

Koleopterologische Rundschau	68	199 - 203	Wien, Juni 1998
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***Acalyptomerus* CROWSON: the circumtropical genus of the family Clambidae (Coleoptera: Clambidae)**

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Abstract

The genus *Acalyptomerus* CROWSON (Coleoptera: Clambidae) is the only circumtropical genus of the family. Three new species are described in addition to *A. asiaticus*: *A. africanus*, *A. americanus* and *A. herbertfranzi*.

Key words: Coleoptera, Clambidae, systematics, new species, biogeography.

Introduction

The genus *Acalyptomerus* has been described by CROWSON (1979) and was based on a long series from Sri Lanka. Although Crowson has seen specimens from other parts of the circumtropical belt, he asserted that they represent the same species (p. 620). More recent material from East Africa, Central America and northern South America yielded three additional species, all from the tropical belt.

The genera of the family show different distribution patterns. The largest genus *Clambus* FISCHER von WALDHEIM is cosmopolitan. The distribution of the genera *Calyptomerus* REDTENBACHER and *Loricaster* MULSANT & REY are divided between the western Palearctic and the Nearctic Regions. The genus *Sphaerotherax* ENDRÖDY-YOUNGA has a Gondwana distribution (ENDRÖDY-YOUNGA 1995), divided between southeast Australia, New Zealand and southern Chile.

***Acalyptomerus* CROWSON**

Acalyptomerus CROWSON, 1979: 612.

Head much narrower than base of pronotum, evenly convex, fronto-clypeal suture sharp and almost straight. Antennal furrow deep, close to eye. Eye protuberant, differs in shape by species. Antenna nine-segmented, two basal segments enlarged, two apical segments forming a club, funicular segments filiform, reducing in length towards club. Pronotum trapezoid. Prosternum narrow, cylindrical with broad expansion of lateral parts of disc. Lateral margins finely denticulate. Disc with different sculptural elements, except fronto-median elevation, present in all known species. Elytra transversely convex in different extent by species. Epipleura broad at humeri with sharp internal crest joining the body, reducing evenly in breadth from humerus to apex of elytra. Lateral margin smooth in *A. americanus* sp.n., finely and densely denticulate in *A. asiaticus* sp.n. and *A. africanus* sp.n. Denticles more spaced and form long spikes apically in *A. herbertfranzi*. Pubescence of disc differs by species. Fronto-median apex of metasternum differently shaped. Coxal plate moderately broad, emarginate at posterior margin, forming a small apex laterally. Aedeagus consists of a basal piece, parameres broad, apically incised to different extent, penis deplanate or cylindrical.

Distribution: southeastern Asia (*A. asiaticus*); East Africa and La Réunion (*A. africanus*); Central and tropical South America (*A. americanus* and *A. herbertfranzi*). A long series from Jamaica is identical to *A. asiaticus* and was apparently introduced from southeastern Asia.

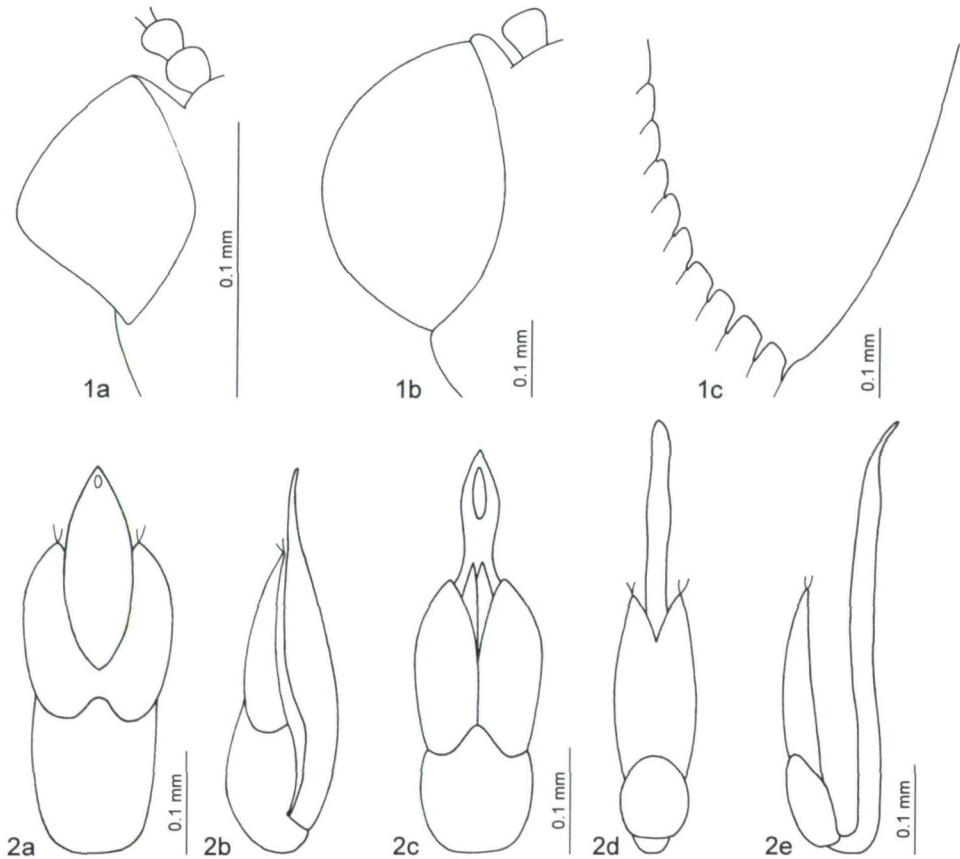


Fig. 1a, b: *Acalyptomerus* spp., eyes; a) *A. asiaticus*, b) *A. americanus*.

Fig. 1c) *Acalyptomerus herbertfranzi* sp.n., elytral denticulation.

Fig. 2a - e: *Acalyptomerus* spp., aedeagus, a, c, d: dorsal view, b, e: lateral view; a, b) *A. asiaticus*, c) *A. africanus*, d, e) *A. americanus*.

Key to the *Acalyptomerus* species

- 1 (6) Lateral margins of elytra finely denticulate or smooth.
- 2 (5) Lateral margins of elytra finely and densely denticulate. Pubescence of elytra consists of uniform and short hairs, about as long as distance of insertions (Fig. 1a). Eye in dorsal view forms a rounded angle at outer margin (Fig. 1a)
- 3 (4) Penis dorso-ventrally deplanate, evenly reducing to pointed apex. Pre-apical aperture of ductus ejaculatorius small (Fig. 2a, b). Sri Lanka, India and Jamaica *A. asiaticus*
- 4 (3) Penis contracted before lanceolate apex. Aperture of ductus ejaculatorius large and elongate (Fig. 2c). East Africa and La Réunion *A. africanus*
- 5 (2) Lateral margin of elytra smooth, elytral pubescence denser and longer, hairs almost as long as distance of two insertions. Eye in dorsal view evenly arcuate (Fig. 1b). Penis narrow and long, paramere shorter incised (Fig. 2d, e). Central America and tropical South America *A. americanus*

- 6 (1) Lateral denticulation of elytra widely spaced, forming long spikes posteriorly (Fig. 1c). Male unknown. Central America and tropical South America *A. herbertfranzi*

Acalyptomerus asiaticus CROWSON

Material examined: 24 ♂♂ (11 dissected), 24 ♀♀ and 15 unsexed specimens. Fifteen Southeast Asian specimens including a series of paratypes from the Museum d'Histoire naturelle, Genève; 50 specimens from Jamaica from the Field Museum of Natural History, Chicago. Some duplicates are deposited in the author's collection.

Localities: 11 (paratypes) Ceylon (Sri Lanka) West, Gampaha, 5.XII.1972, Mussard, Besuchet, Löbl. - 2 India, Madras, Cardamon H., 2 km NE Kumily, 900 m, 4.XI.1972, Besuchet, Löbl, Mussard. - 1 Malaysia, Perak, Cameron Highlands, Cascade Sungei Simei, III.1977, T. Jaccoud. - 1 Thailand, Chiang Rai, 10 km W Wiang Pa Pao, Ban Huay Sal, 780 m, 28.I.1988, P. Schwendinger. - 50 Jamaica, St. Andrew Parish, 1.III.1956, FMHD 56-39, leg. P. Bellinoer.

Sharp lateral margins of pronotum and elytra very finely and densely denticulate with short and fine leaning hairs. Pubescence of dorsum short and uniform. Disc of pronotum from anterior elevation with a pair of sharp radial crests on disc. Outer margin of eye asymmetrically rounded (Fig. 1a).

Head much narrower than base of pronotum. Disc convex, coarsely punctate with very fine pubescence. Eye in dorsal view asymmetric, external margin anteriorly moderately arcuate, behind middle of length truncate, forming a lateral angle. Pronotum broadly trapezoid, posterior lateral angles notched in a convex line. Disc along anterior margin elevated, connecting in a mid-longitudinal elevation. From lateral margins of anterior elevation a radial, narrow and sharp crest originating on either side. Disc concave between elevations. Surface with indistinct, large punctures; integument with fine honeycomb-shaped shagreen. Pubescence fine, inconspicuous. Lateral margins finely serrate, each denticle with a very short backward-directed hair. Elytra broadest behind humeri, here lateral margins visible simultaneously in dorsal view. Shortly behind elytra more convex, concealing lateral margins. Humeral area depressed. Lateral margins evenly, finely and densely denticulate, with about 50 denticles along entire length. From tip of each denticle a fine hair reaches the next one (Fig. 1a). Disc of each elytron with 17 straight but not sharp punctate lines; at each interval with a straight line of fine recumbent hairs, reaching the base of next hair (Fig. 1a). Metasternum on its intercoxal anterior process with a small horn-shaped protuberance, mesosternum in front of it with a tubercle and intercoxal septum. Aedeagus 0.37 mm long, at middle of paramere 0.1 mm broad. Aedeagus dorso-ventrally compressed, 0.05 mm broad at apex of paramere, evenly reducing to pointed apex; its free standing portion 0.1 mm long. Penis in lateral view straight, only slightly curving to its base. Paramere deeply incised (0.1 mm), apices pointed, each with a pair of very fine, short setae (Fig. 2a, b).

Length 1.06 - 1.18 mm; breadth 0.75 - 0.80 mm.

Distribution: India, Malaysia, Sri Lanka, and Thailand. A long series from Jamaica has most likely been accidentally introduced from Asia.

Acalyptomerus africanus sp.n.

Material examined: 2 ♂♂ (dissected) and 1 ♀. All from the Muséum d'Histoire naturelle, Genève. One ♂ without elytra in the author's collection.

Holotype ♂: Kenya, Ile Mombasa, 28.XI.1974, Mahuert, Perret. Paratype ♀: Kenya, Tana Riv., distr. Wema, 24.X.1977, Mahnert, Perret, nr.32. Paratype ♂: La Réunion, Plaine des Gregues, tamassage sous paille de vetiver, 24.II.1972, Y. Gomy.

Closely related and externally rather similar to *A. asiaticus*. Characters not repeated here were found to be similar.

Eye not evenly convex in dorsal view, but lateral rounded apex less pronounced. Radial discal crests of pronotum lower and not sharply crested. Aedeagus 0.38 mm long and 0.13 mm broad behind apices of paramere. Dorso-ventrally deplanate penis strongly contracted at apex of paramere, apex lanceolate. Free-standing portion of penis 0.13 mm long. Paramere less deeply incised (Fig. 2c).

Length 1.25 mm; breadth 0.80 mm.

Distribution: Kenya and La Réunion.

Acalyptomerus americanus sp.n.

Material examined: 5 ♂♂ (all dissected) and 2 ♀♀.

Holotype and 1 paratype in Field Museum of Natural History, Chicago; 2 ♂♂ and 1 ♀ paratypes: Museum of Comparative Zoology, Cambridge, Mass.; 2 paratypes in the author's collection.

Holotype ♂: Panama, Almirante, Bocas del Torro Prov., Nigua CK dam, 23.III.1959, FMHD 59-123, *Polyporus lignosus*, leg. H.S. Dybas. - Paratypes: 1 ♂, Panama, Canal Zone, Barro Colorado Is., 7 days Tapir dung, 1.II.1959, leg. H.S. Dybas; ♂ + ♀: Barro Colorado Is., Canal Zone, July 2, 1969, J.F. Lawrence, lot 2947; 1 ♂ idem, July 6, 1969, J.F. Lawrence, lot No. 2896, *Auricularia mesenterica*; 1 ♂: idem, February 6, 1976, litter under rotting logs, A. Newton. - 1 ♀: Venezuela, 10 m, Edo. Aragua Cuyagua, 10 km E Ocumare, 20.II.1971, FMHD 71-1, cacao pod litter, leg. S. Peck, Ber. 195.

Body outline evenly ovate in dorsal view, not dilate or depressed in humeral section. Elytra convex, lateral margin only visible in a short humeral section. Lateral margin of pronotum finely denticulate, posterior lateral angle only flattened, elytral margin smooth, not denticulate. Convex eye symmetrically arcuate (Fig. 1b). Dorsal surface with even and long pubescence. Penis long and narrow, paramere briefly incised (Fig. 2d, e).

Eye very convex, symmetrically arcuate in dorsal view (Fig. 1b). Surface densely and deeply punctate, integument almost matt. Long pubescence directed from base to clypeus.

Pronotum trapezoid, posterior lateral angle rounded or flattened, but not notched. Lateral margin with about seven denticles, each with a short, backward-directed hair. Disc, except for collar margin, without any clear surface elevation. Uniform pubescence long, hairs much longer than distance of insertions, hairs forward-directed. Elytra ovate, without humeral dilation. Lateral margin only visible in a short humeral section. Lateral margin smooth, not denticulate. Disc with coarse serial punctures, integument almost matt. Pubescence uniform, hairs recumbant, each as long as two subsequent insertions, hairs with silky sheen. Metasternum, coxal plates and sterna clearly punctate, integument glossy. Fronto-median apex of metasternum forms an even and broad protuberance, but without a backward directed horn-shaped process. Aedeagus 0.48 mm long, free standing portion of penis 0.2 mm; breadth at middle of paramere 0.09 mm. Penis narrow, at apex of paramere 0.018 mm, dilating and again contracting before reaching dorso-ventrally compressed and rounded apex, here 0.028 mm broad. Penis in lateral view slightly arcuate away from paramere. Paramere briefly incised (0.04 mm), apices each with a pair of fine setae (Fig. 2d, e).

Length 1.0 mm; breadth 0.65 mm.

Distribution Panama and Venezuela.

Acalyptomerus herbertfranzi sp.n.

Material examined: 6 ♀♀. Holotype and 3 paratypes in Field Museum of Natural History, Chicago; 2 paratypes in the author's collection.

Holotype ♀: Costa Rica, Puntarenas, OTS Sta. San Vito, finca Las Cruces, 8.46' N - 82.58' W, FMHD 73-317A,

3000 ft., 16.III.1973, conc. floor litter, leg. Wagner, Kethley. Paratypes: 1 Ecuador, Pinchicha Pr., 3 km E Tandapi, 4800 ft., 21.VI.1975, FMHD 75-299, Ber. 303, wet ravine litter, leg. S. Peck. 1 Ecuador, Cushueme, Dept. Pastaza, 1150 km SE of Puyo, 18-28.V.1971, FMHD 71-363, rotten foliage, leg. B. Malkin. 2 Peru, Cuzco Dept., Conseulo, Maun Rd. 165 kn, 6.X.1982, FMHD 82-348, ex rotten palm, leg. Watrous, Mazurek. 1 Venezuela, Edo. Aragua Cuyagua, 10 km E Ocumare, 10 m elevation, 20.II.1971, FMHD 71-1, cacao pod litter, leg. S. Peck, Ber.195.

Body less convex, lateral margins of elytra simultaneously visible along entire length in dorsal view. Marginal serration more spaced, tubercles near apex appears as long spikes. Elytral pubescence fine and short with three lines of long erect setae. Intercoxal section of metasternum moderately elevated, triangular. Male unknown.

Head coarsely punctate, fine pubescence forward-directed. Protuberant eye evenly and symmetrically convex. Pronotum trapezoid, posterior lateral angle truncate in a more or less concave line. Disc anteriorly elevate, rest of discal elevations rounded. Lateral margin with similar serration and fine backward directed hairs as in the other species. Pubescence of disc fine with few longer setae. Elytra less convex than in the other species, lateral margins simultaneously visible along entire length in dorsal view. Marginal serration more spaced, only about 20 denticles in whole length. Denticles in the first two-thirds of length small, thereafter becoming gradually longer, fine but longer setae erect, following the direction of denticles (Fig. 1c). Disc coarsely but not sharply punctate, integument shiny. Pubescence fine and recumbent, hairs about as long as distance of insertions. Somewhat longer and semierect setae are arranged in three lines. Metasternum coarsely but indistinctly punctate, integument shiny, pubescence very fine and uniform. Anterior median process of metasternum broadly triangular, surface level with disc. Coxal plates longitudinally serrate. Sternites smooth and shiny. Epipleura of elytra broadest at humeri, and present broadly to apex.

Length 0.95 - 1.08 mm; breadth 0.72 mm behind humeri.

Distribution: Costa Rica, Ecuador, Peru, and Venezuela.

Dedication: This species is named in honour of Prof. DI DDr. h.c. Herbert Franz, a colleague and friend of mine for decades.

Acknowledgements

I am grateful to my colleagues who supplied the material to this study: Dr. I. Löbl (Geneva), Dr. A.F. Newton (Chicago), Dr. P.D. Perkins (Cambridge).

Reference

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Zeitschrift/Journal: [Koleopterologische Rundschau](#)

Jahr/Year: 1998

Band/Volume: [68 1998](#)

Autor(en)/Author(s): Endrödy-Younga Sebastian

Artikel/Article: [Acalyptomerus Crowson: the circumtropical genus of the family Clambidae \(Clambidae\). 199-203](#)