

CONODERINAE (ELATERIDAE) OF BUXA TIGER RESERVE, WEST BENGAL, INDIA

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ABSTRACT: Only *Heteroderes* Latreille represents the subfamily Conoderinae of Buxa Tiger Reserve, West Bengal, India. The genus includes 2 species, the endemic *H. sericeus* Candeze and the new species *H. bicoloris* that are described and illustrated. A key to species and the relationship of the proposed new species is discussed. The former species is a new report from West Bengal.

KEY WORDS: *Heteroderes*, *H. sericeus*, *H. bicoloris* sp. nov., Buxa Tiger Reserve, West Bengal, India.

Globally, the cosmopolitan subfamily Conoderinae Candeze of Elateridae includes 800 species under 14 genera (Chakraborty & Chakrabarti, 2006; Johnson & Cate, 2010). Indian counterparts on the other hand are known by 7 genera and 33 species (Vats, 1991; Vats & Chauhan, 1992, 1993; Chakraborty & Chakrabarti, 2006; Schimmel, 2007; Johnson & Cate, 2010). It appears that the Indian click beetles did not receive any serious attention till date. However we since 1994, were exploring the click beetles of Buxa Tiger Reserve, Jalpaiguri, West Bengal. In spite of our sincere effort, we could record *Heteroderus* Latreille as the only representative of the subfamily Conoderinae. The genus is found to include 2 species, an endemic *H. sericeus* Candeze reported earlier by Sarkar et al. (2012) and a new species *H. bicoloris*. Beside providing diagnosis of the genus and a key to species, both the species are suitably described and illustrated. The relationship of the proposed new species is also discussed.

MATERIAL AND METHODS

Materials were mainly collected by visual search, hand picking and UV light trap. Collected samples were preserved following Chakraborty and Chakrabarti (2006). The recorded samples were studied under Stereo Zoom Binocular Microscopes Zeiss SV11. All measurements are in millimeters, made with an eye piece graticule. Materials are in the deposition of Entomology Laboratory, Department of Zoology, University of Calcutta, Kolkata.

Abbreviation used: LT= Light Trap; BTR= Buxa Tiger Reserve.

Taxonomic account

Family: Elateridae Leach

Subfamily: Conoderinae Candeze

Genus: *Heteroderes* Latreille

Heteroderes Latreille, 1834. Anns Soc. Ent. Fr., 3: 155.

Type species: *Heteroderes fuscus* Latreille, 1834.

Diagnosis: Body pubescence of 2 types, short and long, short ones very dense and slanting, the other sparse and semi erect. Head slightly inclined, more or less convex or almost flat, frons generally convex and round in front, nasal surface much broader. Labrum entire, mandible bifurcate, last segment of maxillary palpi triangular. Antennae subserrate, 2nd segment smallest and subcylindrical, 3rd usually longer than 2nd, always shorter than 4th. Pronotum large, convex or almost flat, sides more or less arcuate, punctation double, posterior angle very elongate, uni or bicarinate, posterior margin entire or with lateral indents. Scutellum rectangular or subpentagonal. Elytra proportionately short, round at distal extremities and acuminate. Prosternum round in front, prosternal spine descending between coxae, straight posteriorly. Metacoxal plates dialated in middle. Lamellae of 4th tarsi narrow or broad.

Distribution: Cosmopolitan (Chakraborty & Chakrabarti, 2006; Johnson & Cate, 2010).

Key to species:

1. Pronotum uniformly brown black, hind angles bicarinate; elytra astigmatic; parameres longer than median lobe with apex strongly narrow.....**sericeus**
 -. Pronotum bicoloured, basal 1/3rd yellow, rest dark brown, hind angles uncarinate; each elytra with 3 light brown spots; parameres as long as median lobe with apex round.....**bicoloris sp. nov.**

Heteroderes sericeus Candeze

(Figs. 1-6 & 13-14)

Heteroderes sericeus Candeze, 1859. Mem. Soc. R. Sci. Liege, 14: 357.

Description: Male.

Body length: 5.67, width: 1.51.

Body brown black, Pubescence silky white, evenly distributed.

Head brown black, pubescence silky white, dense. Punctation double. Frons broader than long, flat. Anterior margin arcuate. Frontal carina complete across frons. Vertex slightly convex. Eyes pale brown, round, moderately large with distinct facets. Labrum brown black, broader than long, raised, anterior margin convex. Mandibles brown black, moderate, notched at the middle, tooth like. apically acute. Antennae brown, moderately long, extending just before the hind angle of pronotum, basal segment robust, longest, 2nd smallest, 3rd shorter than 4th, rest serrate and subequal, last segment constricted near apex, entirely, longitudinally carinate.

Pronotum brown black, pubescence silky white, dense, longer than broad, disc convex, punctation double, submarginal line present, anterior margin slightly convex, with nearly acute anterior angle lateral margin weakly convex, sinuate before hind angle, hind angle long, divergent, pointed, bicarinate, outer extending upto 1/3rd of the pronotum and inner short.

Scutellum subquadrate, brown black, convex, pubescence dense.

Elytra 1.66 times longer than pronotum, brown black, striae punctate, interstriae slightly convex, punctate with silky white pubescence, basally emarginate, apically round.

Prosternum brown black, convex, longer than broad, with distinct chin piece, punctation double. Prosternopleural suture straight. Prosternal spine long, emarginate, longitudinally sulcate, apically round.

Only mesepimeron forming part of the margin of mesocoxal cavity.

Metacoxal plate broad, round.

Abdomen brown black, punctation double, pubescence dense.

Legs pale black, moderately long, last segment of tarsi lamellate, lamella broad, claw simple, setae present at base of claw.

Genitalia: Basal piece small, arms round at apex, anterior margin concave, posterior margin medially convex, lateral margin arcuate, uniformly sclerotized throughout; median lobe distally shorter than parameres, arms strongly sclerotized compared to rest, long, arcuate, blunt at base, not exceeding ventral posterior margin of parameres, median lobe nearly parallel sided, round at apex, furcae reaching upto the apex of median lobe; parameres uniformly sclerotized throughout, outer lateral margins weakly sinuate, basally broad, distally weakly concave, apex strongly narrow, pointed, with more than 19 hairs.

Material examined: see Sarkar et al. (2012).

Distribution: India: Uttarakhand, West Bengal (Vats & Chauhan, 1993; Johnson & Cate, 2010; Sarkar et al., 2012).

Heteroderes bicoloris sp. nov.

(Figs. 7-12 & 15-16)

Description: Male.

Body length: 3.49, width: 1.06.

Body dark brown, metallic, pubescence golden brown, evenly distributed.

Head dark brown, pubescence golden brown, dense, punctation double, frons broader than long, moderately convex, anterior margin arcuate, frontal carina complete across frons, vertex slightly convex. Eyes brown black, round moderately large with distinct facets. Labrum brown, broader than long, raised, anterior margin convex. Mandibles brown, moderate, apically acute. Antennae brown, broken.

Pronotum brown, apical $\frac{2}{3}$ rd dark, basal $\frac{1}{3}$ rd yellow, longer than broad, disc convex, pubescence golden brown, dense, punctation double, sub marginal line present, anterior margin weakly concave, with nearly acute anterior angle, lateral margin straight, hind angle long, divergent, acute, carinate.

Scutellum subquadrate, medially light brown, marginally dark, convex, pubescence dense.

Elytra 2.05 times longer than pronotum, dark brown, with 3 light brown spots on each, one basal, submarginal, 2nd median, close to suture and the 3rd apical and marginal, striae punctate, interstriae slightly convex, punctate with golden brown pubescence, basally emarginate, round, apically acute. Prosternum brown, convex, longer than broad, with distinct chin piece, punctation double. Prosternopleural suture straight. Prosternal spine long, emarginate, longitudinally sulcate, apically round.

Only mesepimeron forming part of the margin of mesocoxal cavity.

Metacoxal plate broad, round in the middle.

Abdomen brown, punctation simple, pubescence dense.

Legs pale brown, moderately long, last tarsal segment lamellate, claw simple, setae present at base of claw.

Genitalia: Basal piece short, wide, arms round at apex, both anterior and posterior margins concave, lateral margin feebly arcuate, uniformly sclerotized throughout; median lobe as long as parameres, feebly sclerotized throughout, arms long, nearly straight, pointed at base, not exceeding ventral posterior margin of parameres, median lobe basal to median little incurved, median to apical gradually narrowing, apex round, furcae reaching the anterior margin of

parameres; parameres uniformly sclerotized throughout, outer margin sinuate, basally broad, apex round with more than 5 hairs.

Remarks: The closest ally of the present species appears to be *Heteroderes lenis* Candèze but can be separated by

1. Pronotum bicoloured, basal $\frac{1}{3}$ rd yellow, rest dark brown (pronotum uniformly coloured throughout in *H. lenis*),
2. Hind angle of pronotum unicarinate (hind angle of pronotum bicarinate in *H. lenis*),
3. Each elytra with 3 light brown spots (elytra without any spot in *H. lenis*),
4. Elytra apically acute (elytra apically round in *H. lenis*),
5. Parameres apically round, directed outward (parameres apically pointed, inwardly directed, in *H. lenis*),
6. Median lobe weakly longer than parameres (median lobe shorter than parameres in *H. lenis*),
7. Furcae reaching the anterior margin of parameres (furcae not reaching the anterior margin of parameres in *H. lenis*).

The species is therefore recognized as new to science.

Etymology: The species is so named because of the bicolour nature of each part of the body.

Material examined: 1 male, Damanpur /LT, BTR, Jalpaiguri, West Bengal, India, Coll. S. Sarkar, 16.IV.2009.

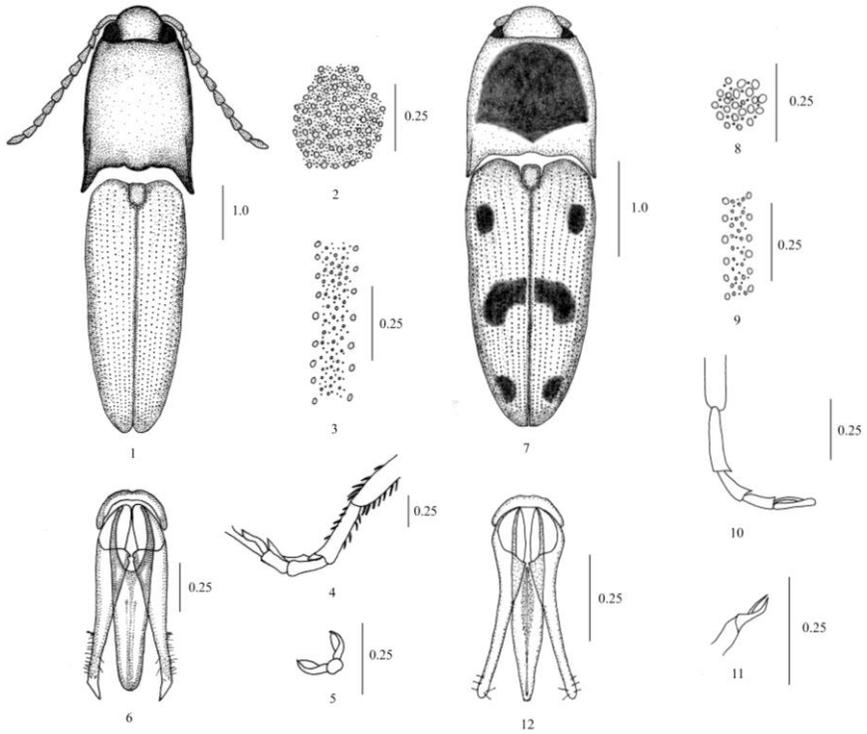
Distribution: India: West Bengal.

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Figures. 1-12. 1-6: *Heteroderes sericeus* Candeze, Male: 1. Dorsal habitus; 2. Pronotal puncture; 3. Elytral puncture; 4. Leg; 5. Claw; 6. Genitalia; 7-12: *Heteroderes bicoloris* sp. nov., Male (Holotype): 7. Dorsal habitus; 8. Pronotal puncture; 9. Elytral puncture; 10. Leg; 11. Claw; 12. Genitalia.



Figures. 13-16. 13-14: Images of *Heteroderes sericeus* Candeze, Male: 13. Dorsal habitus; 14. Genitalia; 15-16: Images of *Heteroderes bicoloris* sp. nov., Male: 15. Dorsal habitus; 16. Genitalia.