Redescription and identity of *Taphinella bengalensis* Jacoby, 1900  
(Coleoptera: Chrysomelidae: Galerucinae)

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**Abstract:** The primary type specimens of *Taphinella bengalensis* Jacoby, 1900 (type species of *Taphinellina* Maulik, 1936) were examined. The genus *Taphinellina* is excluded from synonymy with *Charaea* Baly, 1878 and newly synonymized with *Cassena* Weise, 1892. *Taphinella bengalensis* is transferred to *Cassena* and redescribed, and its lectotype is designated. Color photos of its habitus and drawings of both male and female genitalia are presented.

**Key words:** Coleoptera, Chrysomelidae, Galerucinae, *Taphinellina, Cassena*, taxonomy, new combination, new synonymy

Jacoby (1900) described *Taphinella bengalensis* from an unspecified number of specimens. Jacoby himself was not sure about the generic placement of this species and the assignment to *Taphinella* Jacoby, 1889 was treated as provisional. Maulik (1936) separated this species from *Taphinella* and proposed for it a new genus, *Taphinellina*. After that *Taphinellina* was more or less forgotten until Wilcox (1973) in his catalogue listed *Taphinellina* as a valid genus and transferred to *Taphinellina* most of species currently classified in *Chararea* Baly, 1878. Seeno and Wilcox (1982) placed both *Taphinellina* and *Chararea* in Luperini: Eumeleptites. Beenen (2010) transferred *Charaea balyi* (Medvedev & Sprecher-Ubersax, 1998) (= *Charaea flaviventris* Baly, 1878) to *Taphinellina* and, thus, synonymized both genera as *Charaea flaviventris*, a type species of *Charaea*. However, mistakenly he gave generic priority to *Taphinellina* over the older *Charaea*. This mistake was corrected by Beenen and Lee (2010).

During the ongoing revision of *Charaea* with the first two parts already published (Bezděk and Lee, 2014, Bezděk, 2015), I also examined the primary type material of *Taphinella bengalensis*. It proved to be not congeneric with *Charaea* and is transferred to the genus *Cassena* Weise, 1892 and redescribed.

A Canon EOS 550D digital camera with a Canon MP-E 65 mm lens was used to take the photographs. Images were combined using Helicon Focus 5.1.3 software.

The examined material is housed in the following collections:

- BMNH The Natural History Museum, London, UK (Michael Geiser, Maxwell V. L. Barclay);
- ISNB Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium (Alain Drumont, Pol Limbourg);
- MCZ Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA (Philipp D. Perkins);
- NMPC Národní Muzeum, Praha, Czech Republic (Jiří Hájek).

*Cassena* Weise, 1892

*Cassena* Weise, 1892: 389. Type: *Cassena celebensis* Weise, 1892 (designated by Hincks, 1949: 610).  
*Euphyma* Baly, 1879: 457. Type: *Euphyma collaris* Baly, 1879 (by original designation).  
*Charaea* Baly, 1878: 457. Type: *Charaea flaviventris* Baly, 1878 (by original designation).  
*Solenia* Jacoby, 1886: 87. Type: *Euphyma collaris* Baly, 1879, by substitution of *Solenia* for *Euphyma* Baly, 1879 not Baly, 1877, in Chrysomelidae: Cryptocephalinae.  
*Solephyma* Maulik, 1936: 329. Type: *Euphyma collaris* Baly, 1879, by substitution of *Solephyma* for *Solenia* Jacoby not Mulsant, 1875, in Staphylinidae.  
*Taphinellina* Maulik, 1936: 299. Type: *Taphinella bengalensis* Jacoby, 1900 (by original designation), syn. nov.

**Comments.** *Taphinella bengalensis*, a type species of *Taphinellina*, shares all main generic features with *Cassena* species: body shape oval, pronotum strongly convex with widely rounded lateral margins, anterior angles swollen, and posterior margin with two short notches (this character was overlooked by Jacoby (1900) in the original description), procoxal cavities closed, prosternal
process wide and separating procoxae, all tibiae without apical spine, pygidium with deep median furrow (in some Cassena there is only smooth not impressed median line). All these characters also separate Taphinella bengalensis from the genus Charaea under which both genus and species were classified. Charaea species have elongate oval body, pronotum less convex without notches on posterior margin, procoxal cavities open, prosternal process narrow, thinly visible or invisible between procoxae, all tibiae with apical spine and pygidium without median furrow (cf. Bezděk and Lee, 2014). As a result, Taphinellina is excluded from the synonymy with Charaea and newly synonymized with Cassena.

The genus Cassena comprises 2 subgenera: Nepalocassena Medvedev, 2009 (2 species) and Cassena (s. str.) (45 species). The whole genus was recently revised by Medvedev (2009). The genus Cassena is widely distributed from the Himalayas and northwestern India, through south China, Southeast Asia, Sunda Islands, and the Philippines to New Guinea and Australia (Queensland). Rajasthan, where C. bengalensis was collected, is the westernmost locality of Cassena’s distributional area.

Cassena bengalensis (Jacoby, 1900), comb. nov.
(Figures 1–13)
Taphinella bengalensis Jacoby, 1900: 140 (original description).

Figures 1–6. Cassena bengalensis (Jacoby, 1900): 1 – aedeagus in dorsal (left) and lateral (right) views, 2 – tignum and sternite VIII, 3 – vaginal palpi, 4 – male last ventrite, 5 female last ventrite, 6 – spermatheca in dorsal and lateral views. Scales: 0.5 mm for Figures 1, 4, and 5; 0.25 mm for Figures 2, 3, and 6.

Type locality. “Mandar, Bengal” [India, Rajasthan prov., 24°33’24”N 72°23’14”E].


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Redescription. Measurements. Males: 3.2–3.5 mm (lectotype 3.5 mm), female: 4.6 mm. Male (lectotype, Figure 7). Body lustrous, glabrous dorsally, oval, convex. Coloration: dorsal side dark brown with metallic tint, pronotal anterior apices and frontal tubercles on head pale brown; ventral side brown with slightly paler anterior parts of pronotal hypomera, prosternum, meso- and metasternal processes and basal part of abdominal ventrite I; legs orange, antennae black with antennomeres I–III orange.

Head (Figures 9, 10). Labrum transverse, with several pores in transverse row bearing pale seta, anterior margin slightly emarginate. Anterior part of head distinctly sparsely punctate, glabrous, but with sparse setae on anterior margin of clypeus and along eye margins. Nasal keel triangular, posterior tip separates anterior tips of frontal tubercles. Interantennal space 1.75 times as wide as transverse diameter of antennal socket. Eyes small, interocular space three times as wide as transverse diameter of antennal socket. Interocular space 1.45 times as wide as transverse diameter of antennal socket. Ventral surface (Figure 8) lustrous, sparsely covered with punctures and long pale setae. Anterior coxal cavities closed posteriorly. Prosternal process wide, anterior angles swollen, directed anteriorly, posterior angles rounded. Anterior margin thinly bordered, lateral margins widely bordered, channeled, posterior margin thinly bordered, border slightly wider towards posterior margin. Anterior angles swollen, directed anteriorly, posterior angles tooth-like, all angles with setigerous pore bearing long pale seta. Posterior margin of pronotum with two short notches, placed ca. at 1/5 of pronotal width from posterior angles. Scutellum subtriangular, impunctate, glabrous, with widely rounded apex.

Elytra 1.21 times as long as wide and 0.71 times as long as body, glabrous, widest in the middle, lateral margin widely rounded, disc densely covered with two kinds of punctures: larger punctures that tend to form regular rows (visible mainly in anterior third of elytra) mixed with sparse very fine confused punctures. Humeral calli well developed, almost impunctate. Epipleura impunctate, very wide in basal third, gradually narrowing in apical two thirds towards to apex. Macropterus.


Ventral surface (Figure 8) lustrous, sparsely covered with punctures and long pale setae. Anterior coxal cavities closed posteriorly. Prosternal process wide, slightly impressed, well visible between procoxae (Figure 11). Abdomen simple, last ventrite transverse, posterior margin with two short triangular incisions, space between incisions straight and relatively wide (Figure 4). Pygidium with well-developed median furrow.

Aedeagus symmetrical, parallel, apex gradually convergent with rounded apex. In lateral view moderately bent and gradually narrowing to sharp apex (Figure 1). Without visible internal sclerites.

Female (Figure 13). Labrum quadrate with six pores in somewhat bent row. Interantennal space 1.45 times as wide as transverse diameter of antennal socket. Interocular space wider, 3.05 times as wide as transverse diameter of eye. Pronotum 1.62 times as broad as long. Last abdominal ventrite subtriangular with apex distinctly emarginated (Figure 5). Elytra longer than in males, 1.41 times as long as wide and 0.72 times as long as body. Protarsis narrower than in males. Spermatheca: cornu shortly C-shaped, gradually narrowing to apex, base inserted into sphaerical nodulus, proximal spermathecal duct connected to nodulus in axis ca 90°, slightly wider basally (Figure 6). Vaginal palpi divided in apical 2/5, in middle slightly extended, 6 setae placed along outer margin of each apical process (Figure 3). Sternite VIII elongate oval, setae cumulated on anterior third of surface and on anterior margin, tignum slender, short, as long as sternite VIII (Figure 2).

Distribution. India (Rajasthan).
Differential diagnosis. Most of Cassena species have typical coloration of dorsum with head and pronotum red and elytra metallic blue. However, about one quarter of species have different coloration, often not metallic. Uniformly pale dorsum occurs only in three Cassena species: C. costalis Medvedev, 2009 from Thailand (differs from C. bengalensis by elytra costate laterally), C. sasajii Kimoto, 1969 from Taiwan (dorsum yellow with head darker), and C. uniformis (Bryant, 1954) from Myanmar (dorsum completely yellow). Similar brown coloration of dorsum can also be found in C. oculata Laboissière, 1934 from Vietnam but this species has a large yellow subapical spot on each elytron.

Nomenclatural acts: This work and the nomenclatural acts it contains have been registered in ZooBank. The ZooBank Life Science Identifier (LSID) for this publication is: http://zoobank.org/urn:lsid:zoobank.org:pub:FB7A18C4-FD54-452E-B67A-3F26BEA2EC89

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References


