

GYRINIDAE (COLEOPTERA INSECTA) OF SILENT VALLEY, KERALA INDIA

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INTRODUCTION

This is small aquatic family commonly known as whirligig beetles and contains eleven genera and about 700 species which are placed in 3 subfamilies, namely, i.e. Enhydrinae, Gyrynae and Orectochilinae. In *Coleopterorum Catalogus*, K. Ahlwarth (1910) listed 35 species in India. Adults are commonly seen skating in circle on the surface of the pond and larvae are bottom-dwellers. The body is 3-15 mm. long, ovate to elongate-elliptical and strongly convex to flatten, usually glabrous with lateral hairs. Eyes are completely divided transversely into two dorsal and ventral eyes. Antennae short, stout and 8-segmented. Maxillae lack a distinct galea. Procoxae slightly transverse and narrow, intercoxal process incomplete, metasternum large with a median longitudinal suture. Elytra usually truncate leaving one or two abdominal tergite exposed. Front legs are long and raptorial while middle and hindlegs short, flatten and paddle-like and fringed with swimming hairs. The distribution of the family is world-wide.

During April, 1979 to May, 1980 four surveys were conducted in the Silent valley. The collection of Gyrinid beetle is fairly good. 7 species under 4 genera were identified and reported in this paper.

The list of species dealt with here is given below :

Family GYRINIDAE

Subfamily ENHYDRINAE

Genus *Dineutus* M'Leay

1. *Dineutus indicus* Aubé

Subfamily ORECTOCHILINAE

Genus *Orectochilus*

2. *Orectochilus discifer* Walker
3. *Orectochilus lucidus* Regimbart
4. *Orectochilus limbatus* Regimbart
5. *Orectochilus semivestitus* Guerin

- I. *Orectochilus* sp. near to *cuneatus* Regimbart
- II. *Orectochilus* sp. near to *oblongiusculus* Regimbart

Subfamily GYRININAE
Genus *Aulonogyrus* Regimbart

6. *Aulonogyrus obliquus* Walker

Genus *Gyrinus* Geoffroy

7. *Gyrinus convexiculus* Macleay

Family GYRINIDAE
Subfamily ENHYDRINAE

1822. Regimbart *Ann. Soc. Ent. Fr.* (6) II : 391, 392.

This subfamily can be recognised by its outer portion of metasternum in a form of large triangle.

***Dineutus* Macleay**

1825. *Dineutus* Macleay. *Ann. Jav.*, ed. I. p. 30.

The genus can be recognised by its shape being broadly oval, size medium, subdepressed, labrum rounded and ciliated anteriorly, scutellum concealed, elytra with nine slightly impressed striae, sometimes indistinct.

So far, four species namely, *Dineutus indicus* Aubé, *D. marginatus* Sharp, *D. spinosus* Fabricius and *D. unidentatus* Aubé were known from India, but none was recorded from Silent valley.

1. ***Dineutus indicus* Aubé**

1838. *Dineutus indicus* Aubé, *Spec. Col.*, p. 772.

Material examined: 1 ex., Kerala, Silent Valley and Karapara Exped., 1980. Pothamolai base, 880 m, 27.12.1980, R. S. Pillai & party; 11 exs., Silent Valley, 19.1.1980, S. K. Bhattacharyya & party.

Species oval, depressed, blackish bronze; Clypeus bronze and bright; Ventral surface black, elytra with nine visible striae and finely reticulated.

Remarks: *Dineutus indicus* Aubé (Length 12-15 mm.) is smaller in size than *Dineutus politus* Macleay.

The present species, *D. indicus* Aubé was recorded earlier from Darjeeling District of West Bengal and Kodaikenel in Tamil Nadu. For the first time the species is recorded here from Silent Valley.

Subfamily ORECTOCHILINAE Regimbart

1882. Regimbart, *Ann. Soc. Ent. Fr.*, (6) 2 : 301.

Representations of this subfamily can be recognised by its last abdominal segment being elongate, conical and with a median longitudinal row of hairs below. Elytra and pronotum pubescent at least laterally.

Orectochilus Lacordoire

1835. Lacordoire *Fn. Ent.*, Paris, 1 p. 344.

Species small to large in sizes and posterior part of abdomen markedly tapered and forming a triangle.

So far, 25 species were recorded from India and in the present study four species are being recorded here for the first time from Silent Valley, Kerala.

2. *Orectochilus discifer* Walker

1859. *Orectochilus discifer* Walker *Ann. Mag. nat. Hist.*, (3) 4 : 91.

Material examined : 23 exs., Kerala, Silent valley, 29. 1. 1980, S. Biswas & party ; 2 exs., Kerala, Silent Valley, Kukkali, 15. 1. 1980, S. K. Bhattacharyya, & party ; 1 ex., Kerala, Silent Valley & Karapara Expd., 1980, 27. 12. 1980, alt. 880 m. R. S. Pillai & party ; 46 exs., Halfway to Valiayaparathodu, Kerala, Silent Valley, 2. 5. 1980, R. S. Pillai & party.

So far, this species was recorded from Madras, Madura, Bombay and West Bengal ; India ; Sri Lanka ; Malacca. Now, it is being recorded for the first time from Silent Valley in Kerala. This species can be recognised by its elongate, oval and convex shape and black being dorsally and reddish brown ventrally. Eyes white, clypeus little incised in middle with reddish tinge, labrum rounded, fringed with rows of fine cilia. A yellow marginal band extends from apex of pronotum to apex of elytra ; scutellum transverse and triangular. Elytra laterally hairy and disk bright and smooth and its apices truncate obliquely.

Remarks : This species (Length, 8-9 mm.) smaller than *O. semi-vestitus* Guerin.

3. *Orectochilus lucidus* Regimbart

1883. *Orectochilus lucidus* Regimbart *Ann. Soc. Ent. Fr.*, (6) 3 : 425.

Material examined : 1 ex., Kerala, Silent Valley, 29. 1. 1980, S. K. Bhattacharyya & party.

This species was recorded from Kalka and Nainital : India ; Java ; Sumatra and South Burma. In the present study it is being recorded for the first time from Silent Valley in Kerala.

Species black, glossy, smooth, convex, elongate and moderate in size, dorsal and ventral eyes whitish, antennae short, stout and brownish yellow, clypeus little incised in middle, labrum rounded with rows of cilia. Lateral margin of pronotum pubescent, scutellum small, glabrous, glossy, triangular and transverse, elytral apices truncate obliquely, lateral margin of pronotum and elytra yellowish ; ventral surface blackish brown and legs yellow.

Remarks : This species, *O. lucidus* Regimbart, (Length, 6.5 mm.) is larger than *O. limbatus* Reg. and with a distinct scutellum.

4. *Orectochilus limbatus* Regimbart

1883. *Orectochilus limbatus* Regimbart *Ann. Soc. ent. Fr.*, (6) 2 : 424.

Material examined : 2 exs., Kerala, Silent Valley, Karapara expd., 27. 12. 1980., alt. 880 m., R. S. Pillai & Party ; 1 ex., Silent Valley expd., 1980, Kummattathodu, 30. 4. 1980, R. S. Pillai & Party.

So far, this species was recorded from North East India. Now, it is being recorded for the first time from Silent Valley in Kerala.

Species elongate with truncated apices, convex and compressed, dorsally black, smooth with metallic reflection and lateral margin from pronotum to elytra yellowish. Labrum short and its front rounded. Head cupreous and granulated. Lateral margin of pronotum and elytra hairy ; elytra truncated nearly straight. Scutellum very small, glabrous and bright.

Remarks : This species is smaller (Length 6 mm.) than *O. lucidus* Regimbart.

5. *Orectochilus semivestitus* Guerin

1840. *Orectochilus semivestitus* Guerin *Reviue zool.*, p. 38.

1883. *Orectochilus semivestitus* Guerin ; Regimbart. *Ann. Soc. ent. Fr.*, (6) 2 : 413-14.

Material examined : 2 exs., Silent Valley Expd., 1980, Kummatamthodu, 30. 4. 1980, R. S. Pillai & Party ; 1 ex., Halfway to Valiyaparathodu, 2. 5. 1980, R. S. Pillai & Party.

This oriental species was recorded from Madras, Pondicherry and Mount Kodaikanel in India. Now, it is being recorded for first time from Silent Valley in Kerala.

Species ovate, elongate, convex and dorsal surface finely granulated, black and bright, ventral surface black and legs blackish red. Labrum transverse and anteriorly rounded and coarsely punctured with tuft of golden hairs. Clypeus slightly incised in middle, head sparsely and finely punctured, eyes white, antennae short, stout and black, lateral margin of pronotum and elytra pubescent, elytra laterally distinctly margined. Scutellum small, transverse, grabrous and bright ; elytral apices truncate but not obliquely.

Remarks : It (Length, 12 mm.) differs with *O. desgodinsi* Regimbart not possessing pointed spine in the outer angle of elytral apices.

I. *Orectochilus* sp. near to *cuneatus* Regimbart

Material examined : 4 exs., Anakayam, Silent Valley & Karapara expd. 1980., 22. 12. 1980, R. S. Pillai & party.

Species elongate ovate, moderately large, dorsal surface black, smooth but its lateral margins hairy, ventral surface reddish black, antennae short, stout and blackish.

Remarks : Specimens (Length, 9 mm.) differ from *O. oblongiusculus* Reg. in having spine in outer angle of elytral apices and elytral disk smooth, glossy and impunctate.

II. *Orectochilus* sp. near to *oblongiusculus* Reg.

Material examined : 1 ex., Kerala, Silent Valley, 29. 1. 1980, S. K. Bhattacharyya & Party.

Species elongately oblong, black, and glossy dorsally, laterally pubescent from pronotum to elytra, yellow margins of pronotum and elytra distinct, elytral apices truncate.

Remarks : The specimen (Length, 5 mm.) differs from *O. cuneatus* Reg. by its dorsal being not smooth, whereas *oblongiusculus* is smooth.

Subfamily GYRININAE

1882. Regimbart *Ann. Soc. ent. Fr.*, (6) 2 : 391.

This subfamily can be recognised by its absence of hairs on pronotum and elytra and outer portion of metasternum markedly narrow.

Aulonogyrus Regimbart

1883. Regimbart, *Ann. Soc. ent. Fr.*, (6) 2 : 124.

Species elongately oval, prothorax devoid of any impression but finely puctured on the disc, more so with wrinkles on lateral sides. Each elytron with ten furrows and striate-punctate, elytral apices truncate and nearly straight.

K. Ahlwarth (1910) in Junk's *Coleopterorum Catalogus* (1910-1938) listed two species from India, namely, *Aulonogyrus arrowi* Regimbart and *Aulonogyrus obliquus* Walker, of which *Aulonogyrus obliquus* Walker is being recorded for the first time from Silent Valley in Kerala.

6. *Aulonogyrus obliquus* Walker

1858. *Aulonogyrus obliquus* Walker *Ann. Mag. nat. Hist.*, (3) 2 : 205.

Material examined 1 ex., Halfway to Valiyaparathodu, Silent Valley, 2. 5. 1910, R. S. Pillai & Party.

So far, this species was recorded from Eastern Ghat and N. W. Himalaya. Now, it is being recorded for first time from Silent Valley in Kerala. Species elongate-ovate and moderately large, dorsal and ventral surface black. Head finely punctured with fine wrinkles, Clypeus transverse and slightly rounded with a tuft of cilia, eyes moderately large, antennae black, stout and short Pronotum transverse and finely punctured with fine wrinkles and its lateral sides distinctly margined. Elytra apically truncate, striate-punctate with 10 striae and intervals finely and sparsely punctured, lateral sides distinctly margined. Scutellum transverse, pointed posteriorly and finely punctured.

Remarks : *A. obliquus* comes closer to *A. arrowi*, but can be separated by its size being smaller (7 mm.) and lateral margin of pronotum and elytra black instead of reddish yellow as in *A. arrowi*.

Gyrinus Geoffroy

1762. Geoffroy *Ins. Par.*, 1 : 193.

The genus can be recognised by its scutellum being distinct and body length not exceeding 8 mm. So far, K. Ahlwarth (1910) in Junk's *Coleopterorum Catalogus* (1919-1938) listed 3 species namely, *Gyrinus convexiusculus* M'Leay, *Gyrinus nitidulus* F., and *Gyrinus ceylonicus* Regimbart., of which, the species, *G. convexiusculus* Macleay is being recorded here for the first time from Silent Valley in Kerala.

7. Gyrinus convexiusculus Macleay

1869. *Gyrinus convexiusculus* Macleay *Trans. ent. Soc. N. S. Wales* 2 : 128.

Material examined: 18 exs., Silent valley, Kerala, 29. 1. 1980, S. K. Bhattacharyya & party; 1 ex., Halfway to Valiyaparathodu, Silent valley, Kerala, 2. 5. 1980, R. S. Pillai & Party; 2 exs., Kummothothodu, Silent valley, Kerala, 30. 4. 1980, R. S. Pillai & party; 1 ex., Silent valley & Karakal expd., 1980, Dam site, 9. 12. 1989. R. S. Pillai & party.

So far, this species was recorded from Madras, Mount Kodaikanel and Bengal in India; China; Tibet; North Caledonia and Australia. Now, it is being recorded for the first time from Silent valley in Kerala.

Species black, spiny, convex and rather elongate. Head with two shallow foveae between the eyes, and the clypeus covered with fine striolae. Prothorax rounded behind the anterior transversal line, well marked and punctured near the sides, and a median transversal line well marked in the centre. Elytra with a broad rounded depression close to apex and with eleven striae which are distinctly punctured.

Remarks: This species is distinctly smaller (Length, 5 mm.) than *Gyrinus smaragdinus* Reg. (Length, 6 mm.).

SUMMARY

7 species under 4 genera, namely, *Dineutus* M'Leay, *Orectochilus* Lacordaire, *Aulonogyrus* Regimbart and *Gyrinus* Geoffroy were identified and reported. All of them are being recorded for the first time from Silent Valley in Kerala and the species, *Orectochilus lucidus* Regimbart was known from Northern India and it is being recorded for the first time from South India.

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