

RESULTS OF THE AUSTRIAN-CEYLONESE HYDROBIOLOGICAL MISSION, 1970 OF THE 1st ZOOLOGICAL INSTITUTE OF THE UNIVERSITY OF VIENNA (AUSTRIA) AND THE DEPARTMENT OF ZOOLOGY OF THE VIDYALANKARA UNIVERSITY OF CEYLON, KELANIYA

Part VII: Dryopidae and Elminthidae of Ceylon

By

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This paper is one result of a study of a number of *Dryopidae* and *Elminthidae* which were sent to me by Dr. F. STARMÜHLNER to whom my best thanks are due.

All specimens mentioned here were collected by Dr. F. STARMÜHLNER himself, during the "Austrian Indo-Pacific Expedition".

Until now only one species of *Dryopidae* and six of *Elminthidae* have been recorded for the whole of Ceylon. Four of those species (*Potamophilinus costatus* HINTON, *Stenelmis fletcheri* CHAMP., *Helmis foveicollis* GROUV., *Ancyronyx quadriplagiatus* MOTSCH.) are represented in the material cited in this paper; five species (with a new genus) and one subspecies were new; one species was known from Vietnam.

I have to draw the attention of the reader upon the fact that all the new species but one (*Aruelmis* g.n. *starmuhlneri*) were previously collected by the "Swedish Lund University Ceylon Expedition in 1962" and are now described in Report No. 25 from this Expedition. (2)

LIST OF SPECIES

I. DRYOPIDAE

1. *Helichus naviculus* DELÈVE

1973 *Helichus naviculus* DELÈVE, Ent. scand. E Suppl. 4: 6, (Fig).

Ratnapura area : FC 9/17.11.1970, Bodathpitiya-Ela : 1 ♀ (stone on shore) ; FC 13/21.11.70, upper arm of the Kalu-Ganga, near Malwala : 1 ♀ (in floating water waterplants).

Kitulgala area : FC 37/28.12.70, Kelani-Ganga by Resthouse at Kitulgala ; 1 ♂, 1 ♀ (stone in the middle of the river).

Though the genus *Helichus* ERICHSON is widely distributed in the world, it had not been recorded from Ceylon.

II. ELMINTHIDAE

Sub-fam. *Larinae*

1. *Potamophilinus costatus* HINTON

1935 *Potamophilinus costatus* HINTON, Stylops 4 (8) : 174.

Described from Peradeniya.

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Belihul-Oya area : FC 27/9.12.70, Kuda-Oya near Buttala ; 8 specimens (under stones) ;
Wegan-Oya, upper arm of the We-Ganga, near Balangoda : 4 specimens (in cascade).

Sub-fam. *Elminthinae*

1. *Ordobrevia fletcheri* CHAMPION

1923 *Stenelmis fletcheri* CHAMPION, Ent.Mo.Mag., LIX : 166. Described from Madulsima.

I have referred this species to the genus *Ordobrevia* SANDERSON on account of the presence of an accessory stria.

Deniyaya area : FC 1/9.11.70, Meda-Dola, 1,000 m : 2 specimens (under face of stones in the stream) ;

Maskeliya area : FC 16/28.11.70, Mocha-Dola : 1 specimen (stone in the shore).

2. *Ordobrevia fletcheri flavolineata* DELÈVE

1973 *Ordobrevia fletcheri flavolineata* DELÈVE, Ent. scand. Suppl. 4: 11 (fig.)

(2) J. DELÈVE, DRYOPIDAE et ELMINTHIDAE. Report No. 25 from the Lund University Ceylon Expedition in 1962 : *Ent. scand. Suppl. 4*, 1973 : pp.5-23.

Deniyaya area : FC 16/11.11.70, Kiriwel-Dola, 700 m : 1 specimen (stone).

Ratnapura area : FC 9/17.11.70, Bodathpitiya-Ela : 2 specimens (cascade, stones on shore) ;
FC 11/19.11.70, Rajanawa-Dola : 1 specimen (stone in cascade).

Belihul-Oya : FC 27/9.12.70, Kuda-Oya near Buttala : 6 specimens (on the shore and on stones).

Kitulgala area : FC 37/28.12.70, Kelani-Ganga near Resthouse at Kitulgala : 3 specimens (on stone).

Ilamelmis DELÈVE, 1973

A new genus until now known only from Ceylon with three species; two of them are represented amidst the Elmids collected by Dr. F. STARMÜHLNER.

3. *Ilamelmis brunnescens* DELÈVE

1973 *Ilamelmis brunnescens*, DELÈVE, Eno. scand. Suppl. 4: 14 (fig.)

The most common species of this genus.

Deniyaya area : FC 1/9.11.70, Meda-Dola, 1,000 m : 2 specimens (under surface of stones in the current) ; FC 6/11.11.70, Kiriwel-Dola, 700 m : 2 specimens (on stones) ; FC 7/12.11.70, Thanipita-Dola, 600 m : 8 specimens (under pebbles and upon rocks) ; FC 8/13.11.70, Nagahaketa-Dola, 500 m : 1 specimen (stone in the cascade).

Ratnapura area : FC 14/22.11.70, Kalu-Ganga near Carney Estate : 3 specimens (stones in the cascade).

Belihuloya area : FC 24/7.12.70, tributary of the Walawe-Ganga : 1 specimen.

Kitulgala area : FC 36/27.12.70, Rambukpoth-Oya, near Pitawela, 650 m : 6 specimens (on stones).

4. *Ilamelmis foveicollis* (GROUVELLE).

1896. *Helmis foveicollis* GROUVELLE, Ann. Mus. Civ. Genova (2), XVII: 45.

Deniyaya area : FC 6/11.11.70, Kiriwel-Dola, 700 m : 1 specimen (on stone).

Ratnapura area : FC 9/17.11.70, Bodathpithiya-Ela : 1 specimen (stone on the shore) ; FC 13/21.11.70, superior arm of the Kalu-Ganga, near Malwala : 1 specimen (on stone in the cascade zone).

Maskeliya area : FC 16/28.11.70, Mocha-Dola : 2 specimens (stones on the shore) ; FC 18/30.11.70, Gartmore-Dola : 2 specimens (on stones in the current).

Belihul-Oya area : FC 24/7.12.70, Belihul-Oya : 1 specimen ; FC 26/8.12.70, Veli-Oya, tributary of the Walawe-Ganga : 1 specimen (stone on the shore).

5. *Podelmis quadriplagiata* (MOTSCHULSKY)

1859 *Ancyronyx quadriplagiatus* MOTSCHULSKY, Etudes Entomol. VIII : 47.

MOTSCHULSKY described his species on specimens collected by NIETNER in mountain-rivers of Nuwara-Eliya.

The numerous specimens collected by Dr. F. STARMÜHLNER in diverse localities agree with the Motschulsky's description. I find that the species should be placed in the genus *Podelmis* HINTON, which was erected for three species of S. India. Until now *Podelmis* was not recorded from Ceylon.

Deniyaya area : FC 43/10.11.70, Hola-Dola : 1 specimen ; FC 5/11.11.70, Campden-Hill-Dola, 700 m. : 1 specimen (under stone).

Ratnapura area : FC 14/22.11.70, Kalu-Ganga : 1 specimen (on stone in the cascade).

Maskeliya area : FC 16/28.11.70, Mocha-Dola : 3 specimens (stones on the shore) ; FC 18/30.11.70, Gartmore-Dola : 1 specimen (on stone in the current) ; FC 19/30.11.70, tributary river of the Gartmore-Dola, near Managers' Bungalow : numerous specimens (on stones in the cascade).

6. *Podelmis aenea* DELÈVE

1973 *Podelmis aenea* DELÈVE, Ent. scand. Suppl. 4 : 20 (fig.)

Belihul area : FC 26/8.12.70, Veli-Oya : 1 specimen (on stone).

Taprobanelmis DELÈVE, 1973

A new genus, particular to Ceylon.

7. *Taprobanelmis carinata* DELÈVE

1973 *Taprobanelmis carinata* DELÈVE, Ent. scand. Suppl. 4 : 23 (fig.)

Ratnapura area : FC 12/20.11.70, Kalu-Ganga, before the city Ratnapura : 2 specimens (on stones in the cascade).

Kitulgala area : FC 34/26.12.70, Bibili-Oya, tributary river of Kelani-Ganga : 1 specimen (on stone).

Aruelmis g.n.

Body oval, moderately convex (fig. 1). Head retractable, antennae (fig 2). 11-segmented, shorter than pronotum. Mandible with two apical teeth ; prosteca large, membranous, with hairy

margin and spiny apex (fig. 3). Maxillary palp 3-segmented; galea palpiform 2-segmented with apical and lateral hairs (fig. 4), scarcely shorter than palp; lacinia rectangular, with a lateral row of spines and a apical wavy brush (Labial palpa lost).

Pronotum with a sublateral carina on each side, extending from base to basal third; with a shallow median discal impression.

Elytra striate and punctate, without an accessory stria; with two sublateral carinae on each side, the inner sharp, on the sixth interval, the outer narrower and less elevated; second interval feebly raised at base.

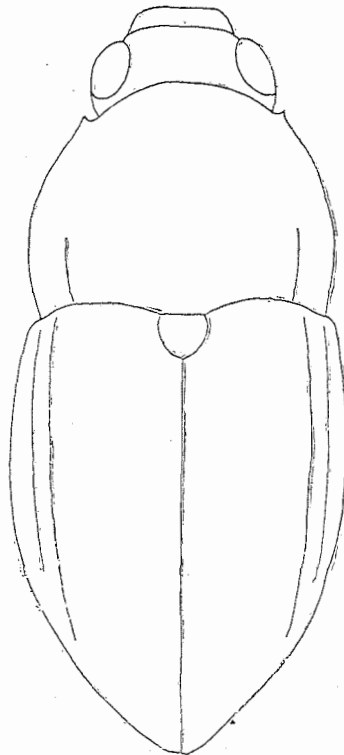


Fig. 1—*Aruelmis starmuhlneri* Delève.

Prosternal process, mesosternum and metasternum as figured (fig. 5).

Legs moderately long; anterior tibiae with a fringe of long hairs; claws without teeth.

Type-species: *Aruelmis starmuhlneri* n.sp.

By general aspect something similar to the European genus *Limnius* MULLER (*Latelmis* REITTER) but differ from it by the sublateral carinae of the pronotum confined on the basal part, the presence of two sublateral carinae on the elytrae and the intercoxal process otherwise conformed. In fact it is close to no genus known to me.

8. *Aruelmis starmuhlneri* n.sp.

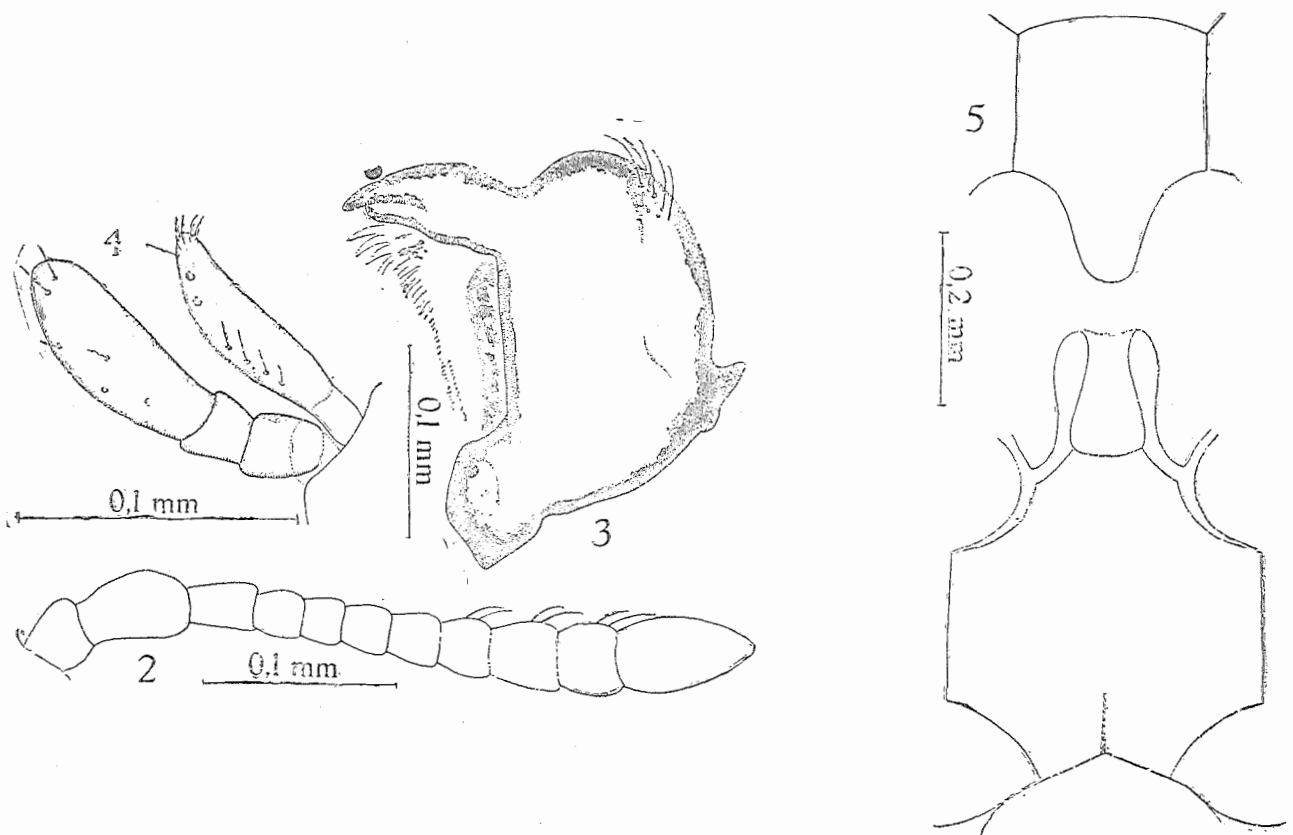
♀—Length 1.9 mm; breadth 0.83 mm.

Dorsal surface black with the elytra more shining; labrum, antennae, mouth parts, legs and ventral surface rufo-piceous. Pronotum and elytra with greyish recumbent, short hairs.

Head without impressions, alutaceous with punctures finer than facets of eyes, separated by less than their diameters.

Pronotum at broadest point, which is about at basal third, broader than long (0.73 mm. : 0.56 mm), and base broader than apex (0.66 mm. : 0.47 mm.). Anterior margin arcuate, deeply sinuate on each side before the angle ; apical angles prominent, acute ; sides margined, arcuate but at middle more strongly so, feebly sinuate before apical angles ; basal angles feebly acute, nearly rectangular ; base arcuately trisinuate, moderately broadly on each side and shallowly so in front of scutellum. Surface alutaceous as head, with very fine and close punctures, generally separated by a distance less than their diameters. Disc convex, with a central, shallow, short impression and on each side a distinct, prominent sublateral carina, extending from base to about basal third.

Scutellum ubovate, about as long as broad at base.



Figs. 2.-5. *Aruelmis starmuhneri* Delève
2—Antenna, 3.—Mandible 4.—Maxillary palp & galea,
5.—Sternum (All of *Aruelmis starmuhneri* Delève).

Elytra twice as long as pronotum (1.13 mm : 0.56 mm), about $1\frac{1}{3}$ times longer than broad together at broadest point, which is nearly at the middle of the length. Humeri only feebly gibbous. Surface striate-punctate ; strial punctures round, longitudinally separated by a distance equal to their diameters ; these punctures become coarser but more distant from fourth stria to lateral margin. The first four strial intervals broader than the strial punctures and with microscopic punctures ; second interval feebly raised at base ; sixth with a definite, prominent carena, extending from base to apical declivity ; eight with a shorter, feebler and narrower carena.

Sides of the prosternum (inclusive hypomera) metasternum and abdomen with a reticulate alutaceous microsculpture. Prosternal process (fig. 5.) not very broad, punctate, carinated on each side from margin of procoxal cavity to anterior margin of prosternum. Metasternum more shining, finer and more sparsely punctured ; median groove narrow, superficially.

Legs moderately long ; claws without teeth.

♂ —Unknown.

Holotype : 1 ♀, Deniyaya area : FC 7/12.11.70, Thanipita river (on the shore). In the author's collection.

I take pleasure in naming this species after Dr. F. STARMÜHLNER

9. *Zaitzeviaria bicolor* (PIC).

1923. *Grouvelleus bicolor* PIC, Mém. exot. ent, 39/4 39 : 4.

1968. *Zaitzeviaria fusca* DELÈVE Ann. Mus. Hist. nat. Hung., pars zool., 60 : 178.

1970. *Zaitzeviaria bicolor* DELEVE, Bull. Ann. Soc. R. Ent. Belg., 106 : 270.

Deniyaya area : FC1/9.11.70, Meda-Dola, 1,000 m. (underface of stone in the current).

There is no difference between this specimen and those of Vietnam.