀, Mahaweli Ganga, leg. C. Bésuchet and I. Löbl, 10.II.1970, MHNG; 7♂♂, 8♀♀, Kandy, leg. C. Bésuchet and I. Löbl, 14.II.1970, MHNG; 4♀♀, Peradeniya, leg. P. and P. Spangler, 26-28.III.1971, USNM.

DESCRIPTION. — Length: ♂, 5 mm; ♀, 6 mm. Body outline as in Fig. 15A. Brown with yellowish vertex; a pale rounded spot at the base of pereonal epimera; postero-lateral angles of pereonal epimera 6-7 colourless. Gland pores not visible. Noduli laterales with b/c and d/c co-ordinates as in Fig. 15B. Eye with about 20 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles right. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with almost straight sides, apex subacute. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 6: 4: 3. Uropod protopodite grooved on outer margin; insertions of exo- and endopodite at the same level.

Male. Pereopod 7 ischium with sternal margin slightly convex. Pleopod 1 exopodite with long rounded posterior point bent outwards; endopodite with apical part thickset and

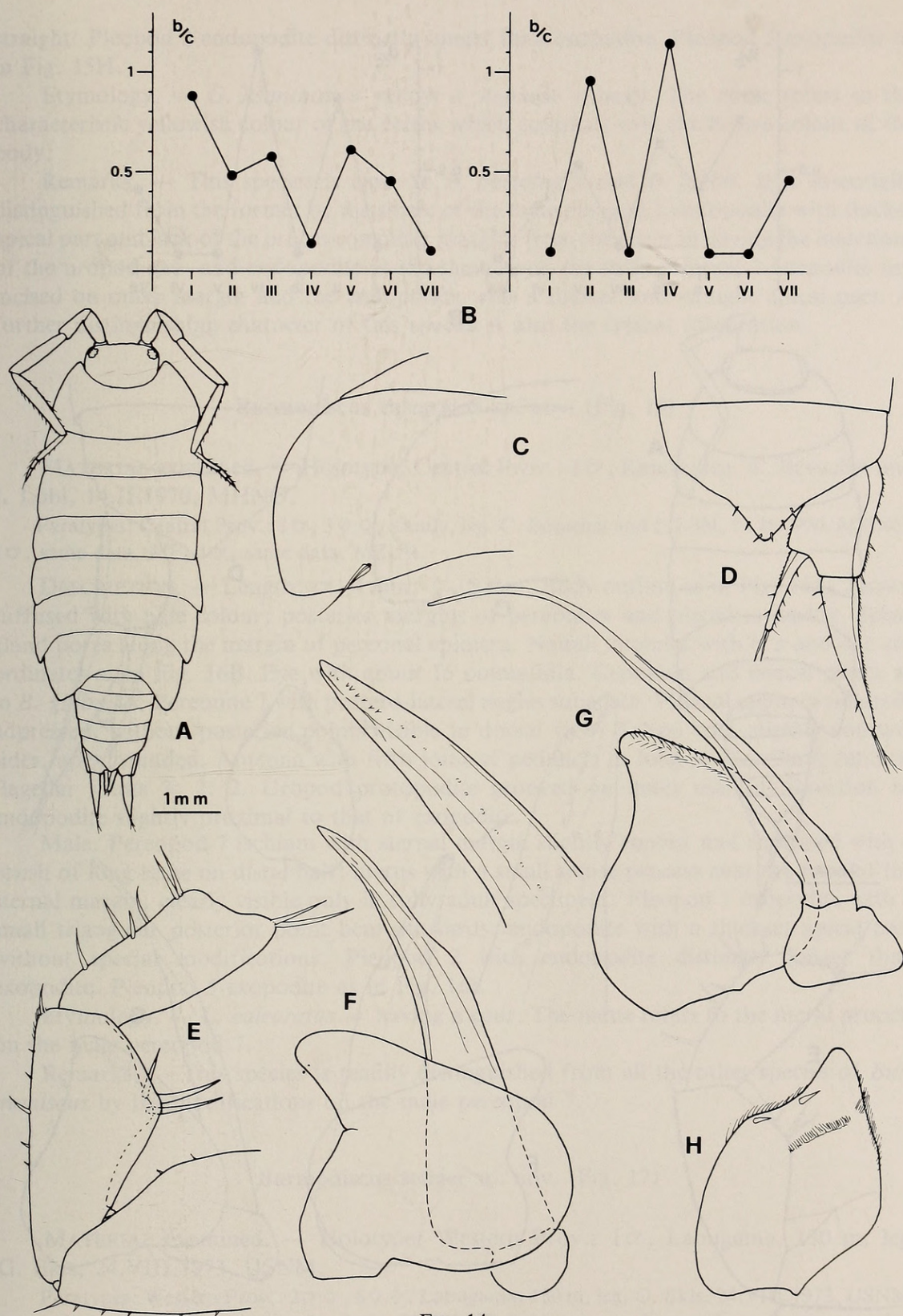


FIG. 14.

Burmoniscus loebli sp. nov., ♂: A) adult specimen in dorsal view; B) co-ordinates of the noduli laterales; C) left epimeron of pereonite 7; D) telson and right uropod; E) pereopod 7; F) pleopod 1; G) pleopod 2; H) pleopod 5 exopodite.

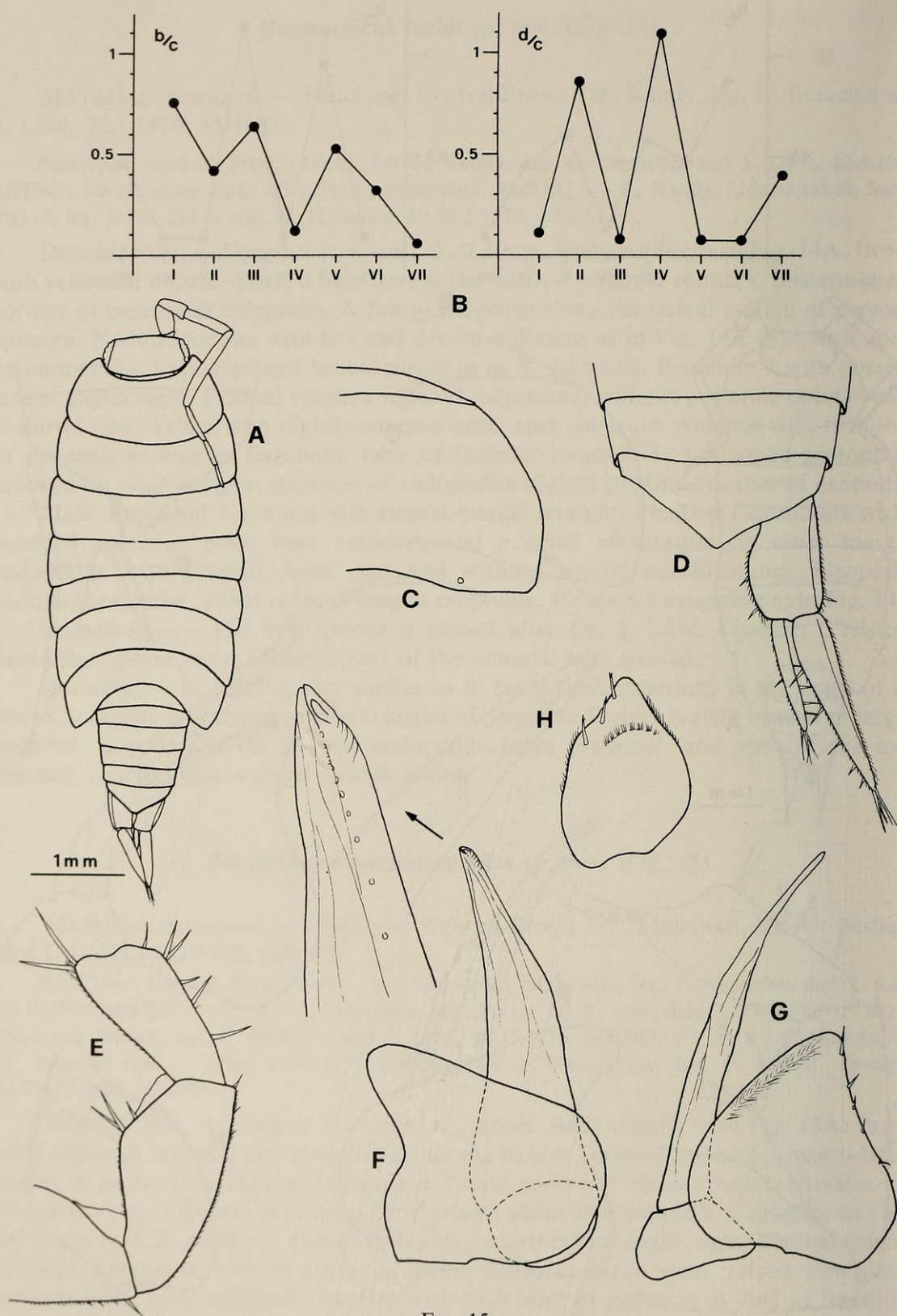


FIG. 15.

Burmoniscus xanthocephalus sp. nov., ♂: A) adult specimen in dorsal view; B) co-ordinates of the noduli laterales; C) right epimeron of pereonite 7; D) pleonites 4-5, telson and right uropod; E) pereopod 7; F) pleopod 1; G) pleopod 2; H) pleopod 5 exopodite.

straight. Pleopod 2 endopodite distinctly longer than exopodite. Pleopod 5 exopodite as in Fig. 15H.

Etymology. — *G. ksanthos* = yellow + *kephalé* = head. The name refers to the characteristic yellowish colour of the vertex which contrasts with the brown colour of the body.

Remarks. — This species is close to *B. bartolozzii* and *B. loebli*. It is essentially distinguished from the former by the shape of the male pleopod 1 endopodite with thicker apical part and lack of the process on outer margin; from the latter in having the insertions of the uropod exo- and endopodite at the same level, the male pleopod 1 exopodite not incised on outer margin and the endopodite with a thicker and straight apical part. A further distinguishing character of this species is also the typical colouration.

***Burmoniscus calcaratus* sp. nov. (Fig. 16)**

MATERIAL examined. — Holotype: Central Prov.: 1 ♂, Kandy, leg. C. Bésuchet and I. Löbl, 14.II.1970, MHNG.

Paratypes: Central Prov.: 1 ♂, 3 ♀ ♀, Kandy, leg. C. Bésuchet and I. Löbl, 14.II.1970, MHNG; 1 ♂, same data, MF; 1 ♂, same data, MZUR.

DESCRIPTION. — Length: ♂, 4 mm; ♀, 5 mm. Body outline as in Fig. 16A. Brown suffused with pale colour; posterior margins of pereonites and pleonites darker. Some gland pores along the margin of pereonal epimera. Noduli laterales with b/c and d/c coordinates as in Fig. 16B. Eye with about 15 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles subacute. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with slightly concave sides, apex rounded. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 3: 2: 2. Uropod protopodite grooved on outer margin; insertion of endopodite slightly proximal to that of exopodite.

Male. Pereopod 7 ischium with sternal margin slightly convex and equipped with a brush of long setae on distal half; merus with a small setose process near the base of the sternal margin, clearly visible only in fully adult specimens. Pleopod 1 exopodite with a small triangular posterior point bent outwards; endopodite with a thickset apical part without special modifications. Pleopod 2 with endopodite distinctly longer than exopodite. Pleopod 5 exopodite as in Fig. 16I.

Etymology. — *L. calcaratus* = having a spur. The name refers to the meral process on the male pereopod 7.

Remarks. — This species is readily distinguished from all the other species of *Burmoniscus* by the modifications on the male pereopod 7.

***Burmoniscus setiger* sp. nov. (Fig. 17)**

MATERIAL examined. — Holotype: Western Prov.: 1 ♂, Labugama, 130 m, leg. G. Ekiş, 24.VIII.1973, USNM.

Paratypes: Western Prov.: 2 ♂ ♂, 6 ♀ ♀, Labugama, 130 m, leg. G. Ekiş, 24.VIII.1973, USNM; 1 ♂, same data, MF; 1 ♂, same data, MZUR. Sabaragamuwa Prov.: 1 ♂, Ratnapura, leg. C. Bésuchet and I. Löbl, 21.I.1970, MHNG.

DESCRIPTION. — Length: ♂, 3 mm; ♀, 3.5 mm. Body outline as in Fig. 17A. Dorsum with some upright setae. Several gland pores along the margin of pereonites. Noduli

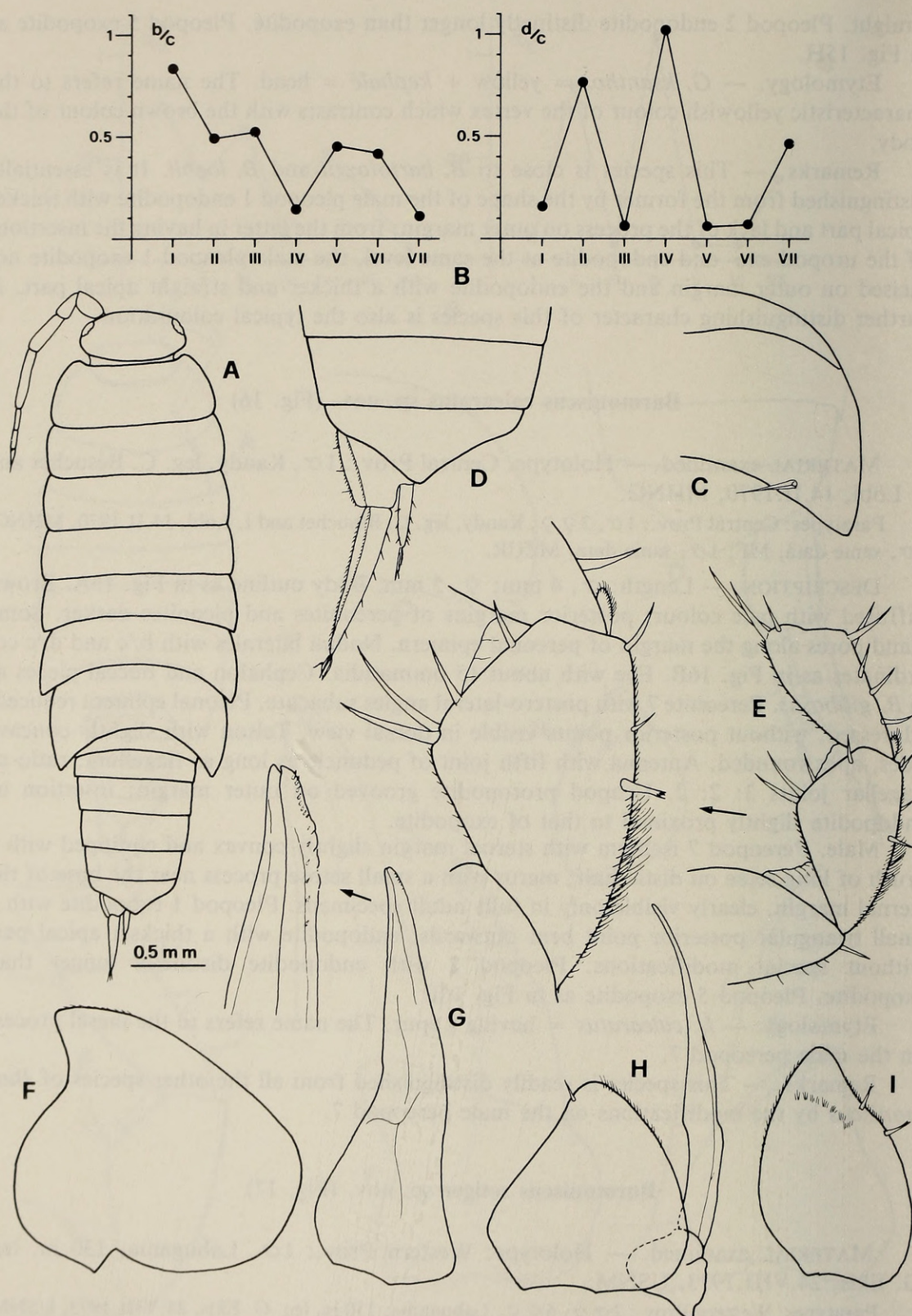


FIG. 16.

Burmoniscus calcaratus sp. nov., ♂: A) adult specimen in dorsal view; B) co-ordinates of the noduli laterales; C) right epimeron of pereonite 7; D) pleonites 4-5, telson and left uropod; E) pereopod 7; F) pleopod 1 exopodite; G) pleopod 1 endopodite; H) pleopod 2; I) pleopod 5 exopodite.

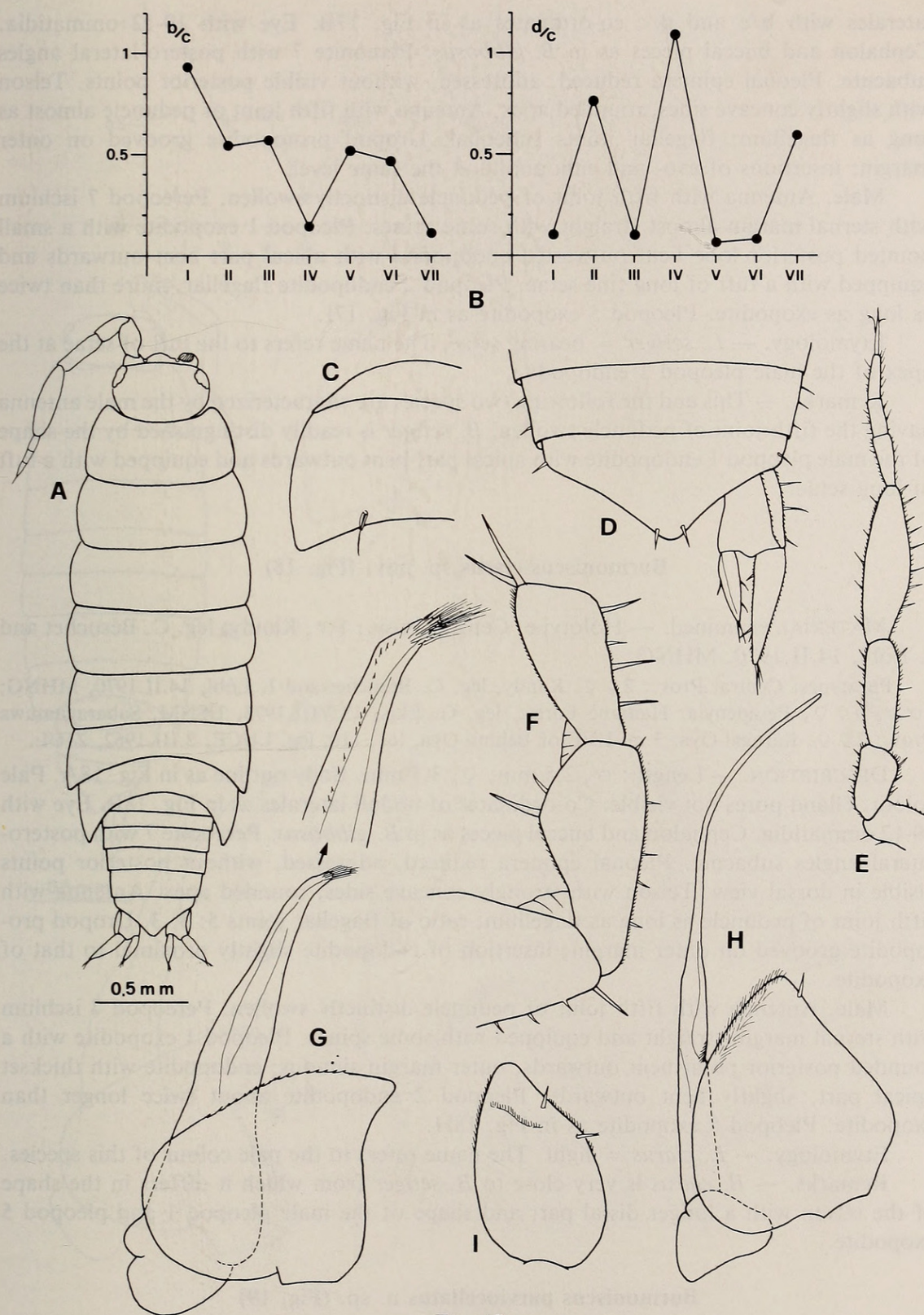


FIG. 17.

Burmoniscus setiger sp. nov., ♂: A) adult specimen in dorsal view; B) co-ordinates of the noduli laterales; C) left epimeron of pereonite 7; D) pleonites 4-5, telson and right uropod; E) antenna; F) pereopod 7; G) pleopod 1; H) pleopod 2; I) pleopod 5 exopodite.

laterales with b/c and d/c co-ordinates as in Fig. 17B. Eye with 10-12 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles subacute. Pleonal epimera reduced, adpressed, without visible posterior points. Telson with slightly concave sides, rounded apex. Antenna with fifth joint of peduncle almost as long as flagellum; flagellar joints subequal. Uropod protopodite grooved on outer margin; insertions of exo- and endopodite at the same level.

Male. Antenna with fifth joint of peduncle distinctly swollen. Pereopod 7 ischium with sternal margin almost straight with some spines. Pleopod 1 exopodite with a small pointed posterior lobe bent outwards; endopodite with apical part bent outwards and equipped with a tuft of long fine setae. Pleopod 2 endopodite flagellar, more than twice as long as exopodite. Pleopod 5 exopodite as in Fig. 17I.

Etymology. — *L. setiger* = bearing setae. The name refers to the tuft of setae at the apex of the male pleopod 1 endopodite.

Remarks. — This and the following two species are characterized by the male antenna having the fifth joint of peduncle swollen. *B. setiger* is readily distinguished by the shape of the male pleopod 1 endopodite with apical part bent outwards and equipped with a tuft of long setae.

Burmoniscus clarus sp. nov. (Fig. 18)

MATERIAL examined. — Holotype: Central Prov.: 1♂, Kandy, leg. C. Bésuchet and I. Löbl, 14.II.1970, MHNG.

Paratypes: Central Prov.: 2♀♀, Kandy, leg. C. Bésuchet and I. Löbl, 14.II.1970, MHNG; 2♂♂, 7♀♀, Peradeniya, Hantane Forest, leg. G. Ekis, 13.VIII.1973, USNM. Sabaragamuwa Prov.: 2♀♀, Karagal-Oya, 3 mi ENE of Belihul-Oya, loc. 110, leg. LUCE, 2.III.1962, ZIUL.

DESCRIPTION. — Length: ♂, 2.5 mm; ♀, 3.5 mm. Body outline as in Fig. 18A. Pale colour. Gland pores not visible. Co-ordinates of noduli laterales as in Fig. 18B. Eye with 10-12 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles subacute. Pleonal epimera reduced, adpressed, without posterior points visible in dorsal view. Telson with strongly concave sides, rounded apex. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints 5: 3: 3. Uropod protopodite grooved on outer margin; insertion of endopodite slightly proximal to that of exopodite.

Male. Antenna with fifth joint of peduncle distinctly swollen. Pereopod 7 ischium with sternal margin straight and equipped with some spines. Pleopod 1 exopodite with a rounded posterior point bent outwards, outer margin sinuous; endopodite with thickset apical part, slightly bent outwards. Pleopod 2 endopodite about twice longer than exopodite. Pleopod 5 exopodite as in Fig. 18H.

Etymology. — *L. clarus* = light. The name refers to the pale colour of this species.

Remarks. — *B. clarus* is very close to *B. setiger* from which it differs in the shape of the telson with a longer distal part and shape of the male pleopod 1 and pleopod 5 exopodite.

Burmoniscus parviocellatus n. sp. (Fig. 19)

MATERIAL examined. — Holotype: Western Prov.: 1♂, Alawala, 26 mi NE of Colombo, 200 m, loc. 15, leg. LUCE, 17.I.1962, ZIUL.

Paratypes: Western Prov.: 1♂, Alawala, 26 mi NE of Colombo, 200 m, loc. 15, leg. LUCE,

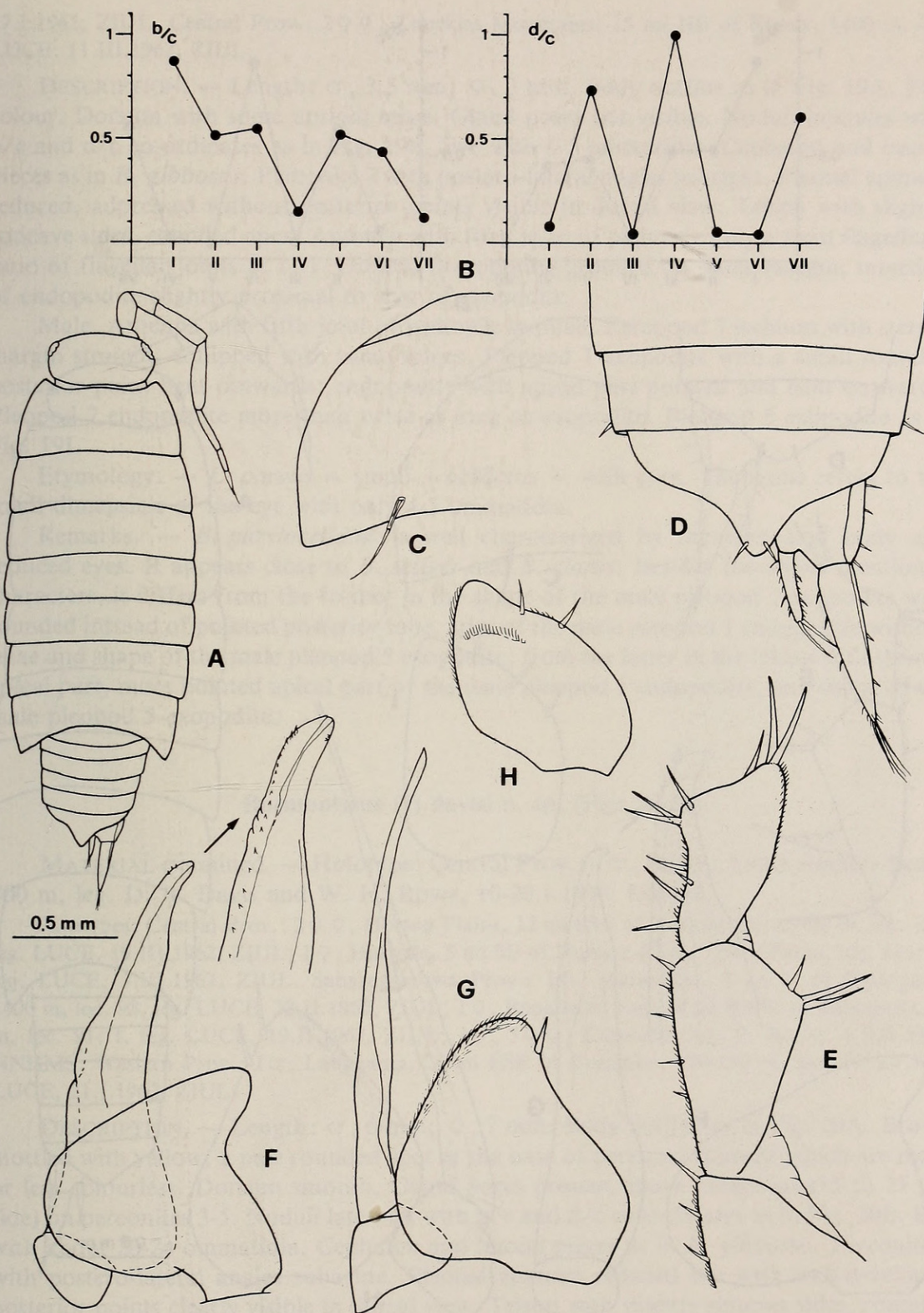


FIG. 18.

Burmoniscus clarus sp. nov., ♂: A) adult specimen in dorsal view; B) co-ordinates of the noduli laterales; C) left epimeron of pereonite 7; D) pleonites 4-5, telson and right uropod; E) pereopod 7; F) pleopod 1; G) pleopod 2; H) pleopod 5 exopodite.

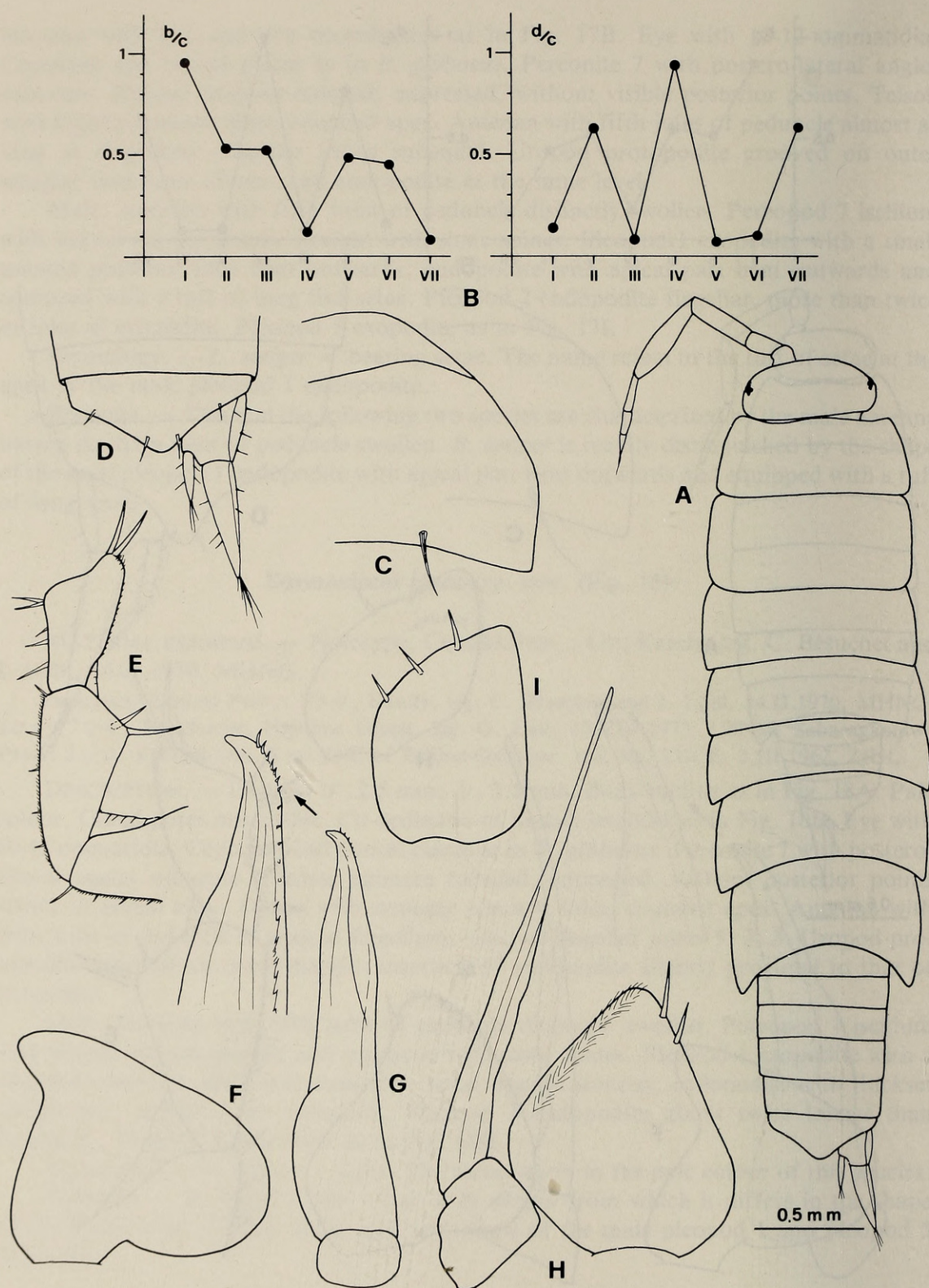


FIG. 19.

Burmoniscus parviocellatus sp. nov., ♂: A) adult specimen in dorsal view; B) co-ordinates of the noduli laterales; C) right epimeron of pereonite 7; D) telson and right uropod; E) pereopod 7; F) pleopod 1 exopodite; G) pleopod 1 endopodite; H) pleopod 2; I) pleopod 5 exopodite.

17.I.1962, ZIUL. Central Prov.: 2 ♀ ♀, Knuckles Mountains, 15 mi NE of Kandy, 1400 m, leg. LUCE, 11.III.1962, ZIUL.

DESCRIPTION. — Length: ♂, 3.5 mm; ♀, 3 mm. Body outline as in Fig. 19A. Pale colour. Dorsum with some upright setae. Gland pores not visible. Noduli laterales with b/c and d/c co-ordinates as in Fig. 19B. Eye with 4-5 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles subright. Pleonal epimera reduced, adpressed without posterior points visible in dorsal view. Telson with slightly concave sides, rounded apex. Antenna with fifth joint of peduncle longer than flagellum; ratio of flagellar joints 2: 1: 1. Uropod protopodite grooved on outer margin; insertion of endopodite slightly proximal to that of exopodite.

Male. Antenna with fifth joint of peduncle swollen. Pereopod 7 ischium with sternal margin straight, equipped with some spines. Pleopod 1 exopodite with a small rounded posterior point bent outwards; endopodite with apical part pointed and bent outwards. Pleopod 2 endopodite more than twice as long as exopodite. Pleopod 5 exopodite as in Fig. 19I.

Etymology. — *L. parvus* = small + *ocellatus* = with eyes. The name refers to the small dimension of the eye with only 4-5 ommatidia.

Remarks. — *B. parviocellatus* is well characterized by the elongated body and reduced eyes. It appears close to *B. setiger* and *B. clarus*. Besides the above mentioned characters, it differs from the former in the shape of the male pleopod 1 exopodite with rounded instead of pointed posterior lobe, apex of the male pleopod 1 endopodite without setae and shape of the male pleopod 5 exopodite; from the latter in the telson with shorter apical part, more pointed apical part of the male pleopod 1 endopodite, and shape of the male pleopod 5 exopodite.

***Burmoniscus* (?) *davisi* n. sp. (Figs 20-21)**

MATERIAL examined. — Holotype: Central Prov.: 1 ♂, Kandy, Udawattakele Sanc., 700 m, leg. D. R. Davis and W. H. Rowe, 10-20.I.1970, USNM.

Paratypes: Central Prov.: 2 ♀ ♀, Horton Plains, 12 mi SSE of Nuwara-Eliya, 700 m, loc. 163, leg. LUCE, 19.III.1962, ZIUL; 1 ♀, Hakgala, 5 mi SE of Nuwara-Eliya, 1700-1900 m, loc. 114: II, leg. LUCE, 3.III.1962, ZIUL. Sabaragamuwa Prov.: 1 ♀, Maratenna, 7 mi N of Balangoda, 1400 m, loc. 98, leg. LUCE, 22.II.1962, ZIUL; 1 ♀, Bopathella Falls, 9 mi NNW of Ratnapura, 40 m, loc. 91: I, leg. LUCE, 19.II.1962, ZIUL; 1 ♂, 5 ♀ ♀, Kuruwita, leg. P. Beron, 1.XII.1984, NNHMS. Western Prov.: 1 ♂, Labugama, 24 mi ESE of Colombo, 100-150 m, loc. 17: IV, leg. LUCE, 21.I.1962, ZIUL.

DESCRIPTION. — Length: ♂, 6 mm; ♀, 7 mm. Body outline as in Fig. 20A. Brown mottled with yellow; a pale rounded spot at the base of pereonal epimera which are more or less colourless. Dorsum smooth. Gland pores present, more numerous (15 to 25 per side) on pereonites 3-5. Noduli laterales with b/c and d/c co-ordinates as in Fig. 20B. Eye with about 20-24 ommatidia. Cephalon and buccal pieces as in *B. gibbosus*. Pereonite 7 with postero-lateral angles subacute. Pleonal epimera reduced but with well-developed posterior points clearly visible in dorsal view. Telson with slightly sinuous sides, rounded apex. Antenna with fifth joint of peduncle as long as flagellum; ratio of flagellar joints subequal. Uropod protopodite grooved on outer margin; insertion of endopodite slightly proximal to that of exopodite.

Male. Pereopod 1 carpus not enlarged, with a brush of short spines on rostral surface. Pereopod 7 ischium with sternal margin straight. Pleopod 1 exopodite with a long rounded

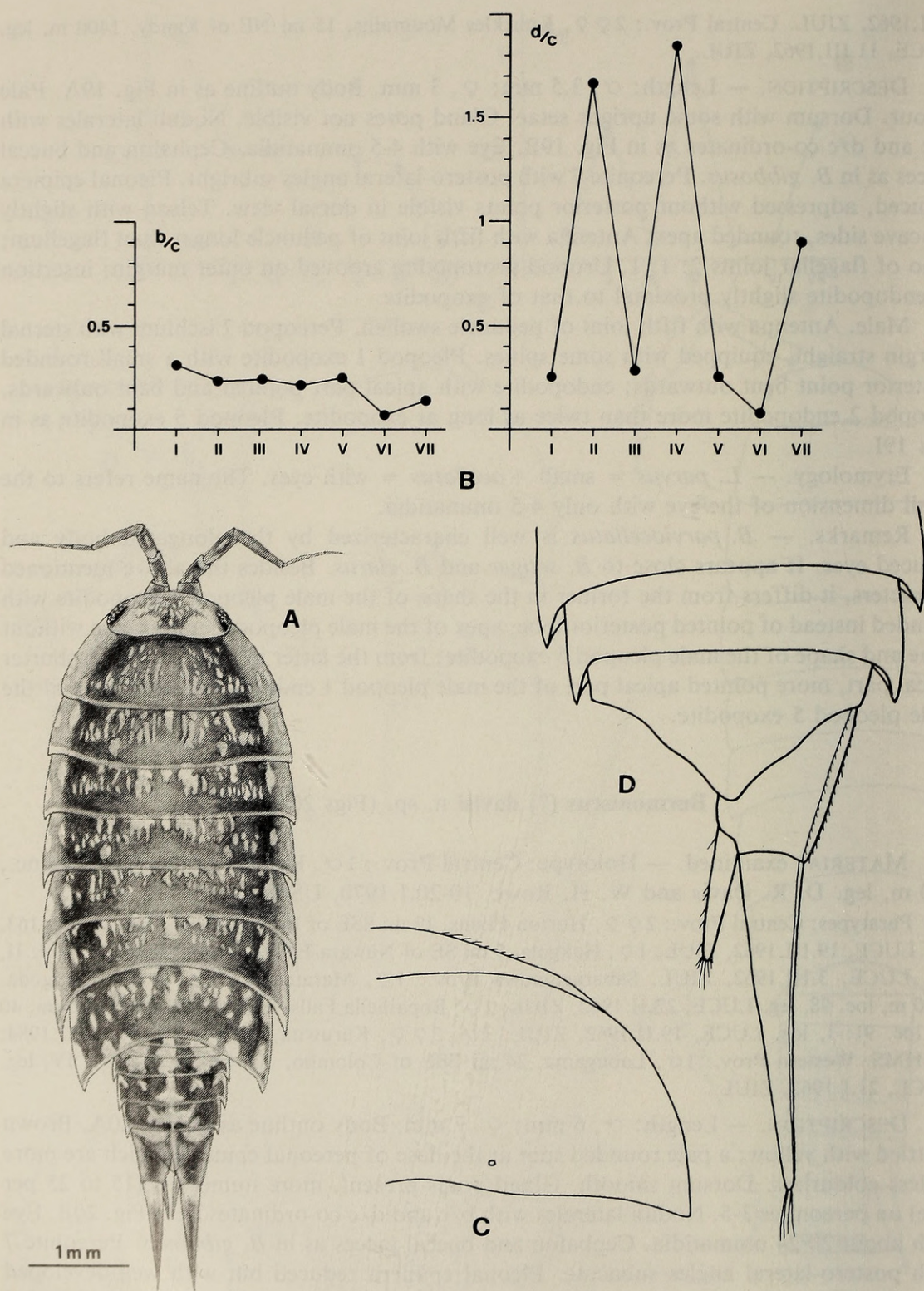


FIG. 20.

Burmoniscus (?) *davisi* sp. nov.: (A) adult male in dorsal view;
 B) co-ordinates of the noduli laterales; C) right epimeron of pereonite 7;
 D) pleonites 4-5, telson and right uropod.

posterior point, outer margin sinuous; endopodite with distal part long and narrow, without particular modifications. Pleopod 2 as in Fig. 21D. Pleopod 5 exopodite subtriangular.

Etymology. — The new species is named after Dr. D. R. Davis, Smithsonian Institution, Washington, D.C., who collected part of the material here treated.

Remarks. — This and the following species are only tentatively ascribed to the genus *Burmoniscus*, mainly on account of the presence of well-developed posterior points on pleonites 3-5, clearly visible in dorsal view while they are adpressed and not visible in all the other species of the genus. The b/c co-ordinates of the noduli laterales are also different from all the other species described here (compare Fig. 20B and Fig. 1B).

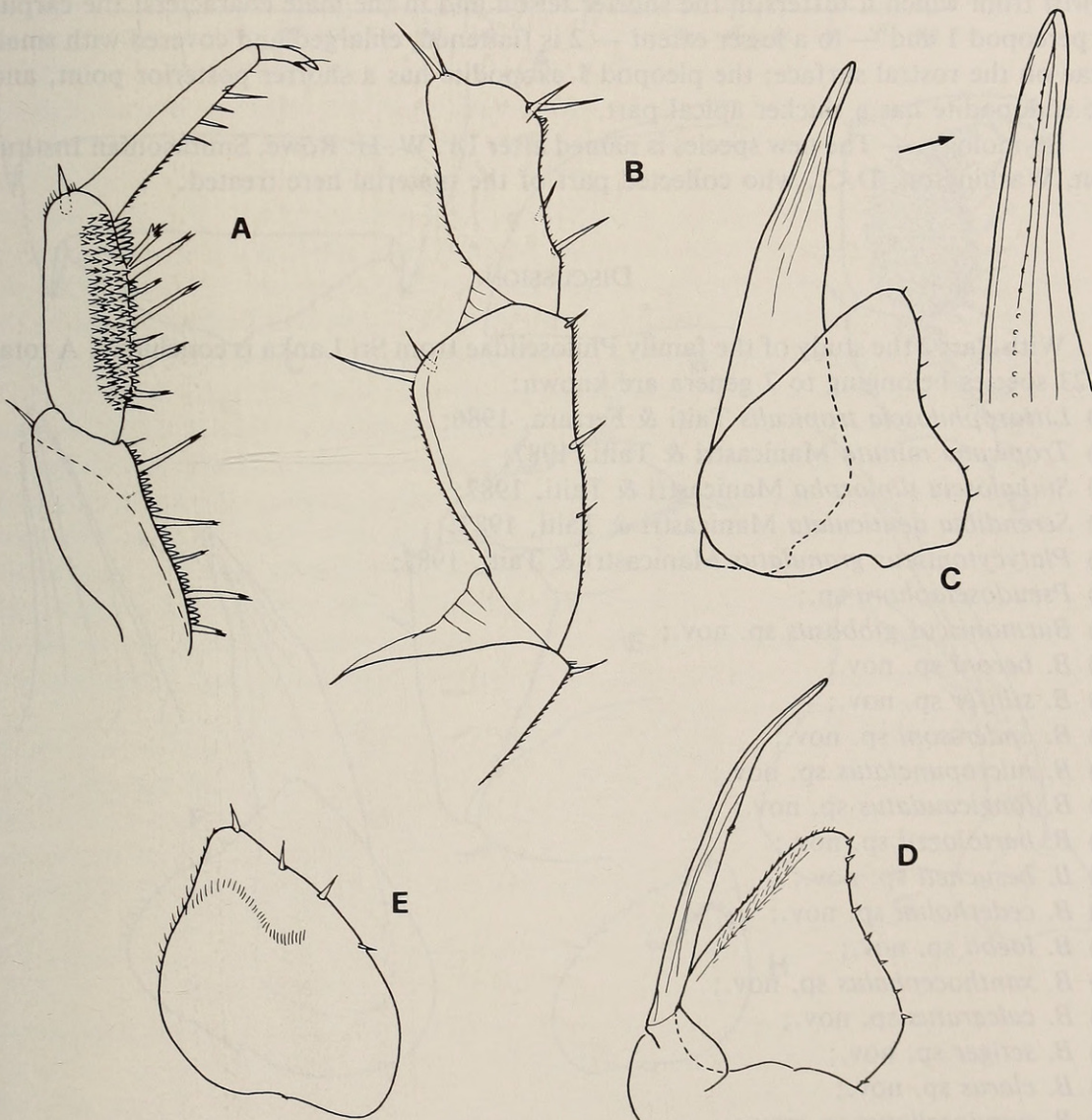


FIG. 21.

Burmoniscus (?) *davisi* sp. nov., ♂: A) pereopod 1; B) pereopod 7; C) pleopod 1; D) pleopod 2; E) pleopod 5 exopodite.

Burmoniscus (?) rowei n. sp. (Fig. 22)

MATERIAL examined. — Holotype: Sabaragamuwa Prov.: 1♂, Maratenna, 7 mi N of Balangoda, 1400 m, loc. 98, leg. LUCE, 22.II.1962, ZIUL.

Paratypes: Sabaragamuwa Prov.: 1♂, 2♀♀, Maratenna, 7 mi N of Balangoda, 1400 m, loc. 98, leg. LUCE, 22.II.1962, ZIUL; 1♂, Nonpareil Estate, 3 mi NE of Belihul-Oya, 1000-1600 m, loc. 108, leg. LUCE, 1.III.1962, ZIUL. Central Prov.: 1♀, Mt-Pidurutalagala, 1 mi N of Nuwara-Eliya, 2150-2500 m, leg. D. R. Davis and W. H. Rowe, 14.II.1970, USNM; 1♀, Kanda-Ela Reservoir, 5 mi SW of Nuwara-Eliya, 2050 m, leg. D. R. Davis and W. H. Rowe, 10-21.II.1970, USNM; 1♀, Horton Plains, 11 mi SSE of Nuwara-Eliya, 2000 m, loc. 162, leg. LUCE, 19-20.III.1962, ZIUL. Uva Prov.: 1♀, stream 2 mi NW of Haldummulla, 1100 m, loc. 111, leg. LUCE, 2.III.1962, ZIUL.

DESCRIPTION. — Length: ♂, 7 mm; ♀, 9 mm. This species is very close to *B. (?) dawisi* from which it differs in the shorter telson and in the male characters: the carpus of pereopod 1 and — to a lesser extent — 2 is flattened, enlarged and covered with small setae on the rostral surface; the pleopod 1 exopodite has a shorter posterior point, and the endopodite has a thicker apical part.

Etymology. — The new species is named after Dr. W. H. Rowe, Smithsonian Institution, Washington, D.C., who collected part of the material here treated.

DISCUSSION

With Part 2 the study of the family Philosciidae from Sri Lanka is concluded. A total of 23 species belonging to 7 genera are known:

- 1) *Littorophiloscia tropicalis* Taiti & Ferrara, 1986;
- 2) *Tropicana minuta* Manicastro & Taiti, 1987;
- 3) *Sinhaloscia dimorpha* Manicastro & Taiti, 1987;
- 4) *Serendibia denticulata* Manicastro & Taiti, 1987;
- 5) *Platyctoniscus granulatus* Manicastro & Taiti, 1987;
- 6) *Pseudosetaphora* sp.;
- 7) *Burmoniscus gibbosus* sp. nov.;
- 8) *B. beroni* sp. nov.;
- 9) *B. stilifer* sp. nov.;
- 10) *B. anderssoni* sp. nov.;
- 11) *B. micropunctatus* sp. nov.;
- 12) *B. longicaudatus* sp. nov.;
- 13) *B. bartolozzii* sp. nov.;
- 14) *B. besucheti* sp. nov.;
- 15) *B. cederholmi* sp. nov.;
- 16) *B. loebli* sp. nov.;
- 17) *B. xanthocephalus* sp. nov.;
- 18) *B. calcaratus* sp. nov.;
- 19) *B. setiger* sp. nov.;
- 20) *B. clarus* sp. nov.;
- 21) *B. parviocellatus* sp. nov.;
- 22) *B. (?) dawisi* sp. nov.;
- 23) *B. (?) rowei* sp. nov.

As already mentioned in Part 1 (MANICASTRI & TAITI, 1987), very little is known about the Oniscidea from the Oriental Region as relative studies are so scarce and out-

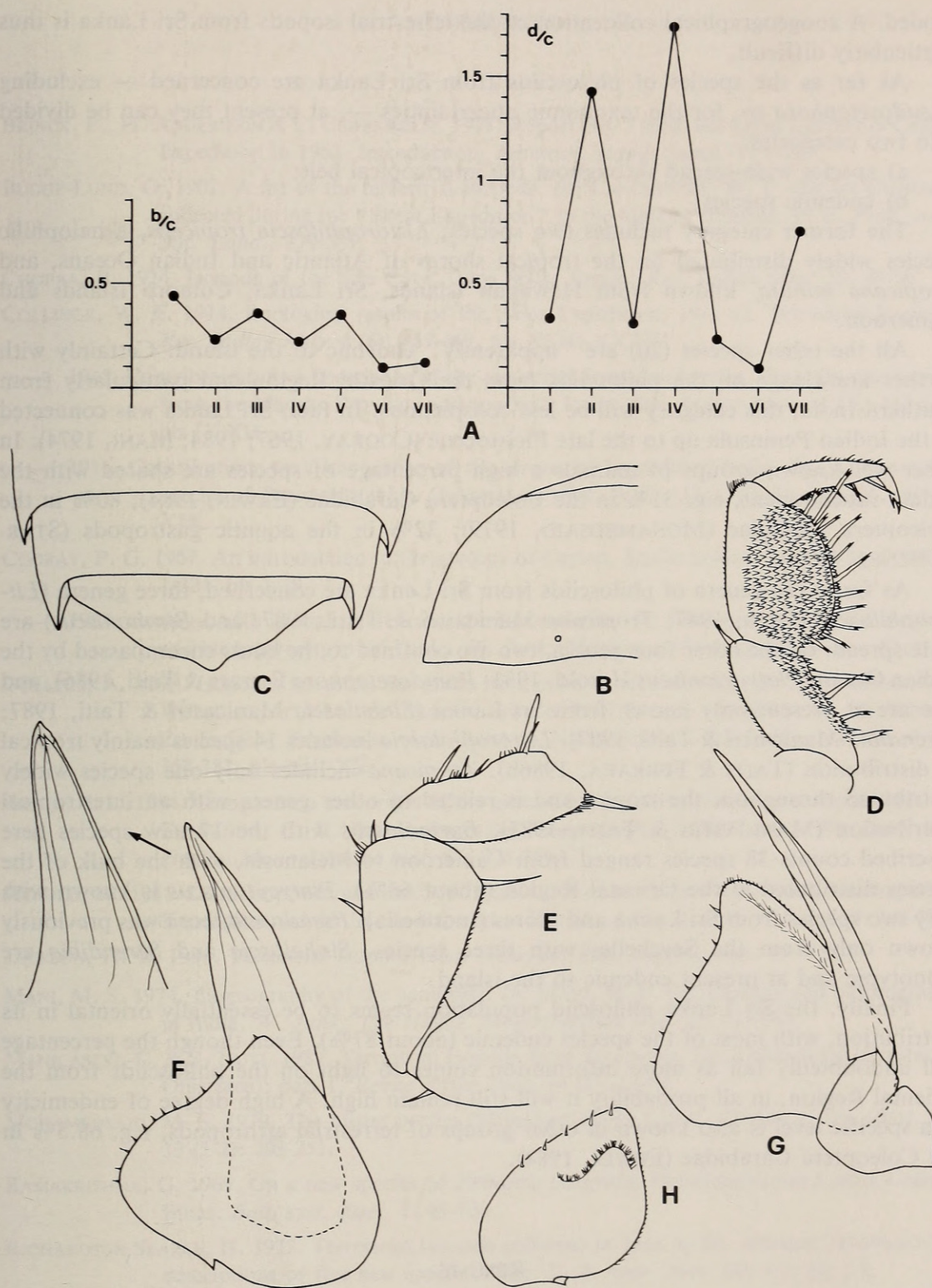


FIG. 22.

Burmoniscus (?) rowei sp. nov., ♂: A) co-ordinates of the noduli laterales; B) left epimeron of pereonite 7; C) pleonites 4-5 and telson; D) pereopod 1; E) pereopod 7; F) pleopod 1; G) pleopod 2; H) pleopod 5 exopodite.

moded. A zoogeographical collocation of the terrestrial isopods from Sri Lanka is thus particularly difficult.

As far as the species of philosciids from Sri Lanka are concerned — excluding *Pseudosetaphora* sp. for the taxonomic uncertainties —, at present they can be divided into two categories:

- a) species wide-spread throughout the intertropical belt;
- b) endemic species.

The former category includes two species: *Littorophiloscia tropicalis*, a halophilic species widely distributed on the tropical shores of Atlantic and Indian Oceans, and *Tropicana minuta*, known from Hawaiian Islands, Sri Lanka, Comoro Islands and Cameroon.

All the other species (20) are “apparently” endemic to the island. Certainly with further knowledge on the philosciids from the Oriental Region and particularly from southern India, this category will be less conspicuous. In fact, Sri Lanka was connected to the Indian Peninsula up to the late Pleistocene (COORAY, 1967; 1984; MANI, 1974). In other well-known groups of animals a high percentage of species are shared with the Indian subcontinent, e.g. 31% in the Coleoptera Carabidae (ERWIN, 1984); 80% in the Coleoptera Meloidae (MOHAMEDSAID, 1979); 32% in the aquatic gastropods (STAR-MÜHLNER, 1984).

As far as the genera of philosciids from Sri Lanka are concerned, three genera (*Littorophiloscia* Hatch, 1947, *Tropicana* Manicastro & Taiti, 1987, and *Burmoniscus*) are wide-spread. Of the other four genera, two are confined to the lands encompassed by the Indian Ocean (*Platycytoniscus* Herold, 1931; *Pseudosetaphora* Ferrara & Taiti, 1986), and two are at present only known from Sri Lanka (*Sinhaloscia* Manicastro & Taiti, 1987; *Serendibia* Manicastro & Taiti, 1987). *Littorophiloscia* includes 14 species mainly tropical in distribution (TAITI & FERRARA, 1986b). *Tropicana* includes only one species widely distributed throughout the tropics and is related to other genera with an intertropical distribution (MANICASTRI & TAITI, 1987). *Burmoniscus* with the 17 new species here described counts 38 species ranged from Cameroon to Melanesia, with the bulk of the species distributed in the Oriental Region (about 66%). *Platycytoniscus* is known with only two species from Sri Lanka and Flores (Indonesia). *Pseudosetaphora* was previously known only from the Seychelles with three species. *Sinhaloscia* and *Serendibia* are monotypic and at present endemic to the island.

Finally, the Sri Lanka philosciid population seems to be essentially oriental in its distribution, with most of the species endemic (about 87%). Even though the percentage will undoubtedly fall as more information comes to light on the philosciids from the Oriental Region, in all probability it will still remain high. A high degree of endemism at a specific level is also known in other groups of terrestrial arthropods, e.g. 68.5% in the Coleoptera Carabidae (ERWIN, 1984).

RÉSUMÉ

Dix-sept nouvelles espèces du genre *Burmoniscus* Collinge, 1914 (Philosciidae) recueillies à Sri Lanka sont décrites (*B. gibbosus*, *B. beroni*, *B. stilifer*, *B. anderssoni*, *B. micropunctatus*, *B. longicaudatus*, *B. bartolozzii*, *B. besucheti*, *B. cederholmi*, *B. loebli*, *B. xanthocephalus*, *B. calcaratus*, *B. setiger*, *B. clarus*, *B. parviocellatus*, *B. (?) davisi* and *B. (?) rowei*). La composition de la famille des Philosciidae à Sri Lanka est analysée.

REFERENCES

- BRINCK, P., H. ANDERSSON & L. CEDERHOLM, 1971. Report No. I from the Lund University Ceylon Expedition in 1962. Introduction. *Entomol. scand.* Suppl. 1: 1-36.
- BUDDE-LUND, G. 1902. A list of the terrestrial Isopods. In: LANCHESTER, W. F. On the Crustacea collected during the "Skeat Expedition" to the Malay Peninsula. Pt II. *Proc. zool. Soc. Lond.*, 379-381.
- CHOPRA, B. 1924. Isopoda of the Siju Cave, Garo Hills, Assam. *Rec. Indian Mus.* 26: 49-59.
- COLLINGE, W. E. 1914. Zoological results of the Abor Expedition, 1911-12. Terrestrial Isopoda. *Rec. Indian Mus.* 8 (6): 465-469, pls XXXI-XXXIII.
- 1915. Contributions to a knowledge of the terrestrial Isopoda of India, Pt. I. On a collection from the Madras Province and southern India. *Rec. Indian Mus.* 11 (2): 143-151, pls IV-XII.
- 1916. Contributions to a knowledge of the terrestrial Isopoda of India, Pt. II. Some new species of *Paraperiscyphis*, *Cubaris*, etc. *Rec. Indian Mus.* 12 (3): 115-128, pls IX-XIX.
- COORAY, P. G. 1967. An introduction to the geology of Ceylon. *Spolia zeylan.* 31 (part 1): I-XXVI, 1-324, pls 1-39.
- 1984. Geology, with special reference to the Precambrian. In: FERNANDO, C. H. Ed. Ecology and biogeography in Sri Lanka. *W. Junk: The Hague. Monographiae biol.* 57: 1-33.
- DOLLFUS, A. 1898. Isopodes terrestres des Indes néerlandaises recueillis par M. le professeur Max Weber et par MM. les docteurs Fritz et Paul Sarasin (de Bâle). In: M. WEBER, Zoologische Ergebnisse einer Reise in Niederländisch Ost-Indien, *Leiden.* 4 (2): 357-382, pls XIII-XV.
- ERWIN, T. L. 1984. Composition and origin of the ground beetle fauna (Coleoptera, Carabidae). In: FERNANDO, C. H. Ed. Ecology and biogeography in Sri Lanka. *W. Junk: The Hague. Monographiae biol.* 57: 371-389.
- HEROLD, W. 1931. Land-Isopoden von den Sunda-Inseln. Ausbeuten der Deutschen Limnologischen Expedition und der Sunda-Expedition Rensch. *Arch. Hydrobiol.* Suppl. 9: 306-393.
- JACKSON, H. G. 1936. Terrestrial Isopods from Malaysia. *Bull. Raffles Mus.* 12: 77-87.
- MANI, M. S. 1974. Biogeography of the peninsula. In: MANI, M. S. Ed. Ecology and biogeography in India. *W. Junk: The Hague. Monographiae biol.* 23: 614-647.
- MANICASTRI, C. & S. TAITI. 1987. Terrestrial Isopods from Sri Lanka, III: Philosciidae (Crustacea, Oniscidea): part 1. *Revue suisse Zool.* 94 (1): 17-34.
- MOHAMEDSAID, M. S. 1979. The blister beetles (Meloidae) of Sri Lanka. *Ceylon J. Sci. (Biol. Sci)* 13 (1-2): 203-251.
- RAMAKRISHNA, G. 1969. On a new species of *Philoscia* (Isopoda: Oniscidae) from Lodna Collery, Bihar. *Bull. syst. Zool.* 1: 67-70.
- RICHARDSON SEARLE, H. 1922. Terrestrial Isopoda collected in Java by Dr. Edward Jacobson with descriptions of five new species. *Proc. U. S. natn. Mus.* 60: 1-7, pls 1-2.
- STARMÜHLNER, F. 1984. Mountain stream fauna, with special reference to Mollusca. In: FERNANDO, C. H. Ed. Ecology and biogeography in Sri Lanka. *W. Junk: The Hague. Monographiae biol.* 57: 215-255.
- TAITI, S. & F. FERRARA, 1986a. Terrestrial isopods from the Oriental Region. 1. The genus *Burmoniscus* Collinge, 1914 (Philosciidae). *Monitore zool. ital. (N. S.)* Suppl. 21: 185-195.

- 1986b. Taxonomic revision of the genus *Littorophiloscia* Hatch, 1947 (Crustacea, Isopoda, Oniscoidea) with description of six new species. *J. nat. Hist.* 20: 1347-1380.
- VANDEL, A. 1973. Les Isopodes terrestres (Oniscoidea) de la Mélanésie. *Zool. Verh.* 125: 1-160.



Taiti, Stefano and Manicasteri, C. 1988. "Terrestrial isopods from Sri Lanka, IV: Philosciidae (Crustacea, Oniscidea): part 2." *Revue suisse de zoologie* 95, 51–86.
<https://doi.org/10.5962/bhl.part.79639>.

View This Item Online: <https://www.biodiversitylibrary.org/item/128498>

DOI: <https://doi.org/10.5962/bhl.part.79639>

Permalink: <https://www.biodiversitylibrary.org/partpdf/79639>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Biodiversity Heritage Library

Copyright & Reuse

Copyright Status: In Copyright. Digitized with the permission of the rights holder.

Rights Holder: Muséum d'histoire naturelle - Ville de Genève

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://www.biodiversitylibrary.org/permissions/>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.