

**RESEARCH ARTICLE** 

# A taxonomic review on the genus *Larinodontes* Faust, 1898 (Coleoptera: Curculionidae) from the Oriental Region with a description of a new species from India

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**Abstract:** The genus *Larinodontes* Faust, 1898 **stat. rev.** is revised and a diagnostic redescription given. The holotype of *Larinodontes indicus* Faust, 1898 is examined. A new species *Larinodontes thompsoni* **sp. nov.** is described from India; both species are described, keyed and illustrated. *Larinodontes indicus* is a new record for Laos and Vietnam.

Key words: *Larinodontes*, Lixini, Curculionidae, Oriental Region, systematics, taxonomic revision.

## Introduction

The weevil tribe Lixini (Coleoptera: Curculionidae: Lixinae) comprises strictly phytophagous species, many of which are economically important, particularly for biological control of weeds (Ter-Minassian 1967; Gültekin *et al.* 2008). The tribe comprises some 700 species (Csiki 1934; Ter-Minassian 1967) in 17 genera and 24 subgenera worldwide (Alonso-Zarazaga & Lyal 1999; Talamelli 2008; Gültekin 2012, 2013a,b,c). The Palaearctic Region is richest in species, with about 330 known (Gültekin & Fremuth 2013), followed by the Afrotropical Region with approximately 200 species (Csiki 1934).

The Oriental Lixini comprises only about 30 species placed in five genera: *Gasteroclisus* Desbrochers, 1904, *Hypolixus* Desbrochers, 1898, *Lachnaeus* Schoenherr, 1826, *Larinus* Dejean, 1821 and *Lixus* Fabricius, 1801 (Petri 1914; Ter-Minassian 1967;

Alonso-Zarazaga & Lyal 1999). In addition to these, the genus *Larinodontes* was erected by Faust (1898) on the basis of a combined description with the new species *Larinodontes indicus*, the only included species. *Larinodontes* was treated as a subgenus of *Larinus* and a senior synonym of *Larinorhynchus* Reitter, 1924 by Ter-Minassian (1967). *Phyllonomeus* Gistel, 1856, with *Larinodontes* as a new synonym, was placed in *Larinus* as a subgenus by Alonso-Zarazaga & Lyal (1999). Recently, Gültekin (2013a) stated that *Larinodontes* Faust, 1898 is a genus distinct from *Phyllonomeus* Gistel, 1856. Its members have toothed femora, and the shape of the protibia does not match that in *Phyllonomeus* and *Larinus*. The taxon is distributed in the Oriental Region.

The current paper is intended to clarify the status of *Larinodontes* using morphological data, revise the genus and describe a new species.

### Material and methods

The morphological terminology used follows Morimoto (1962) and Aslam (1963) for general structures, Lyal (1995) for the ventral surface of the head and rostrum, Lyal & Curran (2000) for legs, Korotyaev *et al.* (2000) for genitalia, Thompson (1992) for abdominal tergites and ventrites, and Zherikhin & Gratshev (1995) for wing venation.

Measurements of the whole insect were taken using an ocular micrometer mounted in a Leica MZ7.5 stereomicroscope; body length was measured from the anterior margin of the eye to the posterior margin of the elytra; rostrum length from the apex of the rostrum to the anterior margin of the eye; prothorax length along the midline from the apical margin to the posterior margin immediately anterior to the elytral sutural margins.

For morphological study, dry adult specimens were placed in lukewarm clean water overnight, the genitalia were then removed and placed in 10% KOH overnight to macerate the muscular tissue, and finally cleaned with distilled water and 70% ethanol. Genitalia were mounted in glycerine and examined under the stereomicroscope. All genitalia and preparations of parts were kept in microvials or dry glued on paper pinned under the specimen from which they were dissected. Photographs were taken with a Leica DFC 420 digital camera mounted on a Leica Z16APO macroscope, using LeicaLAS software for montage. The digital images were imported into Adobe Photoshop 8.0 and CorelDRAWX4 for labelling and plate composition.

Type material and specimens examined during in the course of the study are deposited in the following museums:

NHM – Natural History Museum, London, United Kingdom SNSD – Senckenberg Naturhistorische Sammlungen, Dresden, Germany RBINS – Royal Institute of Natural Sciences, Brussels, Belgium

### **Results**

#### Larinodontes Faust, 1898 stat. rev.

Type species: Larinus indicus Faust, 1898

**Redescription:** Body length 5.2–8.5 mm. Body oval in dorsal view (Figs. 1, 4, 12, 20); head capsule spherical, inter-ocular area  $0.65 \times -0.85 \times$  as wide as rostrum; eyes ellipsoid and weakly convex, only slightly protruding from curvature of head capsule. Rostrum cylindrical,

without sulcus and carina on dorsal surface, epistomal area flat; surface of rostrum minutely and densely punctate (Figs. 5, 13, 21). Subgenal and occipital sutures indistinct, submentum and prementum flat, labial palpi 2-segmented, reduced and located at anterolateral corners of prementum, first segment twice as long as second and bearing one erect seta, ligula trapezoidal and slightly concave; maxillary palpi 3-segmented; mandibles with 3 teeth, lower ones very small. Scape shorter than club and funicle combined; funicle short, thick; club elongate and weakly compressed (Figs. 14, 22). Prothorax trapezoidal, transverse, base bisinuate and produced posteriorly in the middle, basal margin concealed by base of elytra except immediately anterior to elytral sutural margin. Lateral margins of pronotum converging gradually from base, more abruptly converging to collar sulcus, collar sulcus very shallow; postocular lobes poorly developed. Anterior margin of prosternum emarginate, intercoxal process narrowly triangular with sharp apex, raised between procoxae, behind procoxae three tubercles present on sternellum; procoxal cavities contiguous. Mesoventrite short, oblique, mesocoxal cavities separated by about 1/2 times coxal diameter, intercoxal process narrow and trapeziform, reaching mid-level of mesocoxa and overlapping metaventrite. Scutellum concealed. Metaventrite strongly convex behind mesocoxa and depressed medially. Metepisternum transverse, anteriorly broadened with sharp projection antero-ventrally, metepimeron very narrow and fused with metepisternum. Elytra as in Larinus, ovate to elongate-ovate, moderately convex; basal margin sinuate, raised over posterior margin of prothorax at intervals 1-5; humeral and preapical calli moderately developed. Wings fully developed, basal lobe of vein C thinner than Sc, both connected near base, R strongly developed and connected to C and Sc in basal quarter of wing, nearly attaining level of second radial sclerite; radial sclerites triangular, rs1 smaller than rs2; radial fold present and visible radial window lacking, completely sclerotized; R3 visible and not reaching apical margin; M1 distinct and nearly reaching ventral margin of wing; Cu well developed, Cu1 nears the ventral margin and Cu2 joins Cu1, 1A1 missing, 1A2 and 2A joined by a<sub>1</sub>-a<sub>2</sub> forming 'H' shape, 3A strong, lacking cross-vein to 2A, 4A nearly meeting 3A (Fig. 16). Procoxa and mesocoxa spherical, metacoxa ellipsoidal, procoxa largest and highest, diameter of procoxa slightly greater than that of mesocoxa. Trochanters trapezoidal with a thin erect trochanteral seta on each, protrochanter larger than meso- and metatrochanter. Femora stout, swollen in middle part, profemora slightly longer and stronger than meso- and metafemora; each femur bearing a median ventral tooth (Figs. 6, 23). Fore tibia with weak median ventral tooth, ventrally emarginate proximally and distally to tooth; pre-mucro present in both genders (Figs. 7, 15). Tarsomere I subtriangular, II trapezoidal and III bilobed, tarsomere V cylindrical and curved, claws connate at base and sub-equal in length. Abdomen trapeziform in ventral view, venter moderately convex; ventrite III longer than ventrite IV, central median depression presents in males only. Female tergite VIII with posterior margin weakly convex (Fig. 17); stylus base of gonocoxite short.

**Differential diagnosis:** The genus *Larinodontes* is similar to *Larinus* in the general body shape, and within that genus to the subgenus *Phyllonomeus*, which has a similar form of the rostrum, lacking dorsal sulci and carina; however, *Larinodontes* clearly differs from *Larinus* in having a femoral tooth, the fore tibia with a weak ventral tooth, the narrow frons, and an H-shaped 2A and 1A<sub>2</sub> veins of metathoracic wing. *Larinodontes* resembles the Afrotropical genera *Sublarinus* Petri, 1914 and *Allolarinus* Gültekin, 2012, both of which also have femoral teeth. However, it clearly differs from both of them: the prothorax of *Sublarinus* is constricted laterally, and the integument of the prothorax of *Allolarinus* is granulose and the body elongate-ovate.

Distribution: India, Laos, Myanmar, Vietnam.

#### Larinodontes indicus Faust, 1898: 276

*Type:* Faust described the species from a single specimen collected in Taungdu. In the Faust collection at SNSD there is a male (Figs. 1-2) which fits Faust's description and bears the labels "[golden square]", " $\mathcal{J}$  Taungdu, Andrewes" hand written, "*indicus* Faust" hw. (Fig. 3). This is here recognised as the holotype and has been labelled "Holotypus,  $\mathcal{J}$ , *Larinodontes indicus* Faust, L. Gültekin det. 2008". The holotype was formerly pinned through the right elytron very near to the sutural and second intervals; this part is broken and the elytra are separated. Later the pin was removed and the specimen was mounted on a paper card with glue; the left hind tarsus and right fore and mid legs are missing, and the right hind leg was separated beyond the coxa. The specimen has been remounted by LG on a new paper card with the right hind leg separate, and the golden square mounted on a paper because there are four large pin holes in it.

*Type location:* Taungdu [Taungdu is a village in Shwegu Township in Bhamo District in the Kachin State of north-eastern Burma] (Fig. 20).



Figures 1–3. Larinodontes indicus Faust, 1898, holotype. 1, dorsal veiw; 2, lateral view; 3, labels.

#### Redescription

*Measurements* (n = 4). Body length: 6.0–8.5 mm. Rostrum: length 1.5-2.1 mm, width 0.5–0.7 mm. Prothorax: length 1.7-2.3 mm, width 2.3-3.3 mm. Elytra: length 3.9-5.6 mm, width 3.0-4.0 mm.

*Vestiture*. Body with very sparse hair-like grayish-white pubescence, denser and longer on lateral margins of prothorax than elsewhere, wax secretion forming large distinct irregular spots on elytra on the unrubbed specimen (Fig. 4). Legs, especially tibiae and tarsi, with hairs of the same shape as on elytra, but longer and denser.

*Structure.* Body oblong ovate, ratio of length to maximum width across elytra less than 1.9 (Figs 1, 4, 12). Head spherical, vertex partly visible, frons weakly depressed, interocular area  $0.85 \times$  as wide as rostrum width, inter-ocular fovea small, deep and distinct. Rostrum cylindrical in male (Fig. 5), subcylindrical in female; slightly curved and shorter than prothorax in both sexes, slightly longer than in female than male (Fig. 13); rostral fovea lacking. Ventral margin of scrobes invisible dorsally. Antenna inserted about  $0.55 \times$  way from apex of rostrum in male and  $0.52 \times$  in female. Scape  $0.75 \times$  as long as funicle, slightly and gradually widened toward apex, subequal in width to funicle segment I at apex. Funicle segment I subconical,  $1.60 \times$  as long as segment II, segments VI–VII gradually widened distad, VII being widest. Club subequal in length to funicle, large, elongate with acuminate apex,  $2.20 \times$  as long as wide at widest part (Fig. 14).

Prothorax  $0.75 \times$  as long as wide,  $0.40 \times$  as long as elytra. Pronotum convex, surface with punctation dense, punctures small, rounded.

Elytra parallel-sided and very weakly emarginate at sides in basal third, then gradually and weakly convexly narrowed toward apex,  $0.70 \times$  as wide as long in widest part; humeral callus moderately developed, located at base of intervals VII–IX; preapical callus at the end of intervals IV-VII. Interstriae flat, subequal in width and about 2× as wide as striae on disc at the basal half, gradually narrowed toward apices, roughly and transversely undulate; striae formed by subrounded, large, deep separate punctures on basal half of elytra, punctures gradually becoming smaller toward strial apices.

Femora with small sharp tooth (Fig. 6); fore femur slightly narrower than rostrum in widest part. Fore tibia  $1.15 \times$  as long as rostrum, outer margin weakly curved, inner margin sinuate, distinctly emarginate from ventral tooth to pre-mucro, ventral tibial tooth weakly developed. Uncus on fore tibia developed, weakly curved and directed distad, pre-mucro developed and sharp, space between pre-mucro and uncus  $0.65 \times$  uncus length, a tuft of setae projecting from base of pre-mucro to intersect uncal apex; anterior apical setal comb very tiny and located only base of uncus (Figs 7, 15). Mid and hind tibiae nearly straight; pre-mucro on mid tibia smaller than that on fore tibia. Tarsi wide, tarsomere I asymmetrical, triangular and longer than tarsomere II, tarsomere II trapeziform, tarsomere III bilobed and  $1.40 \times$  as wide as tarsomere II (Fig. 8). Spongy pads completely covering ventral lobes of tarsomeres. Tarsomere V cylindrical, curved, gradually widened from base to apex,  $0.65 \times$  as long as tarsomeres I-III combined.

*Male genitalia*. Penis in dorsal view stout, elongate, slightly and gradually narrowed from base to apical quarter, then abruptly narrowed toward triangular apex, conspicuously flattened dorsoventrally, asymmetrical apically (Figs 9-10); weakly constricted at middle of length and incompletely sclerotized from this point to ostium. In lateral view, penis is almost angularly bent close to base but then only slightly curved along rest of length (Fig. 11).



Figures 4–11. *Larinodontes indicus* Faust, 1898, male. 4, dorsal view; 5, rostrum, dorsal view; 6, fore femur; 7, fore tibia; 8, fore tarsus, 9–10, penis, dorsal view, at different magnifications; 11, penis, lateral view.

*Female genitalia*. Tergite VIII semielliptical, posterior margin with a dense row of hairs (Fig. 17). Sternite VIII with lamina transversely trapezoidal, prolonged cephalad in a short apodeme, lateral arms angularly arched outwards and  $1.5 \times$  as long as vertical arms, vertical arms turn angularly inner-upright, well sclerotized and bearing 4 or 5 short setae (Fig. 18). Gonocoxites sclerotized, narrowed to apex, stylar base short and subconical, inner

margins bearing 3 or 4 short hairs; stylus conical, slightly longer than base and bearing 1 or 2 very short hairs on tip (Fig. 19).



Figures 12–19. *Larinodontes indicus* Faust, 1898, female. 12, dorsal view; 13, rostrum, dorsal view; 14, antenna, 15, fore tibia; 16, metathoraxic wing; 17, tergite VIII; 18, sternite VIII; 19, gonocoxite.

**Material examined:** "Loas. [Laos], Xieng Khouang, 1916, R. V. de Salvaza", "Brit. Mus. 1937-363", 1 $\checkmark$  (housed in NHM). "[Myanmar (=Burma)] Birmah, Karen Mts.", "Doherty", "Fry. Coll., 1905-100", 1 $\checkmark$  (housed in NHM). "[Vietnam] Tonkin, Thanmoi, 4.06 1 $\updownarrow$  (housed in RBINS) (Fig. 20).

#### Distribution: Laos, Myanmar, Vietnam.



Figure 20. Distribution map of Larinodontes indicus Faust, 1898.

#### Larinodontes thompsoni sp. nov.

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**Diagnosis:** The new species is recognized by the following combination of characters: small sized elongate ovate body with uniform vestiture of grey-white pubescence and coating of brownish-gray wax secretion; femoral tooth small, blunt; pre-mucro small, blunt (only present on fore tibia); antenna with funicle segment I subquadrate, antennal club shorter than funicle; elytra with moderately wide and deep strial punctures; penis clearly different from that of *L. indicus*; in dorsal view subparallel-sided, weakly constricted at mid length, slightly swollen before apical quarter, then gradually narrowed toward apex.

#### Description

*Measurements* (n = 2). Body length: 5.2-5.3 mm. Rostrum: length 1.3 mm, width 0.4 mm. Prothorax: length 1.2 mm, width 1.9 mm. Elytra: length 3.7-3.8 mm, width 2.3-2.4 mm.

*Vestiture*. Body with very sparse hair-like grayish-white pubescence; surface of body coated with brownish-gray wax secretion. Legs vestitured the same shape and color hairs.

*Structure.* Body elongate ovate, ratio of length to maximum width across elytra less than 2.2 (Fig. 21). Head spherical, vertex partly visible, frons nearly flat, inter-ocular area  $0.65 \times$  as wide as rostrum, inter-ocular fovea present but concealed by wax secretion. Rostrum cylindrical in male (female not known), slightly curved and shorter than prothorax (Fig. 22); rostral fovea very weak. Ventral margin of scrobes slightly visible dorsally. Antenna inserted about  $0.45 \times$  way from apex of rostrum in male (female not known). Scape  $0.85 \times$  as long as

funicle, slightly and gradually widened toward apex and wider than funicle segment I at apex. Funicle segment I subquadrate,  $1.70 \times$  as long as segment II, segment II  $1.50 \times$  as long as segment III, segments III-VII transverse and gradually widened distad, VII being widest. Club  $1.60 \times$  as long as wide (Fig. 23),  $0.80 \times$  as long as funicle, large, elongate with somewhat obtuse apex.

Prothorax  $0.60 \times$  as long as wide,  $0.30 \times$  as long as elytra. Pronotum slightly convex, punctation moderately dense, punctures small, rounded.

Elytra subparallel-sided in basal half, very slightly emarginate after basal third to midpoint, then gradually and weakly convexly narrowed toward apex,  $0.60 \times$  as wide as long in widest part; humeral callus small, weakly developed, located at base of intervals VII–IX; preapical callus at the end of intervals IV-VI. Interstriae flat, subequal in width and about  $3 \times$  as wide as striae on disc, gradually narrowed toward apices; striae formed by rounded, medium sized, deep and separate punctures on the basal half of elytra, punctures gradually becoming smaller posteriad.

Femora with small tooth (Fig. 24), fore femora subequal in width with rostrum in widest part. Fore tibia  $0.90 \times$  as long as rostrum, with outer margin weakly curved, inner margin sinuate and distinctly emarginate from ventral tooth to pre-mucro, ventral tibial tooth developed (Fig. 25). Fore uncus developed, curved and weakly bent ventrally after immediate base; pre-mucro very short and blunt, space between pre-mucro and uncus  $0.40 \times$  uncus length, tuft of setae projecting from base of pre-mucro toward uncal apex short, thin; anterior apical setal comb extremely tiny and located only on base of unci. Mid and hind tibiae nearly straight, pre-mucro absent, apical setal comb longer and denser than on protibia. Tarsi wide, tarsomere I subtriangular and longer than tarsomere II, tarsomere II trapeziform, tarsomere III bilobed and  $1.60 \times$  as wide as tarsomere II (Fig. 26). Spongy pads completely covering ventral lobes of tarsomere III, sparse on tarsomeres I-III. Tarsomere V cylindrical, curved, gradually widened from base to apex,  $0.55 \times$  as long as tarsomeres I-III combined.

*Male genitalia*. Penis in dorsal view stout, elongate, subparallel sided, weakly constricted at middle of length, slightly swollen before apical quarter, then gradually narrowed toward triangular apex (Figs 27-28). Surface incompletely sclerotized in apical third. In lateral view, penis is strongly and regularly curved, somewhat flattened dorsoventrally, gradually narrowed toward apex (Fig. 29). Spiculum gastrale thick, weakly curved, shorter than penis (Fig. 30). Sternite VIII contiguous, strongly sclerotized, with posterior margin bearing 2 or 3 suberect hairs (Fig. 31).

**Type material: Holotype**,  $\mathcal{J}$ , [INDIA] "S. India, Madura Dst., Kodaikanal, 6,500 ft, IV.1953, P. Susai Nathan", "Press. By E. Gowing-Scopes, B. M. 1969-669" (housed in NHM). **Paratype**,  $1\mathcal{J}$ , "S. India, Madura Dst., Kodaikanal, 6,500 ft, IV.1953, P. Susai Nathan", (housed in NHM) (Fig. 32).

**Etymology:** The new species is named for Richard Thompson (Natural History Museum, London) in appreciation of his great contributions to the taxonomy and classification of weevils.

#### Keys to the species of *Larinodontes* Faust

1- Body oblong ovate (Figs. 1, 4, 12), ratio of length to maximum width across elytra less than 1.9; prothorax 0.75× as long as wide, 0.40× as long as elytra; elytra 0.70× as wide as long in widest part; fore tibia slightly longer than rostrum; pre-mucro well developed on all tibiae (Figs. 7, 15); funicle segment I subconical, antennal club subequal in



Figures 21–31. *Larinodontes thompsoni* sp. nov. (holotype, male). 21, dorsal view; 22, rostrum, dorsal view; 23, antenna, 24, fore femur; 25, fore tibia; 26, fore tarsus, 27–28, penis, dorsal view, at different magnifications; 29, penis, lateral view; 30, spiculum gastrale; 31, sternite VIII.

length to funicle; wax spots present on elytra; diameter of punctures in elytral striae  $0.45 \times$  width of interstriae; penis in dorsal view (Figs. 9, 10) gradually narrowed from base to apical quarter and then abruptly narrowed toward apex, conspicuously flattened dorsoventrally, asymmetrical in this part; in lateral view (Fig. 11) almost angularly bent close to base but then only slightly curved along rest of length .... *L. indicus* Faust

- Body elongate ovate (Fig. 21), ratio of length to maximum width across elytra more than 2.2; prothorax 0.60× as long as wide, 0.30× as long as elytra, elytra 0.60× as wide as long in widest part; fore tibia slightly shorter than rostrum; pre-mucro very short, blunt and present only on fore tibia; funicle segment I subquadrate, antennal club shorter than funicle; wax spots lacking on elytra; diameter of punctures on elytral stria 0.30× as wide as interstrial width; penis in dorsal view (Figs. 27, 28) subparallel sided, weakly constricted at mid length, slightly swollen before apical quarter, then gradually narrowed toward apex; in lateral view (Fig. 29) more strongly and regularly curved, somewhat flattened dorsoventrally ......L. thompsoni sp. nov.



Figure 32. Distribution map of Larinodontes thompsoni sp. nov.

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## References

- Alonso-Zarazaga M. A. & Lyal C. H. C. 1999. A World Catalogue of Families and Genera of Curculionidae (Insecta: Coleoptera) (Excepting Scolytidae and Platypodidae). Entomopraxis, S.C.P. Edition, Barcelona, 315 pp.
- Aslam N. A. 1963. On the genera of Indo-Pakistan Cleoninae and Hylobiinae (Coleoptera: Curculionidae). *Bulletin of the British Museum (Natural History) Entomology* 13(3): 45–66.
- Csiki E. 1934. Coleopterorum Catalogus auspiciis et auxilio W. Junk editus a S. Schenkling. Pars 134. Curculionidae: subfam. Cleoninae. Junk, Berlin, 152 pp.
- **Faust J. 1898.** Beschreibung neuer Coleopteren von Vorder- und Hinterindien aus der Sammlung des Hrn. Andrews in London. Curculionidae. *Deutsch Entomologische Zeitschrift* 1898(2): 273–333.
- Gültekin L. 2012. Allolarinus, a new genus and species of Lixini (Coleoptera: Curculionidae: Lixinae) from Congo. Annales de la Société entomologique de France 48(1-2): 57–65.
- Gültekin L. 2013a. Lixini, p. 102–110. In: Löbl I. & Smetana A. (eds): Catalogue of Palaearctic Coleoptera. Curculionoidea II. Volume 8. Leiden, Brill, 700 pp.
- Gültekin L. 2013b. *Afrolarinus*, a new genus of Lixini (Coleoptera: Curculionidae: Lixinae) from Afrotropical region with taxonomic revision. *Deutsche Entomologische Zeitschrift* 60(2): 255–264.
- Gültekin L. 2013c. A revision of the new weevil genus *Nefis* gen. nov. (Coleoptera: Curculionidae). *Journal of Insect Biodiversity* 1(3): 1–51.
- Gültekin L. & Fremuth J. 2013. Lixini, p. 456–572. *In*: Löbl I. & Smetana A. (eds): *Catalogue of Palaearctic Coleoptera. Curculionoidea II*. Volume 8. Leiden, Brill, 700 pp.
- Gültekin L., Cristofaro M., Tronci C. & Smith, L. 2008. Natural history studies for the preliminary evaluation of a prospective biological control agent of yellow starthistle, *Larinus filiformis* (Coleoptera: Curculionidae). *Environmental Entomology* 37(5): 1185–1199.
- Korotyaev B. A., Konstantinov A. S. & O'Brien C. W. 2000. A new genus of the Orobitidinae and disscussion of its relationships (Coleoptera: Curculionidae). *Proceedings of the Entomological Society of Washington* 102(4): 929–956.
- Lyal C. H. C. 1995. The ventral structures of the weevil head (Coleoptera: Curculionoidea). *Memoirs of the Entomological Society of Washington* 14: 35–51.
- Lyal C. H. C. & Curran L. C. 2000. Seed feeding beetles of the weevil tribe Mecysolobini (Insecta: Coleoptera: Curculionidae) developing in seeds of trees in the DipterocarpaceaeJournal of Natural History 34: 1743–1847.
- **Morimoto K. 1962.** Comparative morphology and phylogeny of the superfamily Curculionoidea of Japan (Comparative morphology, phylogeny and systematic of the superfamily Curculionoidea of Japan). *Journal of the Faculty of Agriculture, Kyushu University* 11(4): 331–373.
- **Petri K. 1914.** Beiträge zur Käferfauna. *Festschrift des Siebenbürgisches Vereins für Wissenschaften* 65: 1–23.
- **Talamelli F. 2008.** Revisione del genere africano *Sublarinus* (Coleoptera Curculionidae). *Boletino della Società Entomologica Italiana* 140(1): 33–56.
- Ter-Minassian M. E. 1967. Zhuki-dolgonosiki podsemejstva Cleoninae fauny SSSR. Tsvetozhily i stebleedy (triba Lixini). Nauka, Leningrad, 140 [+ 1 unnumbered] p. (Weevils of the subfamily Cleoninae in the fauna of the USSR. Tribe Lixini. ARS-USDA and National Science Foundation, Washington. Amerind Publishing Co., New Delhi, vi + 166 pp.).

- **Thompson R. T. 1992.** Observations on the morphology and classification of weevils (Coleoptera, Curculionoidea) with a key to major groups. *Journal of Natural History* 26:835–891.
- Zherikhin V. V. & Gratshev V. G. 1995. A comparative study of the hind wing venation of the superfamily Curculionoidea, with phylogenetic implications [Pp. 633–777]. In: Biology, phylogeny, and classification of Coleoptera: papers celebrating the 80th birthday of Roy A. Crowson, volume 2 (J. Pakaluk and S. A. Ślipiński, editors). Muzeum i Instytut Zoologii PAN, Warszawa, Poland. 533 pp.

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