

Dryopoidea (Coleoptera) of Nepal¹⁾

I. Family Dryopidae

By

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Taking part in the National Science Museum Expedition to Nepal 1979 which was carried out under the leadership of Dr. Shun-Ichi UÉNO, I had an opportunity to visit East Nepal. During our stay made from September to November, I was able to make rather a large collection of the aquatic Coleoptera. Although most of them are still under the course of study, I am going to deal with dryopid beetles in the present paper as the first result of my researches.

Up to the present, no dryopid beetles have been known from Nepal, but I was fortunate to obtain a small number of specimens of these beetles during the trip. Thirteen specimens in total were included in the collection; they were classified into three species of three different genera. Two of them seem to be new species and will be described in the following lines, while the remaining one will be left unnamed as it is known from only females.

I am very grateful to Dr. S.-I. UÉNO for his kindness in giving me the opportunity to participate in the expedition and to publish this paper. Hearty thanks are also due to Messrs. Y. NISHIKAWA, M. OWADA and M. TOMOKUNI for their kind help in the collecting trip.

Key to the Genera of Nepalese Dryopidae

- 1 (2) Dorsal surface shining and sparsely pubescent; ventral surface tomentose. Pronotum without any sulcus. Prosternal process broad with rounded apex *Elmomorphus* SHARP, 1888
- 2 (1) Dorsal surface opaque, bearing close hairs in addition to dense pubescence; ventral surface densely pubescent. Pronotum provided with a sublateral sulcus on each side. Prosternal process narrow with pointed apex.
- 3 (4) Elytra with punctate striae. Antennae 10-jointed. First sternite without any carina. First tarsal joint shorter than or equal in length to the preceding 4 joints taken together *Dryops* OLIVIER, 1791

1) This study is supported by the Grants-in-aid for Scientific Research (Overseas) Nos. 404101 and 504301 from the Ministry of Education, Japan.

- 4 (3) Elytra without punctate striae. Antennae 6-jointed. First sternite with a medio-longitudinal carina. First tarsal joint longer than the preceding 4 joints taken together. *Uenodryops* M. SATÔ, nov.

Genus *Elmomorphus* SHARP

Elmomorphus SHARP, 1888, Ann. Mag. nat. Hist., (6), 2: 242 (type-species: *Elmomorphus brevicornis* SHARP, 1888).

Dryopidius GROUVELLE, 1896, Ann. Mus. Stor. nat. Genova, (2), 17: 33 (type-species: not designated).

In the study by CHÛJÔ and SATÔ (1964), this genus was divided into two subgenera, *Elmomorphus* s. str. and *Elmomorphus*. The former, which contains 10 species and 1 subspecies, is distributed in the Oriental Region and Japan. An additional species to this subgenus to be described herewith was obtained by the expedition. The latter, containing 2 species, is distributed in Borneo and New Guinea.

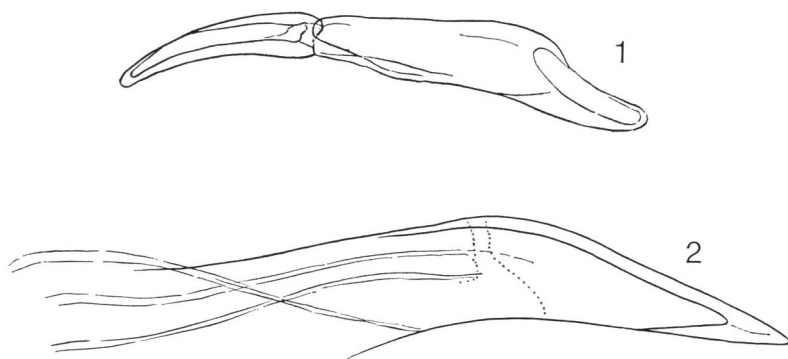
Elmomorphus (Elmomorphus) nepalensis M. SATÔ, sp. nov.

(Figs. 1-2)

Body oblong oval, distinctly convex, shining, sparsely and finely pubescent above, the pubescence arising from punctures, and closely tomentose beneath except on prosternal process and the median areas of meso- and metasterna. Dorsal surface brownish black to black with dark brown peripheries; ventral surface dark brown to blackish brown; femora and tibiae brown to dark brown; mouth parts, apical portion of prosternum and tarsi brown to yellowish brown.

Head somewhat flattened, distinctly and rather sparsely punctate, the punctures being separated from one another by 1 to 3 times their diameter; integument smooth on the posterior area and microreticulate on the anterior area; labrum transverse, microreticulate and having more or less long pubescence along the anterior margin which is slightly emarginate. Pronotum about 1.7 times as broad as long, broadest at the base which is about 1.5 times as broad as the anterior breadth; sides almost straightly narrowed anteriorly; surface distinctly and closely punctate, the punctures being separated from one another by 1 to 2 times their diameter; integument smooth, though finely microreticulate near each corner. Scutellum shield-shaped, minutely and sparsely punctate. Elytra about 1.2 times as broad as pronotum, about 1.6 times as long as broad, broadest at the middle, thence gently narrowed anteriorly and distinctly narrowed posteriorly; surface distinctly and closely punctate, the punctures being a little smaller than those on pronotum and separated from one another by 2 to 3 times their diameter in most area and more or less sparser anteriorly and posteriorly; integument smooth except for the apical third of lateral area where it is obliquely imbricate with minute scales.

Prosternal process broader than long, moderately convex medially, broadest near the apex; sides somewhat elevated, apical margin evenly rounded; surface finely and minutely punctate. Mesosternum wide, flattened on the disc; surface distinctly and sparsely punctate, and longitudinally strigose at the sides, the punctures being sepa-



Figs. 1-2. *Elmomorphus (Elmomorphus) nepalensis* M. SATÔ, sp. nov. — 1, Male genitalia; 2, ovipositor.

rated from one another by 3 to 4 times their diameter; integument smooth; anterior margin more or less triangularly emarginate; median line feebly traced. First sternite finely punctate at middle and provided with a subcariniform line on each side of discal area which does not extend to the posterior margin. Legs rather long, slender; femora finely punctate and pubescent; tibiae provided with a fringe of close pubescence. Male and female genitalia as illustrated.

Sex dimorphism not pronounced.

Length: 2.6–2.8 mm; breadth: 1.2–1.3 mm.

Holotype: ♂, Godawari, alt. 1,500 m, Kathmandu Valley, Nepal, Sept. 21, 1979, M. SATÔ leg. Paratypes: 2 exs., same data as the holotype; 1 ex., Lamosangu, alt. 900 m, Sindhu District, Bagmati Zone, Nepal, Oct. 20, 1979, M. SATÔ leg.; 1 ex., Simle, alt. 1,050 m, ditto, Nov. 10, 1979, M. SATÔ leg.; 1 ex., Charise, alt. 1,100 m, ditto, Nov. 10, 1979, M. SATÔ leg.; 1 ex., Ghorthali, 1,600 m, ditto, Nov. 10, 1979, M. SATÔ leg.

The holotype and two paratypes are deposited in the collection of the National Science Museum (Nat. Hist.), Tokyo. The rest of the paratypes is preserved in the collection of the Entomological Laboratory, Ehime University, and the Biological Laboratory, Nagoya Women's University.

The present species doubtless belongs to the group of *E. prosternalis* in having no punctate striae on the elytra, while the group of *E. brevicornis*, the type-species of the genus, bears punctate striae. Within the group, it is most closely related to *E. bryanti* HINTON, 1935 from the Malay Peninsula, but differs from the latter in the small body, the closely set punctures on pronotum and elytra, the scales on elytra recognized at the apical area and the absence of strigose impression on the prosternal process.

Genus *Dryops* OLIVIER

Dryops OLIVIER, 1791, Encycl. méthod., 6: 297 (type-species: *Dermestes auriculatus* GEOFFROY, 1785).
Parnus FABRICIUS, 1792, Ent. Syst., 1: 245 (type-species: *Parnus prolifericornis* FABRICIUS, 1792).

This genus contains 50 or more species distributed to the Palearctic, Nearctic, Oriental, Ethiopian and Neotropical Regions, though the majority of the species are distributed in the Western Palearctic Region, and is first recorded from the Himalayan region in the present paper. According to STEFFAN (1961), the genus is divided into two subgenera, *Dryops* s. str. and *Yrdops*, based upon the male genitalic features.

Dryops sp.

Specimens examined. 1 ♀, Godawari, alt. 1,500 m, Kathmandu Valley, Nepal, Sept. 21, 1979, M. SATÔ leg.; 2 ♀♀, Lamosangu, alt. 900 m, Sindhu District, Bagmati Zone, Nepal, Oct. 20–21, 1979, M. SATÔ leg.

All the specimens collected by this expedition are unfortunately females. Though the species is closely allied to *D. (Yrdops) lutulentus* (ERICHSON, 1847), which is rather widely distributed in Europe to Turkestan and North Africa, it is very difficult to determine its true identity without an examination of male genitalia, since the classification of the species of this genus is largely based upon that character. For this reason, I have refrained from giving it a specific name for the present.

Genus *Uenodryops* M. SATÔ, nov.

Small in size. Body elongate, subparallel-sided, moderately convex; dorsal surface with suberect, long and sparse hairs in addition to close recumbent pubescence; ventral surface closely covered with recumbent and long hairs. Head moderate, with the posterior half retractile; eyes somewhat large, lateral, densely clothed with erect hairs and widely separated; antennae 6-jointed; both maxillary and labial palpi 3-jointed; mandibles with 4 apical teeth and well developed membranous prosthema. Pronotum provided with a distinct sublateral sulcus on each side; each angle obtuse. Scutellum small and suboval. Elytra moderately punctate, the punctures not forming any row. Prosternal process narrow with sharply pointed tip, somewhat constricted between coxae and longitudinally impressed medially. Mesosternum flattened; discal area provided with a longitudinal carina on each side and with a medio-longitudinal furrow at the apical portion, the apical area of the latter distinctly hollowed; anterior margin rimmed and strongly emarginate. First sternite with a medio-longitudinal carina; 5th bearing a small tubercle at the centre. Legs moderate in length, closely covered with long erect hairs; tibiae with a spine near the apex of outer side and lacking a fringe of tomentum; 5th tarsal joint longer than 1st to 4th taken together; claws stout. Female genitalia symmetrical and without styli.

Type-species: *Uenodryops himalayanus* M. SATÔ, sp. nov.

Distributional range. Known only from the Nepal Himalaya.

The present genus is somewhat allied to the genus *Ceradryops* HINTON, 1937, which has been known from Ceylon, but can easily be distinguished from the latter by the following points: antennae 6-jointed, maxillary palpi 3-jointed, each side of discal area on mesosternum carinate, and abdomen provided with a median carina on the 1st sternite and with a tubercle on the 5th. I consider the genus to be a primi-

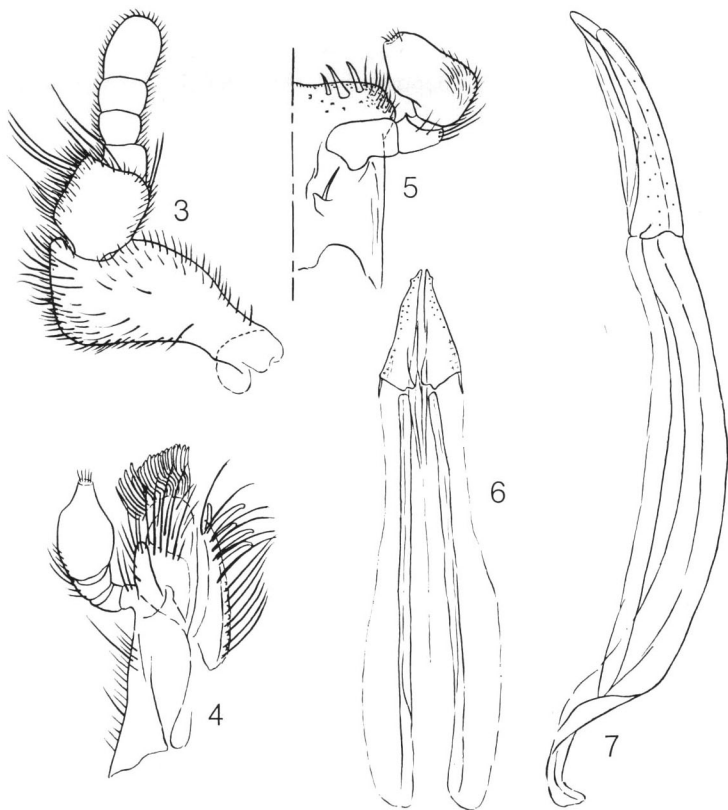
tive one in the family Dryopidae, which has long been isolated in the Himalayas.

The generic name is dedicated to Dr. S.-I. UÉNO who was the leader of the Nepal Expedition 1979.

Uenodryops himalayanus M. SATÔ, sp. nov.

(Figs. 3-7)

Body subopaque, black, with brownish legs, mouth appendages and abdomen. Dorsal surface with long brownish hairs in addition to the close cinereous pubescence. Head flattened between eyes, distinctly and rather closely punctate, the punctures being separated from one another by 1-1.5 times their diameter; integument coriaceous; labrum transverse and smooth; antennae short, 1st joint robust and the longest, 2nd stout, 3rd to 6th forming a club; maxillary palpi small, terminal joint stout and longer than the preceding two joints taken together; eyes prominent, the distance between them about 3.3 times the width of an eye. Pronotum about 1.4 times as broad as head, about 1.6 times as broad as long, broadest at apical third, thence slightly narrowed



Figs. 3-7. *Uenodryops himalayanus* M. SATÔ, gen. et sp. nov. — 3, Antennae; 4, maxillary palpus; 5, labial palpus with prementum; 6, ovipositor; 7, male genitalia.

posteriorly and moderately narrowed anteriorly, the apical breadth narrower than the basal; lateral sides somewhat reflexed; surface closely and distinctly punctate as on head; integument coriaceous; sublateral sulcus distinct. Elytra about 1.2 times as broad as pronotum, about 1.6 times as long as broad, with margined lateral sides; surface sparsely and minutely punctate, the punctures being separated from one another by 2 to 3 times their diameter and vaguely impressed along suture at the apical portion; integument coriaceous.

Ventral surface coriaceous, densely covered with long and cinereous hairs. Prosternum slender with pointed tip. Mesosternum provided with distinct lateral carinae. Legs covered with long and cinereous hairs. Male and female genitalia as shown in text-figures.

No secondary sexual characters are detected.

Length: 1.8–1.9 mm; breadth: 0.9 mm.

Holotype: ♂, Nangarpa, alt. 1,750 m, Sindhu District, Bagmati Zone, Nepal, Nov. 11, 1979, M. SATÔ leg. Paratypes: 1 ♀, same data as the holotype; 1 ♂, Shivinokhola, alt. 1,920 m, Sindhu District, Bagmati Zone, Nepal, Nov. 14, 1979, M. SATÔ leg.

The holotype is preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo. The paratypes are deposited in the collection of the Biological Laboratory, Nagoya Women's University.

This species strikingly differs from all the species of the family so far described. Its discovery in the Nepal Himalaya is very interesting from both the taxonomic and zoogeographic view-points. It may be a relict of an old fauna, having long been preserved in small torrents at rather high altitude of the Himalayas.

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