THE INDIAN APHODIINAE OF THE SUBGENUS *TRICHONOTULUS*. (COLEOPTERA: LAMELLICORNIA.)

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In the monograph of the Aphodiinae[1] by Ad. Schmidt (1922) only one species *biseriatus* Sch. of the genus *Aphodius* Illiger, subgenus *Trichonotulus* Bedel, is included from India. No other species of the genus has been described since this date, nor any new records of already known species have been added. In a very interesting collection of Indian material recently sent to me by Monsieur R. Oberthür of Rennes I found specimens of two new species of the subgenus *Trichonotulus*, which are described below. In this paper I also give a synoptic key for the identification of the three Indian species and have included a description of Schmidt's species.

Key to Indian species.

1 (2)	Elytral setae uniseriate, each seta placed behind a rather obtuse granulation	*A.* (*T.*) *castetsi*, sp. nov.
2 (1)	Elytral setae biseriate.	
3 (4)	Base of thorax margined, not sinuate on either side of the middle . .	*A.* (*T.*) *biseriatus* Sch.
4 (3)	Base of thorax not margined, deeply sinuate on either side of the middle	*A.* (*T.*) *moorei*, sp. nov.

The subgenus *Trichonotulus* is distinguished from all other subgenera of *Aphodius* by the following characters:

Body completely covered with setae. Forehead without tubercles or carinae. Scutellum with elongated, parallel sides. Terminal setae of the hind tibiae unequal. Body usually black or brown, often with paler elytrae.

This subgenus comprises a European species, the not uncommon *A.* (*T.*) *scrofa* (F.), two American species and many African and East Asiatic species. Lately many African forms have been described by M. Balthasar of Prague and M. Boucomont of Cosne (Nievre).

Aphodius (Trichonotulus) castetsi, sp. nov.

Body elongated, with parallel sides, rather convex, completely covered with yellow setae. The setae lie regularly and are disposed backwards. Body completely brown, with strong chagrination on the head and the thorax. Elytrae completely opaque without any visible chagrination even under a magnification of sixty diameters.

Head large, flat. The suture of the forehead with the clypeus is deeply impressed. The head is covered with a rather fine, regular and close punctuation.

The clypeus is cut squarely in front. Ocular lobes small, not projecting on the sides of the head.

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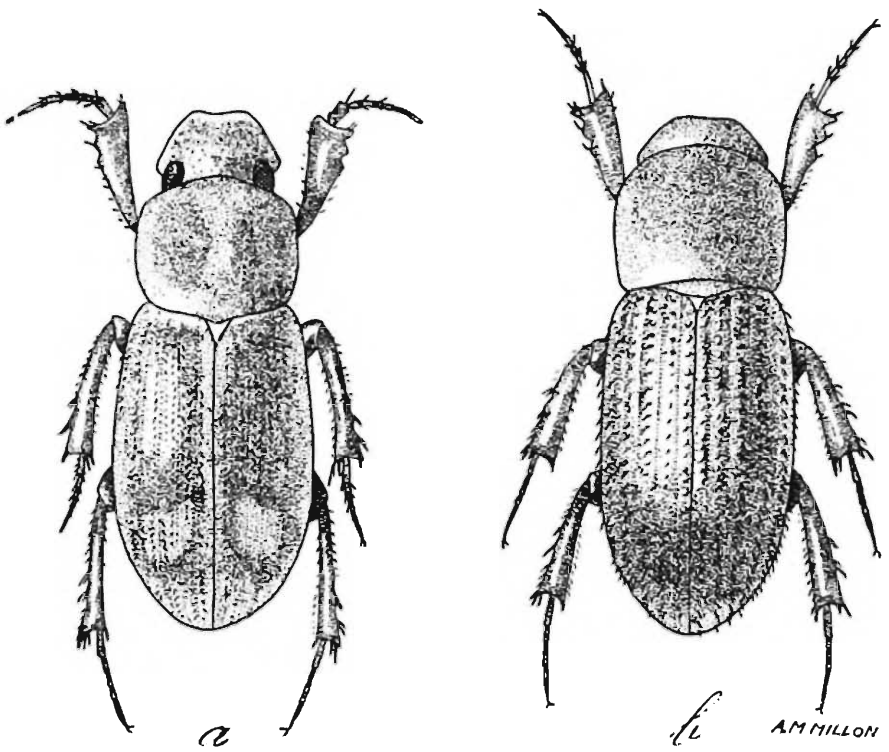
[1] Schmidt, Ad.—*Das Tierreich, Aphodiinae*, p. 243 (Berlin: 1922).

Thorax square, convex, finely margined at the sides and base, completely covered with a strong, regular and rather sparse punctuation made of points not deeply marked and rather flat.



TEXT-FIG.—Two new species of the genus *Aphodius* from India.
a. Aphodius (Trichonotulus) moorei, sp. nov.; *b. Aphodius (Trichonotulus) castetsi*, sp. nov.

Scutellum without punctuation.

Elytrae long, convex, parallel, with well-marked striae; striae punctured; punctures are far apart and only slightly indent the interstriae, which are flat; they bear a regular series of granules on each. Behind those granules rise yellow setae standing erect.

First joint of the hind tarsi longer than the terminal spur of the hind tibiae; slightly longer than the two following joints taken together.

Length 2·5 mm.

Type-specimen :—A specimen from Travancore, Trichinopoly; R. P. Castets, September 1897; in M. Oberthür's collection. Another specimen from the same locality also in M. Oberthür's collection.

Aphodius (Trichonotulus) moorei, sp. nov.

Body elongated with elytrae broadening posteriorly. Not very convex, completely covered with yellow setae, which lie backwards. Body completely opaque, covered with a fine chagrination. Head, middle of the thorax and elytrae with a discal spot and a fasciated band, broader near the suture and placed in the last quarter of the elytra, dark brown. Base and sides of the thorax and the remaining part of the elytrae yellowish brown.

Head large, flat, finely and closely punctured. Clypeus squarely cut in front. Ocular lobes small, not projecting on the sides of the head. Eyes large.

Thorax square, with a regular, close and fine punctuation; punctures asperate. Base of the thorax not margined, strongly sinuate on each side of the middle. Posterior angles rounded.

Scutellum bearing a few large punctures.

Elytrae short and broad, with fine striae, the punctuation of the striae very fine and not indenting the interstriae; these are flat, with a rather irregularly biseriate punctuation. The points bear strong setae. Striae disappearing at the apex of the elytrae.

First joint of the hind tarsi much longer than the upper terminal spur of the hind tibiae, nearly as long as the four following joints taken together.

Length 3·5 mm.

Type-specimen:—A specimen in M. R. Oberthür's collection from Ceylon; F. Moore. Another specimen also from Ceylon in M. Oberthür's collection.

Aphodius (Trichonotulus) biseriatus Ad. Sch.

Aphodia (Trichonotulus) biseriatus Ad. Schmidt, *Ent. Wochenbl.*, XXV, p. 48, (1908); *Arch. Naturg.*, LXXIX, p. 154 (1913); *Das Tierreich, Aphodiinae*, p. 243 (1922).

Body convex, dark brown; completely, strongly and closely punctured. The suture of the forehead and clypeus deeply impressed. Clypeus cut squarely in front. Ocular lobes rounded. Base of the thorax margined, the margin is preceded by a line of strong points. The whole thorax covered with a close and strong double punctuation. Scutellum very small. Elytrae with a small humeral tooth. Striae deep and strongly punctured. Interstriae flat, with a very short covering of biseriate setae. Upper terminal spur of the hind tibiae shorter than the first joint of the hind tarsi. First joint nearly equal to the three following joints taken together.

Length 4 mm.

Locality:—India.

Remarks:—*A.* (*T.*) *moorei* seems to have very close relationships with *A.* (*T.*) *fulvescens* Har. from the West Coast of Africa and specially from Senegal, but it is easily separated from this species by the quite different proportions of the first joint of the hind tarsi. The species described by Schmidt seems to be closely related to an American species. The relationships of *A.* (*T.*) *castetsi* are far from clear and it seems to me that this species should take quite a separate place in the group on the strength of its elytral sculpture. I even thought that it may be necessary to create a new subgenus for this species, but as in all points except the sculpture of the elytrae it is a typical *Trichonotulus*, I think it best for the present to place it in this subgenus.