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Genus *Conapium* Motschulsky in Indian Maharashtra* (Coleoptera, Curculionoidea: Apionidae)

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Abstract. *Conapium lechi* n. sp. is described from Indian state Maharashtra, and new faunistic records on *C. inscriptum* Faust, *C. benignum* Faust and *C. oxystoma* Korotyaev are listed. The lectotype of *Conapion benignum* Faust is designated. Whilst commenting on general range of the genus *Conapium*, Australian *C. argutulum* (Pascoe), Philippinese *C. strongylodontis* (Wagner), and Indian/Sri Lankan *C. maculipes* (Pascoe) are transferred to this genus from *Apion* Herbst. *Conapion jekeli* Faust is synonymised with *Conapium maculipes* (Pascoe).

Key words: entomology, taxonomy, Coleoptera, Curculionoidea, Apionidae, Piezotrachelini, *Conapium*, India, Maharashtra, new species.

Conapium is a speciose genus in the tribe Piezotrachelini, widespread in Paleotropics. It is most diverse in tropical Africa, with approximately 50 species recognised, but a number of species, including those still unnamed, is known to me from entire continental Orient, Sri Lanka, Taiwan, Philippines [*Conapium strongylodontis* (Wagner, 1913: 316), **n. comb.**, and others], Sumatra, Java, Bali, Papua New Guinea, Australia [*Conapium argutulum* (Pascoe, 1874: 388), **n. comb.**] and Loyalty Is. near New Caledonia (Wagner 1910, 1914; Voss 1962, 1966; Zimmerman 1994; Wanat 2001). Although unknown from the Palaearctic, there are very close, vicariant genera *Protapion* and *Pseudoprotapion*. Both they differ from *Conapium* in only irrelevant color characters, and their status is disputable. *Protapion* was even synonymised with *Conapium* by Bhateja & Pajni (1989), but it was not adopted in further contributions on European fauna (e.g. Alonso-Zarazaga & Lyal 1999, Russell 2004, Fauna Europaea 2004).

Eighteen species of *Conapium* s. lato were recorded from India (Faust 1898, Bhateja & Pajni 1989, Korotyaev 1990). The number includes 11 poorly described species later classified with this genus by V. Motschulsky (1858, 1870), of which majority

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may actually belong to other apionid genera, primarily *Pseudopiezotrachelus* Wagner. One Indian/Sri Lankan species, originally described as *Conapion jekeli* Faust, 1893: 515 (actually a junior **n. syn.** of *Conapium maculipes* (Pascoe, 1883: 122), **n. comb.**), was designated by Korotyaev (1990) for a type species of the subgenus *Piezoconapion*. Since the former subgenera *Pseudopiezotrachelus* Wagner and *Pseudoconapion* Voss have been re-considered to constitute valid genera (Korotyaev 1985, Wanat 1990), the remaining species belong to subgenus *Conapium* s. str.

Only two species of *Conapium* have been known from the state Maharashtra, including Mumbai (formerly Bombay). The 2005 Czech-Polish Expedition brought further 3 species of this genus, including one new to the science. A complete list of new Maharashtran records on *Conapium* is given below, accompanied with literature data.

Abbreviations of material depositories:

MIZW – Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw;

MNHW – Museum of Natural History, Wroclaw University;

SMTD – Staatliches Museum für Tierkunde, Dresden;

ZMC – Zoological Museum, University of Copenhagen;

Terminology of male terminalia and spermatheca follows Wanat (2007) and Borovec & Bahr (2005) respectively.

Conapium oxystoma Korotyaev, 1990

Hitherto known only from the holotype collected in Kanhery, Maharashtra state (Korotyaev 1990). I studied 1 ♀ labelled „Calcutta, Galatea, 12/45" [West Bengal state] from ZMC.

Conapium inscriptum Faust, 1893

India: Maharashtra: Bombay, 10 X 1982, 5 exs, leg. A. Kuśka (MIZW, MNHW); Pune distr.: Mulshi at Mulshi Lake, 11 X 2005, 1 ♀, leg. L. Borowiec (MNHW).

An outstanding species with narrow body, thick antennae, and unusual pronotum/elytra proportions; widespread in SE Asia.

Conapium suetum Faust, 1898

One of syntypes (SMTD) came from "Bombay".

Conapium benignum Faust, 1898

Conapion benignum Faust, 1898: 292.

Lectotype ♂: a) Kanara, Andrewes, b) *benignum* Faust, c) coll. J. Faust, d) Type [red] (SMTD) [macropterous form, genital preparation in Canada balsam pinned under

the specimen] – present designation for nomenclatural stability. Studied paralectotypes: 1 ♀: same data as the lectotype [macropterous] (SMTD); 1 ♀: Belgaum [macropterous] (IRB).

India: Maharashtra: Bombay, leg. Ribbe, 1 ♂ [brachypterous] (SMTD); Satara Distr., Wai, 5-6 X 2005, 1 ♂ 1 ♀ [brachypterous], leg. L. Borowiec (MNHW).

A species relatively common and widespread in India, closely related to Afrotropical *C. indubium* (Wagner), and like the relative producing brachypterous forms with largely reduced humeral calli of elytra.

***Conapium lechi* n. sp.**

(figs 1-19)

Type material

Holotype ♂: a) India, Maharashtra, Satara Distr., Mahalabeshwar, 30 IX 2005, catch, leg. L. Borowiec, b) INDIA Expedition 2005,Dept. of Biodiversity and Evol. Taxonomy, Wrocław University (MNHW). Paratypes (2 ♂♂ 5 ♀♀): same data as the holotype (MNHW).

Diagnosis

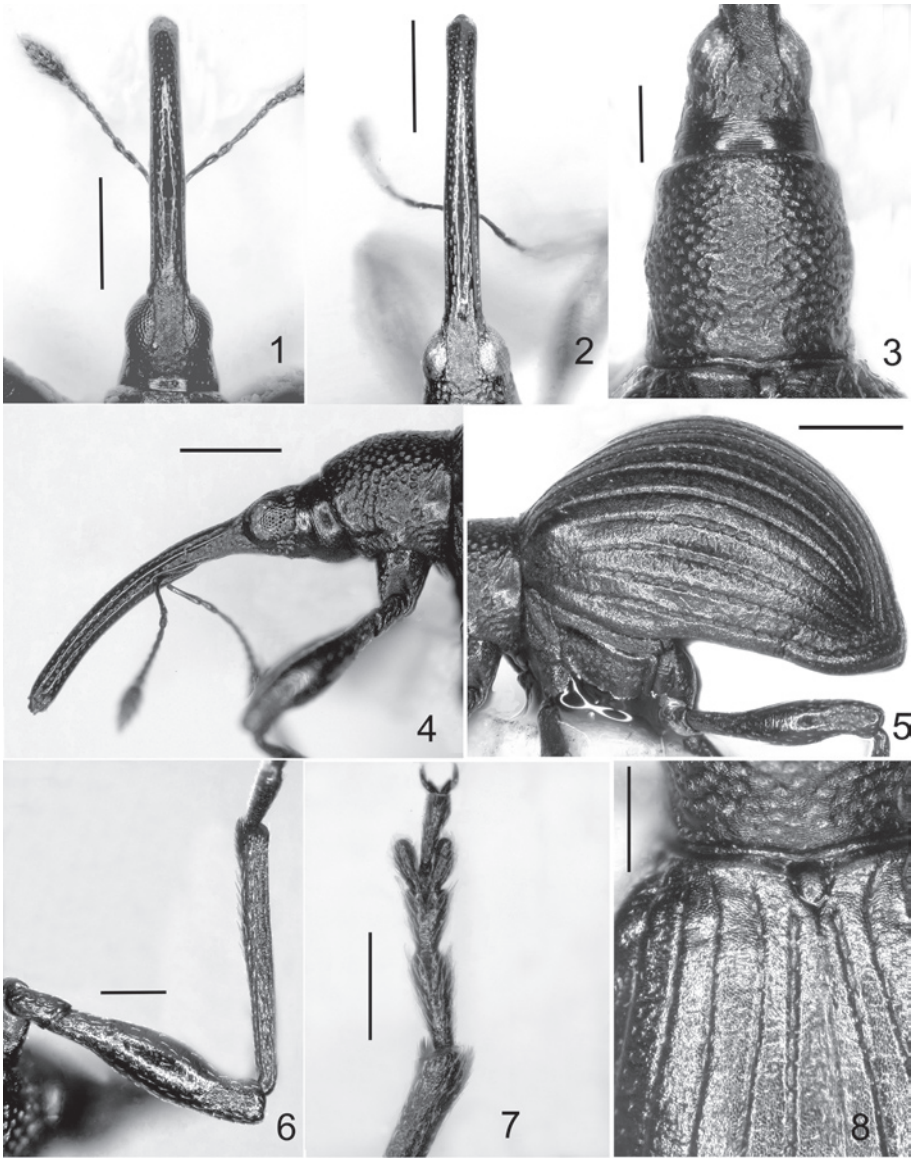
One of the largest members of Oriental *Conapium* among those not belonging to the *clavipes* – species group (besides large body size characterized by very long legs and subulate rostrum). It is most similar in size and general facies to *C. suetum* Faust., from which it differs in the following characters: longer, shiny rostrum; larger head, not constricted behind eyes and with frons devoid of sulci; smaller pronotum, subcylindrical, not trapeziform in outline; narrower elytral striae with incomplete apical junction 2+9 (complete and enlarged in *C. suetum*); shorter legs, with straight protibiae and 2nd tarsomere at most 1.3 × longer than wide (1.6 × in *C. suetum*), and differently shaped aedeagus, with completely different endophallic armature (only a pair of short rows of teeth, and paired long and narrow tufts of microchaetae in *C. suetum*).

Description

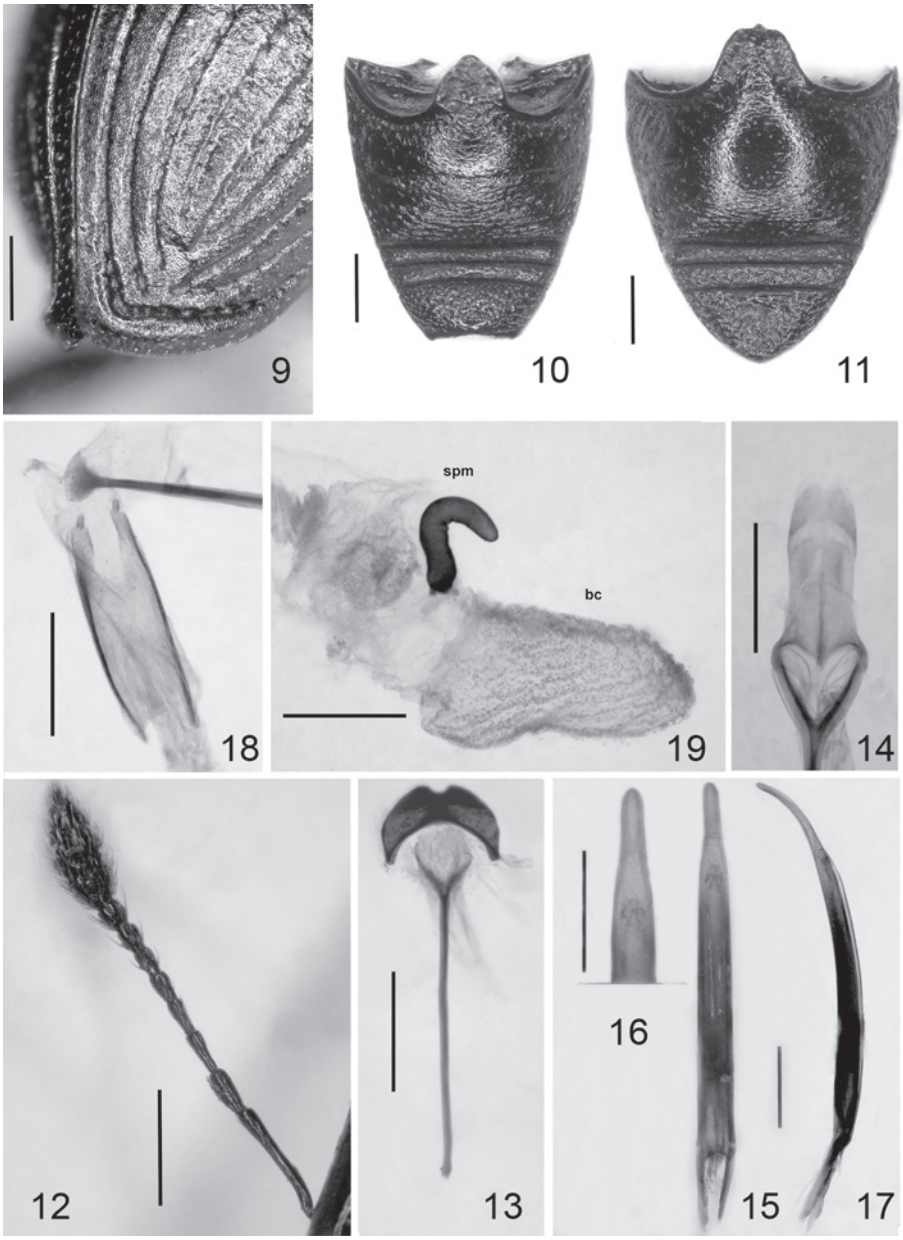
Body length 2.7-2.9 mm (without rostrum). Body parts all black except dark testaceous basal segments of antennae; pronotum and elytra almost completely mat, seemingly bare. Setosity on legs and antennae yellowish to light testaceous.

Rostrum long and thin, sub-parallelsided, widest at base, in both sexes distinctly longer than head+pronotum, at mesorostrum ca. 0.6 as wide as eye length, dorsally shiny and finely punctured to the apex; in profile gently arched, metarostrum with distinct lateral rib and elongate scale-like microsculptured area below it (fig. 4); sides of prorostrum with small punctures ordered in lateral and ventro-lateral rows; ventral side of prorostrum glabrous; scrobes shallow, vanishing before head, their septum weakly convex.

Antennae slender (fig. 12); funicular segments 1-6 elongate, segment 7 isodiametric; club with well marked sutures and 4 combs of setae, 2.1-2.4 × longer than its width.



1-8. *Conapium lechi*: 1, 2 - rostrum, dorsal view: 1 – male, 2 – female; 3 – pronotum, dorsal view; 4 – female rostrum, head and pronotum, lateral view; female elytra, lateral view; female fore leg, back view; 7 – male protarsus; 8 – elytral base. Scale bar on figs 1, 2, 4, 5 – 0.5 mm, on the remaining figs - 0.25 mm



9-19. *Conapium lechi*: 9 – apex of elytra; 10 – male abdominal ventrites; 11 – female abdominal ventrites; 12 – female antenna; 13 – male sternites 8 and 9; 14 – tegminal plate; 15 – aedeagus, dorsal view; 16 – apical part of pedon, dorsal view; 17 – aedeagus, lateral view; 18 – ovipositor and basal part of 9th sternite; 19 – bursa copulatrix (bc) and spermatheca (spm). Scale bar 0.25 mm

Head 0.93-1.11 as long as wide, narrow; eyes taking 0.62-0.71 of total head length; weakly convex; frons distinctly narrower than rostrum base, flat, with dense scale-like microsculpture and no trace of sulci; rough sculpture of temples and vertex sharply separated behind eyes from glabrous remainder of head at ca. 0.25 eye diameter; head venter convex, densely microreticulate; subocular tooth absent.

Pronotum isodiametric (length/width 0.98-1.05), 1.6-1.7 × wider than head, at base 1.14-1.27 × wider than at apex; subapical and subbasal constrictions weak; puncturation coarse, shallow, punctures less than half their diameter apart, in middle of pronotal disc almost confluent and slightly transversely oval, bottoms of punctures microreticulate; prescutellar fovea absent; basal flange obsolescent, basal pronotal margin depressed, with complete narrow rim; notosternal suture indistinct, ending in a shallow pit; prosternum half as long as hypomeron; median suture of hypomeron invisible, rim of procoxae very low, prosternellum inconnate, small and not prominent.

Scutellum relatively large, slightly elongate.

Elytra short and convex, 2.76-2.97 × longer than pronotum, 1.45-1.55 × longer than wide; base with slightly raised rim; humeral calli prominent; striae well impressed, on elytral disc about 4 × narrower than intervals, at elytral base stria 1 shortened and not reaching scutellum, striae 2, 3 distinctly curved outwards (fig. 8), at elytral apex stria 2 not joining enlarged 1, and stria 3 or 8 often isolated (fig. 9); intervals flat to barely convex, roughly microsculptured, without evident punctures, with 3-4 confused rows of microscopic setae, apical portion of the outermost interval markedly convex; single sensory seta subapically on 9th interval, often missing.

Mesoventrite slightly impressed, without mesosternal sutures, without mesocoxal rim, along mesepimeral suture with a short punctured sulcus, parallel to analogous sulcus in middle of mesepimeron; septum between mesocoxae extremely narrow but complete; metaventrite as long as diameter of mesocoxal cavity, globose, finely punctured and pubescent, rim of mesocoxae very low.

Wings fully developed; radial window small, shortly oval; anal region without terminal vein vestiges, main anal vein with a long a1-a2 spur.

Legs moderately long, slender (fig. 6); metafemur not exceeding elytral apex in repose (fig. 5); tibiae straight, protibia 1.53-1.62 × longer than pronotum, 8.2-8.7 × longer than wide at apex; tarsi slender, protarsus as in fig. 7, claws thin, with pointed triangular teeth.

Abdominal ventrites 3-5 roughly punctured.

Male. Rostrum 1.82-1.85 × longer than pronotum, 6.19-6.97 × longer than its max. width (fig. 1), at mesorostrum 1.19-1.29 × wider than at apex. Frons 0.56-0.81 as wide as metarostrum. Antennae inserted at basal 0.38-39 of rostrum, 1.71-1.75 eye length from rostrum base; scape 1.35-1.56 × longer than mesorostrum width. Elytra 1.85-1.90 × wider than pronotum, their max./basal width 1.29-1.30. Legs without special characters; profemur 1.38-1.41 × wider than mesorostrum. Abdominal sterna as in fig. 10; ventrite 5 gently convex.

Male terminalia. Sternite 8 with narrow median emargination; Sternite 9 with minute fork and very long apodeme (fig. 13). Tegmen articulated; apodeme slightly widened

apically; tegminal plate ca. 3.0 × longer than wide, on whole length with a pair of fine ventral carinae crossing fenestrae; apical membranous lobes vestigial, microsetose; parameroid lobes with 10-12 tubular sensillae, apically with 1-2 minute macrochaetae; fenestrae small, transverse, broadly separated, laterally closed; postfenestral plate slightly longer than parameroid lobes, uniform; prostegium acutely projecting, with complete median rib (fig. 14). Aedeagus shaped as in figs 15-17; endophallus entire covered with very dense microscopic setae, at base arranged in tuft narrowing towards entrance of ejaculatory duct, in orifice with several small teeth arranged in rows.

Female. Rostrum 2.00-2.09 × longer than pronotum, 6.81-7.10 × longer than its max. width (fig. 2), at mesorostrum 1.15-1.17 × wider than at apex. Frons 0.81-0.88 as wide as metarostrum. Antennae inserted at basal 0.36-38 of rostrum, 1.84-2.00 eye length from rostrum base; scape 1.54-1.60 × longer than mesorostrum width. Elytra 1.90-2.00 × wider than pronotum, their max./basal width 1.31-1.35. Profemur 1.41-1.50 × wider than mesorostrum. Abdominal sterna as in fig. 11; ventrite 5 flat, except vertically declining narrow marginal flange.

Female terminalia. Tergite 7 largely sclerotized, with only pair of small basal windows. Tergite 8 evenly sclerotised. Genital sheath membrane with combs of microtrichia. Ovipositor sub parallel-sided (fig. 18); gonocoxites long and narrow; styli small, about twice as long as wide, bearing 5-6 apical setae. Sternite 9 twice as long as gonocoxite, with triangular basal plate. Bursa copulatrix bicameral, distal camera entire densely microspinose, proximal camera built of glabrous membrane (fig. 19). Spermatheca with glabrous, not wrinkled wall, shaped as in fig. 19; gland large, not stainable in chlorazol black, based on minute, funnel-like ramus; duct not longer than spermathecal body, thin, based on small, flattened nodulus, entering base of proximal camera of bursa.

Name derivation

Named in honour of Lech Borowiec, my friend, collector of the type series, and a recognised taxonomist of chrysomelid Cassidinae.

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REFERENCES

Alonso-Zarazaga, M. A., Lyal Ch. H. C., 1999. A World Catalogue of Families and Genera of Curculionoidea (Insecta: Coleoptera) (Excepting Scolytidae and Platypodidae). Entomopraxis, Barcelona, 315 pp.

Bhateja, B. R., H. R. Pajni, 1989. Indian Apionidae (Coleoptera: Curculionoidea). III. Comments on Indian Piezotrachelini alongwith the description of six new species, Uttar Pradesh J. Zool., **9**(2): 165-192.

Borovec, R., Bahr F., 2005. Revision des Genus *Cathormiocerus* Schoenherr, 1842 - 1. Teil: Die *Cathormiocerus horrens* - Gruppe (Coleoptera: Curculionidae: Entiminae: Trachyphloeini). Snudebiller, **6**: 9-36.

Fauna Europaea Web Service. 2004. Version 1.1. [http://www.faunaeur.org]
Faust, J., 1893. Contributions á la Faune indo-chinoise. 10e Mémoire.Curculionidae, Brenthidae, Ann. Soc. Entomol. Fr., **61**: 505-522.
—, 1898. Beschreibung neuer Coleopteren von Vorder- und Hinterindien aus der Sammlung des Hrn. Andrewes in London. Curculionidae, Dtsch. Entomol. Z., **1898**: 273-333.
Korotyaev, B. A., 1985. Novye vidy dolgonosikov podsemeystva Apioninae (Coleoptera, Apionidae) iz Vietnama, Kitaya i Indii. Nasekomye Vietnama, „Nauka", pp. 133-156.
—, 1990. Novye dolgonosiki podsyemyejstva Apioninae (Coleoptera, Apionidae) iz tropicheskikh rajonov Azii, Tr. Zool. Inst. Akad. Nauk SSSR, **211**: 135-148.
Motschulsky, V. de, 1858. Insectes des Indes orientales. Études Entomologiques, **7**: 20-122.
—, 1870. Genres et espèces d'insectes, publiés dans différents ouvrages par Victor Motschoulsky. Hor. Soc. Entomol. Ross., **6** (suppl.): 1-118.
Pascoe, F. P., 1874. Additions to the Australian Curculionidae. Part VI. Annals and Magazine of Natural History (IV), **13**: 383-389.
—, 1883. On some new species of Curculionidae from Ceylon. Annals and Magazine of Natural History (V), **11**: 121-130.
Russell, M., 2004. Apionidae of the Western Palaearctic. Volume 2, Piezotrachelini (I); *Protapion* Schilsky, 1908. Crocodile Press, Bretton, UK, v + 50 pp., 24 pl.
Wagner, H., 1910. Curculionidae: Apioninae, In: Junk, W., S. Schenkling, Coleopterorum Catalogus, Pars 6, 67 pp.
Voss, E., 1962. Attelabidae, Apionidae, Curculionidae (Coleoptera Rhynchophora). Exploration du Parc National de l'Upemba, Mission G. F. de Witte en collaboration avec W. Adam, A. Janssens, L. van Meel et R. Verheyen (1946-1949), Fasc. 44, 380 pp.
—, 1966. Über äthiopische und madagassische Apioninen (Col.), vorwiegend aus den Sammlungen des Museums G. Frey, Entomol. Arb. Mus. G. Frey Tutzing Bei Muench, **17**: 193-325.
Wagner, H., 1913. Ein neues Apion von den Philippinen (Col.). Entomol. Mitt., **2**: 316-317.
—, 1914. H. Sauter's Formosa-Ausbeute.Curculionidae: Apioninae (Col.). Supplementa Entomologica, **3**: 19-29.
Wanat, M., 1990. *Apionidae* (*Coleoptera*, *Curculionoidea*) of the Arabian Peninsula. Fauna of Saudi Arabia, **11**: 55-81.
—, 2001. Genera of Australo-Pacific *Rhadinocybinae* and *Myrmacicelinae*, with biogeography of the *Apionidae* (*Coleoptera*: *Curculionoidea*) and phylogeny of the *Brentidae* (*s*. *lato*). Mantis, Olsztyn,. 432 pp.
—, 2007. Alignment and homology of male terminalia in Curculionoidea and other Coleoptera. Invertebrate Systematics, **21**(2): 147-171.
Zimmerman, E. C., 1994. Australian Weevils (Coleoptera: Curculionoidea). Brentidae, Eurhynchidae, Apionidae, and a chapter on Immature Stages by Brenda May. CSIRO Australia, vol. 2, x + 755 pp.