

Liodocistela bicolor sp. nov. (Coleoptera: Tenebrionidae: Alleculinae: Alleculini), a new species from India (Maharashtra state)

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Abstract. A new species of Alleculini Laporte, 1840 - *Liodocistela bicolor* sp. nov. from India (Maharashtra state) is described, illustrated including male genitalia and compared with most habitually similar species from Maharashtra state (*Liodocistela bezdeki* Novák, 2014 and *Liodocistela kejvali* Novák, 2014).

INTRODUCTION

The genus of Comb-clawed beetles *Liodocistela* was established by Pic (1930) with a type species *Cistelopsis rufomarginata* Pic, 1930 (Novák & Pettersson 2008, Novák 2014, 2020, Bousquet et al. 2015, Bouchard et al. 2021). Revision of the genus with ten new species was published by Novák (2014) with seven species from India, further from Nepal, Indonesia (Sumatra Island) and the last one from Laos and Thailand. Two species were transferred from *Cistelopsis* Fairmaire, 1896 to *Liodocistela* in this work; thus total number of *Liodocistela* species increase to twelve. Four species living in the Palaearctic Region (Novák 2020).

A new species *Liodocistela bicolor* sp. nov. is described, illustrated including male genitalia and compared with *Liodocistela bezdeki* Novák, 2014 and *Liodocistela kejvali* Novák, 2014, both from India (Maharashtra state).

MATERIAL AND METHODS

Two important morphometric characteristics used for the descriptions of species of the subfamily Alleculinae, the 'ocular index' dorsally (Campbell & Marshall 1964) and 'pronotal index' (Campbell 1965), are used in this paper as well. The ocular index equals $(100 \times \text{minimum dorsal distance between eyes}) / (\text{maximum width of head across eyes})$. The pronotal index is calculated as $(100 \times \text{length of pronotum along midline}) / (\text{width across basal angles of pronotum})$.

'Type material' information is taken from locality labels.

In the list of type material, a slash (/) separates data in separate rows.

The following collection code is used:

VNPC Vladimír Novák, private collection, Praha, Czech Republic.

Measurements of body parts and corresponding abbreviations used in text are as follows: AL - total antennae length, BL - maximum body length, EL - maximum elytral length, EW - maximum elytral width, HL - maximum length of head (visible part), HW - maximum width of head, OI - ocular index dorsally, PI - pronotal index dorsally, PL - maximum pronotal length, PW - pronotal width at base, RLA - ratios of relative lengths of antennomeres 1-11 from base to apex ($3=1.00$), RL/WA - ratios of length / maximum width of antennomeres 1-11 from base to apex, RLT - ratios of relative lengths of tarsomeres 1-5 respectively 1-4 from base to apex ($1=1.00$).

Measurements were made with an Olympus SZ 40 stereoscopic microscope with continuous magnification and with the Soft Imaging System AnalySIS. Snapshots were taken by using camera Canon EOS 550 D and Canon Macro Photo Lens MP-E and software Helicon Focus 7.7.5.

TAXONOMY

Genus *Liodocistela* Pic, 1930

Type species. *Cistelopsis rufomarginata* Pic, 1930.

Liodocistela bicolor sp. nov.

(Figs. 1, 4-7)

Type locality. India, Maharashtra state, environ of Mulshi, 40 km west of Pune.

Type material. Holotype (♂): India occ., 7-11.x.2005 / Maharashtra state / MULSHI env.F.Kantner leg. / 40 km W of Pune, (VNPC). The type is provided with a printed red label: '*Liodocistela* / *bicolor* sp. nov. / HOLOTYPUS / V. Novák det. 2025'.

Description of holotype. Habitus as in Fig. 1, body small-sized, oval, convex, shiny, glabrous, from orange to brown, dorsal surface with punctures and microgranulation, BL 4.44 mm. Widest near middle of elytral length; BL/EW 2.18.

Head (Fig. 4) distinctly wider than long, through the eyes narrower than base of pronotum. Dorsal surface pale reddish brown, semi-matte with punctures and microgranulation. Clypeus pale reddish brown, transverse, rounded, surface with long, pale setae, small punctures and fine microgranulation. Mandibles large, pale reddish brown, glabrous, semi-matte, with fine microgranulation. HW 0.99 mm; HW/PW 0.57; HL (visible part) 0.69 mm. Eyes large, transverse, excised, space between eyes distinctly narrower than diameter of one eye, approximately as wide as length of antennomere 3; OI equal to 16.67.

Antenna (Fig. 5) long, matte (AL(1-10) 3.14 mm, distinctly exceeding two thirds body length - AL(1-10)/BL 0.71). Dorsal surface with pale setae, small punctures and microgranulation. Antennomeres 1-3 pale reddish brown, antennomeres 4-10 dark brown, slightly serrate. Antennomere 2 shortest, antennomeres 4-10 longer than antennomere 3, ultimate antennomere missed.

RLA(1-10): 1.80 : 0.70 : 1.00 : 3.00 : 2.60 : 3.00 : 3.60 : 3.40 : 3.00 : 3.00.

RL/WA(1-10): 1.80 : 1.17 : 1.67 : 2.14 : 2.60 : 2.14 : 2.57 : 2.83 : 2.50 : 2.50.

Maxillary palpus pale reddish brown, matte, with pale setae and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere longer than penultimate, widely triangular.

Pronotum (Fig. 4) orange, semi-circular, shiny, glabrous, convex, widest at base, as wide as elytra at humeri. Dorsal surface with dense, small punctures and very fine microgranulation. Interspaces between punctures wider than diameter of punctures. PL 1.02 mm; PW 1.75 mm; PI equal to 58.29. Border lines narrow, margins distinct dorsally. Base slightly bisinuate, anterior and lateral margins rounded, anterior angles indistinct, posterior angles obtuse.

Elytra. Brown, oval, convex, glabrous, shiny, widest near middle elytral length. EL 2.73 mm; EW 2.04 mm; EL/EW 1.34. Elytral striae with rows of small, coarse punctures, elytral intervals with fine microgranulation and small punctures, slightly smaller than those in striae.

Scutellum. Orange, widely triangular, semi-matte, with microgranulation.

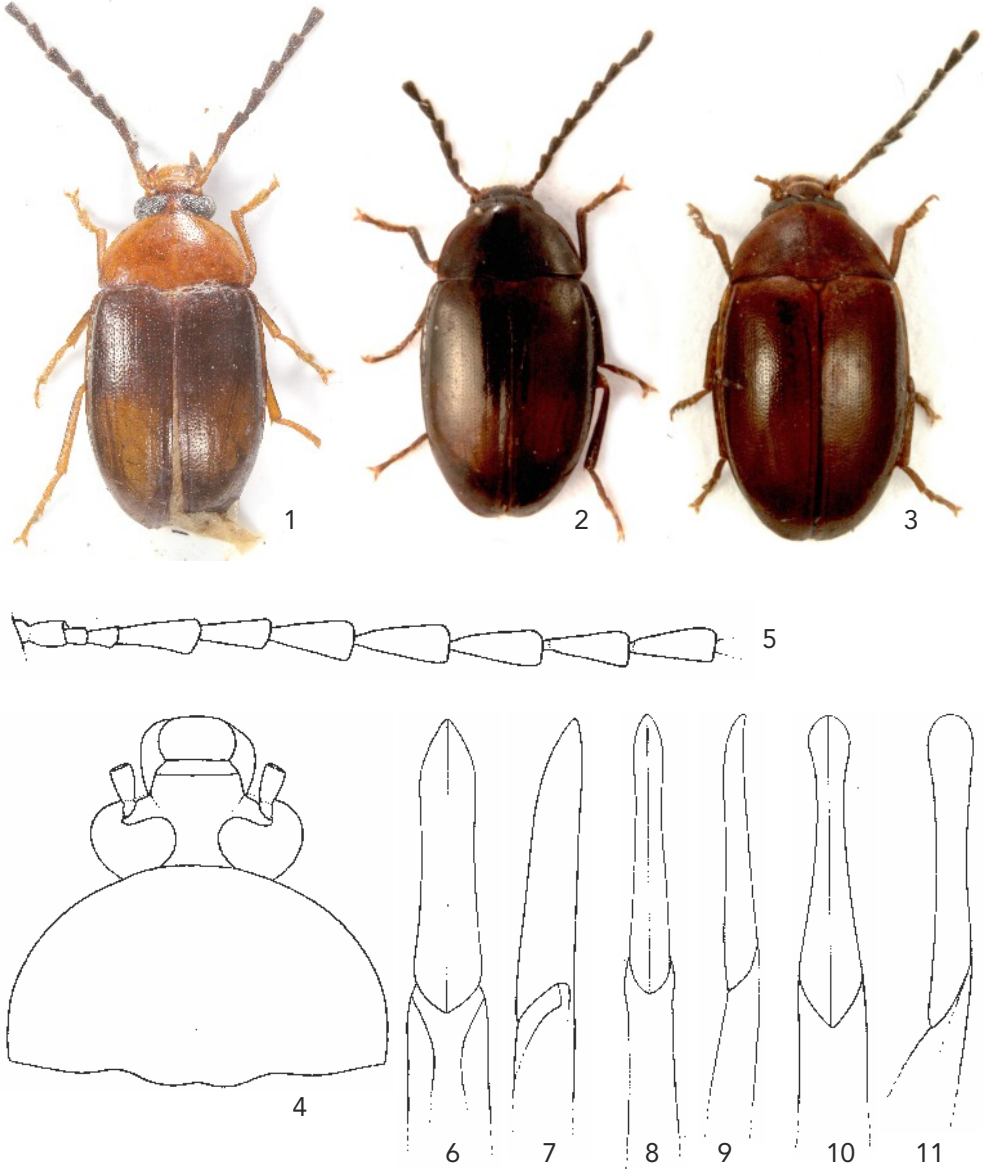
Elytral epipleura well-developed, pale reddish brown, relatively wide leads parallel.

Legs. Long and narrow, pale reddish brown. Dorsal surface with pale setae, fine microgranulation and sparse, very small punctures. Tibiae with outer margin of minute spinules. Protarsomeres 2-4 and penultimate meso- and metatarsomeres widened and lobed. RL: 1.00 : 0.83 : 1.00 : 1.50 : 4.50 (protarsus), 1.00 : 0.35 : 0.40 : 0.60 : 1.30 (mesotarsus), 1.00 : 0.43 : 0.37 : 0.74 (metatarsus).

Protarsal claws pale reddish brown, with 5 teeth.

Ventral side of body pale reddish brown with small punctures. Abdomen shiny with sparse pale setae, sparse, very small punctures and longitudinal rugosities. Ventrites 1-3 pale brown, penultimate and ultimate ventrites distinctly darker, brown.

Aedeagus (Figs. 6, 7) ochre yellow, semi-matte. Basal piece slightly rounded laterally and narrowing in dorsal view. Apical piece elongate, knife-shaped from dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1: 5.32.



Figs. 1-11. Figs. 1, 4-7: *Liodocistela bicolor* sp. nov. (male holotype); Figs. 2, 8, 9: *Liodocistela bezdeki* Novák, 2014; Figs. 3, 10, 11: *Liodocistela kejvali* Novák, 2014: 1-3- habitus; 4- head and pronotum; 5- antenna; 6, 8, 10- apical piece of aedeagus, dorsal view; 7, 9, 11- apical piece of aedeagus, lateral view.

Female unknown.

Differential diagnosis. This species is similar to *Liodocistela bezdeki* Novák, 2014 and *Liodocistela kejvali* Novák, 2014, both from India (Maharashtra state).

The new species *Liodocistela bicolor* sp. nov. clearly differs from the similar species *L. bezdeki* and *L. kejvali* mainly by the dorsal surface bicolor (elytra dark and pronotum orange) and by antennomeres 5-10 longer and narrower (RL/WA 2.1-2.8) and by shape of aedeagus (Figs. 6, 7); while *L. bezdeki* and *L. kejvali* have dorsal surface dark, antennomeres 5-10 are shorter and wider (RL/WA 1.7-2.2 in *L. bezdeki* and 1.5-2.2 in *L. kejvali*), shape of aedeagus is as in Novák (2014: 532: figs. 4 and 5 for *L. bezdeki* and 539: figs. 22 and 23 for *L. kejvali*).

Etymology. Named after its bicolor dorsal surface.

Distribution. India (Maharashtra state).

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