

NEW GENERA AND SPECIES OF TRICHOPSENIINAE
FROM AMERICAN AND AUSTRALIAN TERMITE NESTS

(Coleoptera, Staphylinidae)

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The staphylinid beetles of the subfamily Trichopseniinae constitute a small but very interesting element of the alien insect fauna inhabiting termite colonies. Among the termitophilus beetles they are notable chiefly because of their association with the more primitive termites, and for their wide geographic range which includes both hemispheres. The great majority of groups of termitophilous insects are restricted to one hemisphere or the other, but the thirteen known Trichopseniine species were found in Argentina, British Guiana, the United States, Java, Sumatra, and Australia.

The intent of this paper is to describe the new forms which have been acquired since an earlier report¹ in which I proposed that the Trichopseniinae be given subfamily status because of their distinctive metasternal structure, hind-leg articulation, and male genitalia.

The most noteworthy addition to the subfamily is its first Australian representative, the bizarre genus, *Mastopsenius*. The peculiar facies of *Mastopsenius* scarcely indicates relationship to *Trichopsenius*, but this is in line with the subfamily tendency for each genus to develop its own distinctive habitus. The diversity within the group is more apparent than real for in most respects the basic morphological features are rather similar. The host relationship of *Mastopsenius* is especially interesting, for its host, *Mastotermes darwiniensis* Froggatt, is the most primitive of present-day termites, and sole living representative of the family Mastotermitidae, while the other Trichopseniinae are guests of the Rhinotermitidae.

With more material available for study, it is now evident that the North American genus *Trichopsenius* is comprised of at least

¹ Seevers, C. H. 1941. Taxonomic investigations of some termitophilous Staphylinidae of the subfamilies Aleocharinae and Trichopseniinae (new subfamily). *Ann. Ent. Soc. Amer.*, 34:318-349, 3 pl.

four species instead of one. The literature records *Trichopsenius depressus* Leconte as ranging from Massachusetts to California, but closer study shows that all of the specimens are not conspecific. It is clear, also, that some degree of host specificity exists, and that each species of *Trichopsenius* is restricted to one or a few species of *Reticulitermes*.

The staphylinid beetle, *Schizelythron javanicum* Kemner², collected from the nest of *Schedorhinotermes javanicus* Kemner, at Buitenzorg, Java, should be included in the Trichopseniinae rather than in the Aleocharinae where placed by Scheerpeltz³. Although I have not seen this species, I have no doubt of its relationships; the distinctive Trichopseniine metasternal and hind-leg characters are plainly evident in Kemner's illustrations. *Schizelythron* derives its name from a remarkable character; each elytron is split lengthwise from near the base to the apex, and the lateral half diverges strongly from the medial part.

I am very grateful to Dr. A. E. Emerson for determining the host termites cited in the paper, and to the following men for the gift of specimens or for arranging loans: Dr. R. E. Blackwelder of the United States National Museum, Dr. M. F. Day, Dr. Emerson, Mr. C. A. Frost, and Dr. M. W. Sanderson of the Illinois Natural History Survey.

Mastopsenius Seevers, new genus

Body robust, fusiform; sparsely setose; head moderately deflexed, compressed; clypeus very short; antennae elongated, antennomeres 3-9 campanulate; eyes large; gula sclerotized; mentum strongly transverse, sides rounded, apex emarginate; ligula bifid; labial palpi 3-segmented (third segment bearing a tiny spicule), its second segment elongated and with sides subparallel, the slender third segment articulating with its apex; maxillary palpi 4-segmented, the slender second segment increasing uniformly in width distally, the fourth segment narrowly conical, without a terminal spicule.

Pronotum robust, strongly transverse, anterior and lateral borders margined, basal border margined only along outer one-fourth; surface of pronotum strongly deflexed at base (medially) forming a conspicuous posterior "face" of the pronotum; elytra narrower than pronotum, sides and apical margin uniformly rounded, apical

² Kemner, N. A. 1925. Javanische termitophilen I: *Schizelythron javanicus* n. g., n. sp., eine neue physogastric Staphylinide von einem neuen, nicht zu den Aleochariden gehorigen Typus, nebst biologischen Bemerkungen uber *Jacobsonella termitobia* Silv. Ent. Tidskr., 46:107-126, 1 pl.

³ Scheerpeltz, O. 1934. Staphylinidae VIII. Coleopt. Cat. 130: 1501-1881.

angles obsolete; wings present; prosternum broadly tuberculate medially; mesosternum large, with a slender carinate process meeting a similar process of the metasternum between the middle coxae; metasternum relatively short caudad of the middle coxal cavities, and relatively narrow, its width from median line to side margin scarcely greater than the width of the large metepisternum; metasternal lobe only moderately large, approximating the size of the posterior trochanter.

Mesothorax, metathorax, and the basal abdominal segments greatly swollen; abdomen conical, its sclerites frequently separated, exposing white membranous areas; paratergites absent; lateral plates of ninth segment stout, cylindrical.

Legs moderately stout; tibiae with a few terminal spines; tarsi 5-segmented, basal tarsomere of middle and hind legs greatly elongated.

Genotype. Mastopsenius australis n. sp.

The position of *Mastopsenius* within the subfamily is not clear at this time. Recognition of the genus should offer no difficulty in view of its distinctive form, its antennal, pronotal, and elytral peculiarities, and its host relationship.

Mastopsenius australis Seevers, new species

(Figs. 1, 2)

Head brown; antennomeres 1-3 flavotestaceous, 4-10 with basal one-third black and remainder brown; pronotum dull to shining black, with a median reddish area; elytra piceous to dark brown; abdominal sclerites bright reddish-brown, lateral plates of ninth segment dark brown; legs brown, coxae, trochanters and femora with dusky margins. Head with a pair of bristles on vertex between antennae and one on clypeal margin in front of antennal fossa; pronotum with four transverse, irregular rows of approximately ten fine hairs; elytra also bearing four highly irregular rows of fine hairs; abdominal sclerites sparsely and uniformly clothed with fine, erect hairs. First antennomere strongly clavate (its medial surface concave), three times as long as the second segment, segments 3-4 subequal in length, segments 5-7 a trifle longer, 8-10 decreasing in length, apical segment longer than penultimate. Anterior tibia with terminal ring of uneven spines (8-10); middle tibia with four terminal spines and several spinules; hind femur and tibia subequal in length, tibia more slender, increasing in width from base to apex; bearing one stout apical spine medially and six or so spinules; basal tarsomeres of prothoracic leg decreasing in length, fifth equal to three preceding segments; basal tarsomere of mesothoracic leg three-fourths as long as tarsomeres 2-5, fifth a little shorter than 2-4; basal tarso-

mere of metathoracic leg longer than segments 2-5, fifth a trifle longer than 3-4 combined. Length, 5.5-6.2 mm.; width, 2.5 mm.

Holotype. A male from TOWNSVILLE, QUEENSLAND, AUSTRALIA; collected June 1, 1938, by Dr. M. F. Day; in the collection of the writer. *Paratypes*. Two males, same data as the type; in the collection of A. E. Emerson and the writer. *Host*. *Mastotermes darwiniensis* Froggatt.

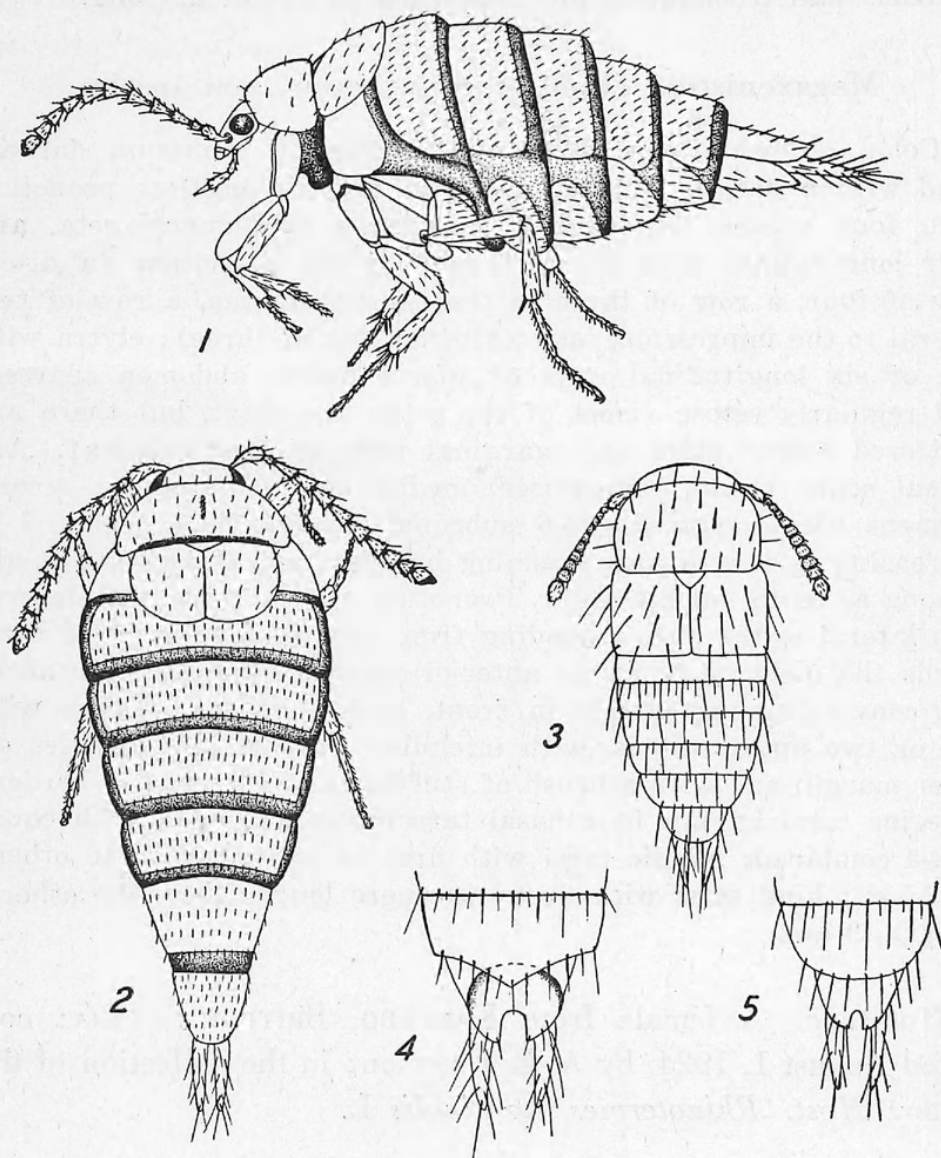
Megaxenistusa Seevers, new genus

Body cylindrical, sparsely setose; head deflexed, strongly compressed; clypeus extremely short; antennae inserted medial to the eye, antennal fossa separated from anterior tentorial pit by a distance equal to length of fossa; labrum feebly sclerotized at base, apical margin produced at middle; eyes large; antenna with broad flat scape (its medial surface concave) and with segments 2-10 subcylindrical; gula sclerotized; mentum trapezoidal, sides converging strongly; labial palpi 3-segmented (third segment with a tiny spicule), second segment asymmetrical, strongly compressed; maxillary palpi 4-segmented (fourth segment with spicule), long and slender, second segment arcuate, third fusiform, fourth conical.

Pronotum robust, transverse, surface depressed on each side of disc, not margined; elytra as broad as pronotum and longer, surface somewhat irregular, with broad shallow impressions, sutural margins not bevelled to form a median groove; wings present; mesosternum short; mesocoxae separated by carinate processes of mesosternum and metasternum; metasternum relatively short and broad; metasternal length (caudad of mesocoxal depressions) seven-tenths the distance from median line to the metepisternum (along the posterior margin); sides of metasternum strongly oblique (with respect to the horizontal plane); metasternal lobes moderate in size, not much larger than posterior trochanters; metepisternum large, four-fifths as broad (at caudal margin) as long. Abdomen stout, cylindrical; paratergites absent. Femora broad, compressed; tibia somewhat less so, sparsely spinose at apex; tarsi 5-segmented, basal tarsomere of middle and hind legs extremely long, exceeding the remainder of the tarsus in length.

Genotype. *Megaxenistusa rhinotermis* n. sp.

Megaxenistusa bears a general resemblance to *Xenistusa* Leconte (Florida to Texas), to which it is probably most closely allied, and from which it differs in these particulars: sutural margins of elytra not bevelled to form a v-shaped groove; metasternum short and broad (median length: distance from median line to side margin :: 7:10), in *Xenistusa* long and narrow (14:10); metepisternum four-fifths as broad as long, in *Xeni-*



EXPLANATION OF PLATE

- Fig. 1. *Mastopsenius australis* n. sp., lateral view.
Fig. 2. *Mastopsenius australis* n. sp., dorsal view.
Fig. 3. *Trichopsenius xenoflavipes* n. sp., dorsal view.
Fig. 4. *Trichopsenius depressus* Leconte, seventh and eighth tergites of female.
Fig. 5. *Trichopsenius frosti* n. sp., seventh and eighth tergites of female.

stusa one-third as broad as long; metasternal lobe larger than posterior trochanters and nearly as broad as long, in *Xenistusa* smaller than trochanters and one-third as broad as long.

Megaxenistusa rhinotermis Seevers, new species

Color reddish-brown, elytra and areas of pronotum darker; head with a pair of frontal and four clypeal bristles; pronotum with four bristles on anterior margin, a subhumeral seta, and four longitudinal rows on each half of the pronotum (a discal row of four, a row of three in the depressed area, a row of two lateral to the impression, and marginal row of three); elytra with five or six longitudinal rows of sparse hairs; abdomen sparsely and regularly setose (most of the setae are short, but there are scattered longer hairs and marginal rows of long bristles). Antennal scape broad, compressed, medial surface concave; second segment short, segments 3-6 subequal, longer than broad, 7-10 decreasing in length and becoming broader, apical segment small, as long as tenth but narrower. Pronotum with a large oval depression lateral to the disc, extending from base to a point about two-thirds the distance to apex; anterior margin arcuate, sides arcuate, converging moderately in front, base bisinuate. Tibiae with one or two apical spines, with irregular rows of long bristles on outer margin and with a brush of stiff hairs on the medial border; anterior tarsi having four basal tarsomeres subequal, fifth equal to 3-4 combined; middle tarsi with first tarsomere equal to others combined; hind tarsi with first tarsomere longer than the others. Length, 3 mm.

Holotype. A female from KARTABO, BRITISH GUIANA; collected August 1, 1924, by A. E. Emerson; in the collection of the writer. *Host*. *Rhinotermes marginalis* L.

TRICHOPSENIUS Horn

Trichopsenius Horn, 1877, Trans. Amer. Ent. Soc., 6:88.

Seevers, 1941, Ann. Ent. Soc. Amer., 34:323.

A generic diagnosis was given by the writer in the paper cited above, and need not be repeated here. The following key to the species is based largely on characters of the females, but this should offer little difficulty as both sexes are almost always collected from a termite colony:

1. Posterior tibiae with two rows of very long, curved bristles.
.....*longipes* Seevers
- Posterior tibiae with scattered, relatively short bristles.....2
2. Eighth tergite of female not incised.....*xenoflavipes* Seevers
- Eighth tergite of female with apical incision.....3
3. Eighth tergite of female carinate laterally; elytral setae about one-fourth as long as elytra.....*depressus* Leconte
- Eighth tergite of female not carinate; elytral setae about one-half as long as elytra.....*frosti* Seevers

TRICHOPSENIUS DEPRESSUS Leconte

(Fig. 4)

Hypocyptus depressus Leconte, 1863, Smithsn. Misc. Coll., 6:30.

Trichopsenius depressus, Horn, 1877, Tran. Amer. Ent. Soc., 6:88.

Color testaceous; head with two bristles on vertex and two on clypeal margin; pronotum with six hairs forming a hexagon on disc, a group of three lateral to disc, a subapical, irregular row of six or so, five or six on the lateral margin, and a basal row of about eight; elytra with three irregular transverse rows of about five bristles; tergites with apical rows of long bristles interspersed with short setae. Antennomeres 3-4 (of both sexes) longer than wide, 5-6 about equal in length and width, 7-10 transverse. Anterior margin of pronotum feebly emarginate medially.

Female. Seventh tergite somewhat produced, angulate medially, each half of apical margin almost straight (obliquely); eighth tergite notched medially, elevated laterally to form a strong semi-circular carina on each side; lateral plates of ninth segment broad, compressed, rounded at apex, rather spatulate. *Male*. Seventh tergite feebly angulate medially, each half of posterior margin almost straight; eighth tergite arcuate, apex rounded, but the converging sides form approximately a right angle; distal end of lateral lobe of aedeagus very slender.

Legs relatively short. Prothoracic leg: entire, .55 mm., femur, .25 mm., tibia, .17 mm., tarsus, .14 mm. Mesothoracic leg: entire, .72 mm., femur, .28 mm., tibia, .22 mm., tarsus, .23 mm. Metathoracic leg: entire, .85 mm. - .91 mm., femur, .26 - .3 mm., tibia, .26 mm., tarsus, .32 - .35 mm.

Length, 1-1.5 mm.

Type locality. LOUISIANA. *Material examined*. FLORIDA: Gainesville, Jacksonville. TENNESSEE: Memphis. *Hosts*. *Reticulitermes hageni* Banks (Florida); *R. virginicus* Hagen (Tennessee). The latter is doubtful because of limited host material.

It is now evident that this species does not range from coast to coast but is more restricted, probably to the southeastern states.

Trichopsenius xenoflavipes Seevers, new species

(Fig. 3)

Color testaceous; chaetotaxy as in *depressus*, but the bristles of the elytra and abdomen one-third longer, the elytral bristles being about one-half as long as elytra; antennomeres 3-7 of male longer than wide, 8-10 feebly transverse; antennomeres 3-6 of female longer than wide, 7-10 transverse, a little broader than in the male; anterior margin of pronotum without medial emargination.

Female. Seventh tergite evenly arcuate, eighth tergite arcuate, not notched, lateral plates of ninth segment slender, tapering to a very acute apex. Legs as in *depressus*. Length, 1.-1.5 mm.

Holotype. A female from the vicinity of WYANDOTTE CAVE, CRAWFORD COUNTY, INDIANA; collected June, 18, 1936, by A. E. Emerson and C. H. Seevers; in the collection of the writer.

Allotype. A male, same data as the type; in the writer's collection. *Paratypes*. INDIANA: 1 female, 1 male, same data as the type. ILLINOIS: 1 female, Olney, Richland County, collected by A. E. Emerson, June 8, 1934; 5 females, 5 males, Urbana, Champaign County, collected October 17, 1941, by B. G. Berger; 47 females, 57 males, Springfield, Sangamon County, collected October 5, 1943, by B. G. Berger. Paratypes in the collections of the Illinois State Natural History Survey (95), A. E. Emerson (4), and the writer (18). *Host*. *Reticulitermes flavipes* Kollar.

The females are readily distinguished from *depressus* by the simple seventh and eighth tergites. Both sexes differ in possessing somewhat longer dorsal bristles.

This species has always been found in the galleries of *Reticulitermes flavipes* but the records are not numerous enough to do more than suggest host specificity. We have no idea of the extent of the range of *xenoflavipes*; its host is a widespread species known from Massachusetts to Vera Cruz in Mexico, but this is scarcely indicative, for *xenoflavipes* appears to be replaced by *frosti* n. sp. in the eastern states.

Trichopsenius frosti Seevers, new species

(Fig. 5)

Color testaceous; chaetotaxy as in *depressus*, but the bristles of the elytra and abdomen one-third longer. Antennae, pronotum, and legs as in *depressus*.

Female. Seventh tergite very feebly arcuate, faintly sinuate each side of middle; eighth tergite with a rather broad, deep incision, but otherwise unmodified. *Male*. Seventh tergite moderately and uniformly arcuate; eighth tergite broadly and obtusely arcuate; the blade-like distal end of the lateral lobe of the aedeagus rather stout. Length, 1.25 mm.

Holotype. A female from SHERBORN, MASSACHUSETTS; collected May 18, 1913, by C. A. Frost; in the collection of the writer. *Allotype*. A male from Sherborn, Massachusetts; collected May 7, 1911, by C. A. Frost; in the writer's collection. *Paratypes*. Two males, one female, same locality, collected May 2, 1915, by C. A. Frost; in the collections of C. A. Frost and the writer. *Host*. *Reticulitermes flavipes* Kollar(?).

Both sexes may be distinguished from *depressus* by the abdominal characters given above.

The host termites were not available for identification, but in view of the fact that *Reticulitermes flavipes* is the only termite species known to occur in Massachusetts, there can be little doubt on this point.

Trichopsenius longipes Seevers, new species

Color flavotestaceous; chaetotaxy as in *depressus*; anterior margin of pronotum bisinuate, feebly arcuate medially, slightly emarginate on each side. Abdomen moderately physogastric; uniformly swollen, the sides scarcely converging posteriorly.

Female. Seventh and eighth tergites simple; lateral plates of ninth segment rather slender, apex acute. Tibiae with two rows of long, fine, curved bristles, those of metathoracic legs much longer. Legs relatively long. Prothoracic leg: entire, .65 mm., femur, .27-.3 mm., tibia, .21 mm., tarsus, .17 mm. Mesothoracic leg: entire, .92 mm., femur, .35 mm., tibia, .30 mm., tarsus, .29 mm. Metathoracic leg: entire, 1.1 mm., femur, .35 mm., tibia, .35 mm., tarsus, .44 mm.

Length, 1.9 mm. (Utah) - 2.8 mm. (California).

Holotype. From SKULL VALLEY, TOOELE COUNTY, UTAH; collected April 9, 1938, by D. E. Hardy; in the collection of the United States National Museum. *Paratypes*. Two specimens, same data as the type; in the collections of the United States National Museum and the writer. *Other material examined*. Two males, one female, from San Antonio Canyon, near Camp Baldy, SAN BERNARDINO COUNTY, CALIFORNIA; collected March 27, 1932, by T. Craig. *Hosts*. *Reticulitermes* sp. (Utah); *Reticulitermes hesperus* Banks (California).

This species differs from those of the eastern states in being physogastric, i.e., in having its abdomen enlarged and the membranous areas exposed. This condition is not very evident in the type specimens due probably to excessive shrinkage during the mounting of them on points. The California examples, received in alcohol, exhibit the condition to a fairly marked degree. This incipient physogastry is interesting in view of the fact that it is such a common feature of termitophiles.

The long tibial bristles, the bisinuate pronotal margin, and the relatively long legs are distinctive features of *longipes*. The legs of the eastern species are on the average only about four-fifths as long as those of *longipes*. The female abdominal characters are, in general, similar to those of *xenoflavipes*, but the dorsal bristles are short as in *depressus*.

The host of the type specimens could not be identified because only the worker caste of *Reticulitermes* accompanies them. Since *Reticulitermes hesperus*, the host of the California examples, is not known to occur in the Utah desert region, it is doubtful if it is their host. From available records, *Reticulitermes tibialis* Banks seems to be only possibility.

OREGON CHRYSOMELIDAE

BY KENNETH M. FENDER

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The author has in his collection a number of Chrysomelid beetles that are not listed by Hatch & Beller¹ or found in the additions by Malkin². Some of these have been determined by C. A. Frost, L. G. Gentner and Ralph Hopping. Others the author has determined from the available literature. These determiners will be designated by the following numbers: Frost (1), Gentner (2), Hopping (3), and Fender (4).

15233. *Zeugophora varians* Cr. (4), Dayton.

15286.c. *Saxinis saucia californica* Schffr. (4), Bear Springs, Wapinitia Cut-off.

15323. *Pachybrachys donneri* Cr. (4), Durkee; Wallowa Lake.

15521. *Diachus aeruginosus* Lec. (4), Boyer, Salmon River Cut-off.

15604. *Adoxus obscurus* (L.), (4), Boyer, Salmon River Cut-off.

15624. *Colaspidea varicolor* Lec. (1), Medford.

¹ Pan-Pac. Ent., 8:102-108, 1932.

² Pan-Pac. Ent., 19:74, 1943.



Seevers, Charles H. 1946. "New genera and species of Trichopseniinae from American and Australian termite nests (Coleoptera, Staphylinidae)." *The Pan-Pacific entomologist* 21, 63–72.

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