

DYTISCIDAE (COLEOPTERA INSECTA) OF
SILENT VALLEY KERALA, INDIA WITH
A DESCRIPTION OF A NEW SPECIES

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INTRODUCTION

Five species belonging to 3 genera, *Sandracottus* Sharp, *Hydaticus* Leach and *Copelatus* Erichson of Dytiscid beetles have been dealt with from Silent Valley, Kerala. Among them, a new species of the genus *Copelatus* is described under the name of *biswasi*.

During April, 1979 the May, 1980 Zoological Survey of India sent survey parties to Silent Valley of Kerala State. The present study is based on a collection of 120 examples of the family Dytiscidae which belong to 5 species under 3 genera. The representative of the family Dytiscidae are best fitted in aquatic life among the known water-beetles, and convex and stream-lined shaped, paddle like hind legs give them characteristic appearance. They can be easily distinguished from closely related family Hydrophilidae by their first visible abdominal sternite divided and palpi short, and if differs from the family Gyrinidae having single pair of eyes. Dytiscid beetles are good swimmers, most of them are carnivorous and feed on nymph of Odonata and small aquatic animals.

Indian Dytiscids has been worked chiefly by Vazirani during 1968 to 1977 where he has dealt with 223 species from India of which 69 species from South India. So far known, majority South Indian species has been recorded from Tamil Nadu (=Madras State) including Nilgiri Hills. Practically, nothing is known from Kerala State specially from Silent Valley. All the species are dealt in this paper has been recorded for the first-time either from state or above mentioned Valley.

Family DYTISCIDAE
Subfamily DYTISCINAE

1. *Sandracottus dejeani* (Aubé)

1838. *Hydaticus dejeani* Aubé, in Dejean *Spec. Coleopt.* Paris, 6 : 165
1882. *Sandracottus dejeani* Sharp *Sci. Trans. R. Dublin Soc.* 2 : 686.

Material examined : 1 ex., Mukkali, Palghat, 11.xi.1980, S. Biswas.

Remarks : It is widely distributed in the Oriental region. So far, this species has been recorded from Orissa, Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh and Andhra Pradesh. Now this species is extended beyond Andhra Pradesh in India and it is the first time recorded from Silent Valley of Kerala State.

This species is nearest to *Sandracottus festivus* (Illiger) but can be separated by the head being reddish yellow, the posterior border of vertex black, the pronotum with a few black and comparative coarses punctures.

2. *Hydaticus* (*Guignotites*) *vittatus* (Fabricius)

1775. *Dytiscus vittatus* Fabricius, *Syst. Ent. App.* : 825
1838. *Hydaticus vittatus* Aubé in Dejean *Spec. Coleopt.* 6 : 208.

Material examined 26 exs, Silent Valley, 34 kms. N. W. of Mukkali, 28.1-29.1.1980, S. K. Bhattacharyya & Party ; 11 exs., Silent Valley, Dam site, 16.1.1980, S. K. Bhattacharyya & party ; 6 exs., Silent Valley, 29.1.1980, S. K. Bhattacharyya & party ; 48 exs., Silent Valley and Karapara expl., 1980, Dam site, 4.12.1980, 9.12.1980, R. S. Pillai & party ; 11 exs., Silent Valley, Valiaparathodu, 25.4.1980, R. S. Pillai & party ; 4 exs., Half way to Valiyaparathodu, Silent Valley, 2.5.1980, R. S. Pillai & party.

Remarks : It is widely distributed in India, Nepal, Burma, siam and Ceylon. So far, this species has been recorded from Assam, Bihar, Uttar Pradesh, Rajasthan, Kashmir, Madhya Pradesh, Orissa, Maharashtra, Andhra Pradesh, Kerala, Madras and West Bengal (Darjeeling) in India (Brancucci, 1979). Now, it is the first time recorded from Silent Valley in Kerala.

This species is recognised by the humeral and the submarginal yeallow stripes narrow and joined together posteriorly before the

middle of elytra, where as in *H. histrio* Clark, the yellow stripes joined after the middle of elytra and in *H. leechi* Sato, the two stripes are free on each elytron.

3. *Hydaticus* (*Guignotites*) *histrio* Clark

1864. *Hydaticus histrio* Clark, *Trans. Ent. Soc. London* (3) : 2 : 221, pl. 4, fig. 5.

Material examined : 1 ex., Silent Valley, Kerala, 25.1.1980, S. K. Bhattacharyya & party.

Remarks : It is distributed in India, Pakistan, Persia Arabia. So far, it is recorded from Bihar, Uttar Pradesh, Himachal Pradesh, Punjab & Kashmir (Brancucci, 1979). Now it is extended to South India in Kerala. It is the first time recorded from Silent Valley in Kerala.

This species is recognised by the humeral and the submarginal yellow stripes broad and joined together posteriorly after the middle of elytra.

4. *Hydaticus* (*Guignotites*) *leechi* Satö

1882. *Hydaticus vittatus*, Sharp, *On Aquat. Carn. Col.* : 670

1899. *Hydaticus vittatus*, ab., *guadrivittatus* Regimbart ; *Ann. Soc. Ent. France* 68 : 329

1961. *Hydaticus leechi* Sath, *Trans. Shikoku ent. Soc.*, 7 : 61.

1973. *Hydaticus leechi* Sath : Vazirani, *Rec. zool. Surv., India* 67 : 82

Material examined : 4 exs., Kerala, Silent Valley, Dam site, 16.1-29.1.1980, S. K. Bhattacharyya & Party ; 2 exs., Silent Valley, Valiaparathodu, 21.4-25.5.1980, R. S. Pillai & party ; 1 ex., Silent Valley & Karakal expl., 1980, Dam site, 4.12.1980, R. S. Pillai & party.

Remarks : It is distributed in India & Indonesia. So far, it is recorded from Andaman Islands in India. Now, it is recorded in the main land of India in the South and it is the first time recorded from Silent Valley in Kerala.

This species is recognised by the humeral and submarginal striae are free on the elytra. Vazirani (1973) recorded this species from South Andamans where the humeral and the submarginal stripes are red in colour whereas the materials from Silent Valley, Kerala are yellow in colour.

Subfamily COLYMBETINAE

Tribe COPELATINI

The tribe copelatini can be recognised by its metafemora devoid of any group of ciliae at the posteroapical angle, the posterior claws equal, the pronotum not subcordiformis, the sides of pronotum distinctly margined and the hind coxal lines divergent anteriorly.

Genus *Copelatus* Erichson

The genus *Copelatus* Erichson can be recognised by the form being elongate, usually a little convex, the surface microreticulate, the sides of pronotum very finely rebordered, the elytra with varying number of longitudinal striae in addition to the normal sutural striae.

So far, 12 species are known from India and they are placed under the genus *Copelatus*. Vazirani (1970) placed the Indian species of *Copelatus* under the following groups, namely, *Haemorroidalis*, *Irinus* and *Duodecimstriatus*. The new species described below superficially resembles to *Irinus*-group but unlike latter group, its elytra have distinct 10 dorsal striae and one submarginal stria, which is similar to African species *ilybioides* Regimbart and its allies.

The groups are compared with the 12 group, Sharp (1882).

Comparison :

| A | Elytra with striae | Elytra without striae | |
|-------|---|---|----------------------------|
| (i) | 12 group (Sharp 1882) | Haemorroidalis-group | |
| (ii) | Irinus-group | | |
| (iii) | Duodecimstriatus-group | | |
| B | Elytra with 10 dorsal striae & one submarginal striae | Elytra with 6 dorsal striae & one submarginal striae. | Elytra with 6 striae only. |
| | 12 - Group (Sharp 1882) | Irinus-Group | Duodecimstriatus group. |

5. *Copelatus biswasi* sp. nov.

Length 5 mm.; width across head 2.00 m.m., width across pronotum 2.5 mm. & width across elytra 3.00 mm.

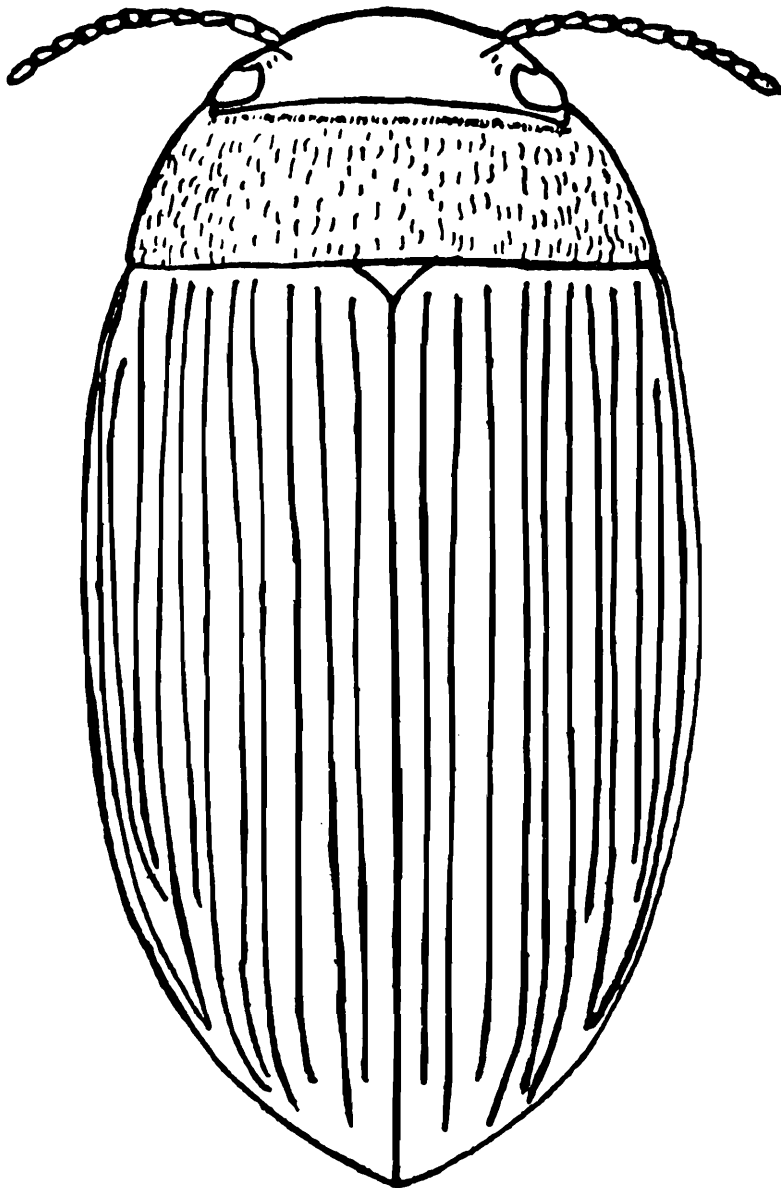


Fig. 1

— 1 mm —

Form (Fig. 1) oblong, subparallel, little attenuated posteriorly, nearly flat to slightly convex. Head dark brownish red, punctation fine and sparse; surface microlined; eyes white and well developed; antennae brown, filiform, 11-segmented and segments elongate. Pronotum reddish brown, darker on the disk, covered with broken longitudinal impressed line all over; anterior margin with a few punctures; anterior angle bluntly projected and posterior angle

nearly rectangular ; sides narrowly rebordered. Elytra brownish red, its lateral margin rebordered and furnished with distinct 10 striae and a submarginal stria. Striae of 1st to 8th complete from elytral base to apex, whereas 9th incomplete and extending upto middle and 10th starts a little beyond basal margin but extending upto apex, submarginal stria starts from base but converges towards apex. Scutellum moderately large, transversely triangular and impunctate. Ventral surface blackish brown, metacoxae striated, metacoxal lines divergent anteriorly ; spur of metatibiae striaght. Aedeagus as figured (Fig. 2)

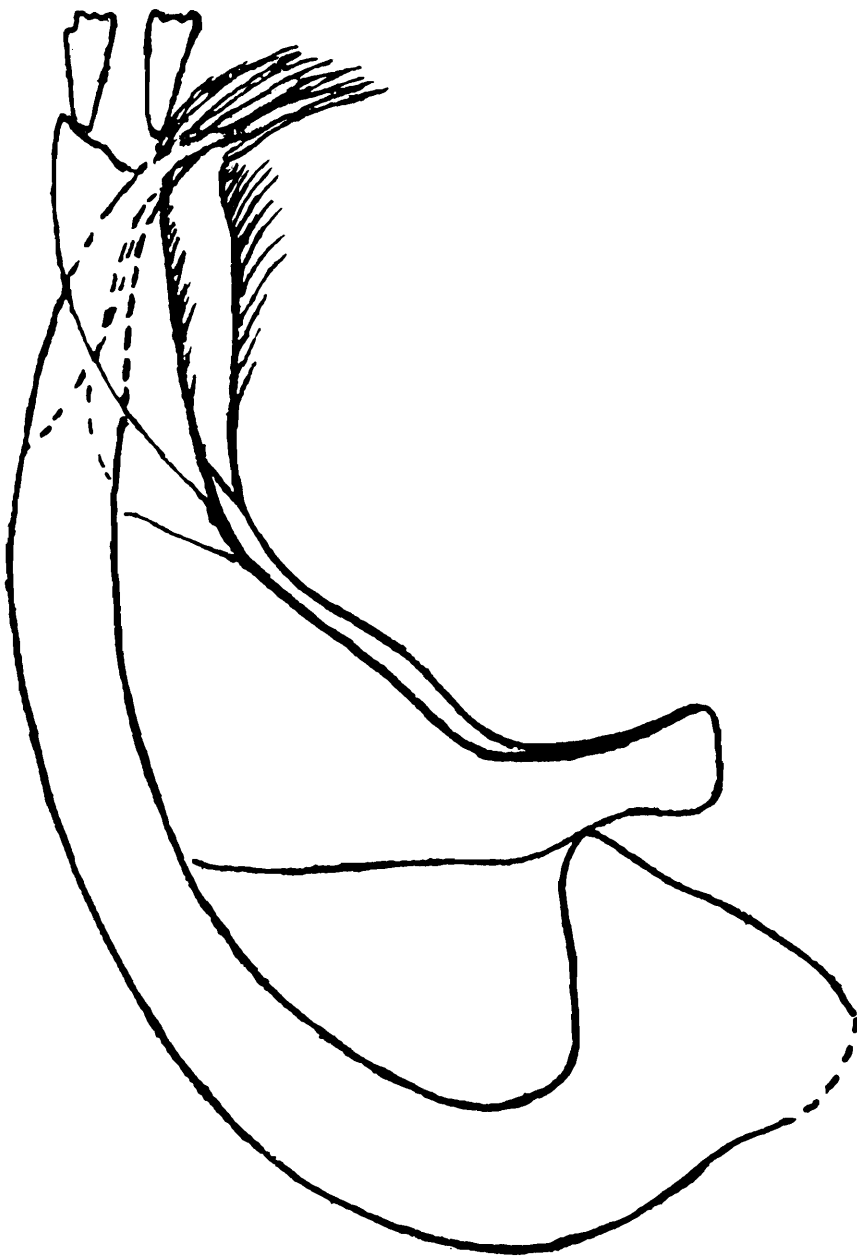


Fig 2

Holotype ♂, India : Kerala, Silent Valley, 29.1.1980, S. K. Biswas.

Paratype : 4 exs., India Kerala, Silent Valley, 29.1.1980. S. K. Biswas. All deposited in Zoological Survey of India collection.

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