

An Additional Record of *Torynognathus chrysomelinus*
(Coleoptera, Lucanidae) from the Malay Peninsula,
with Description of the Female

Kunio ARAYA and Yukoh MURAI

Graduate School of Social and Cultural Studies, Kyushu University, Motoooka 744,
Nishi-ku, Fukuoka, 819–0395 Japan

Abstract As a third specimen of a rare lucanid species, *Torynognathus chrysomelinus* BOMANS, 1986, an additional female individual is recorded from the Malay Peninsula. Morphological characteristics of the female including its genitalia are illustrated and described for the first time.

The curious lucanid genus *Torynognathus* was established by ARROW (1935) for *T. oberthuri* from Sumatra, and after that, BOMANS (1986) described *T. chrysomelinus* on the basis of two male specimens from the Malay Peninsula as a second member of the genus. Of these, the latter species seems to be very rare, and no additional specimen has so far been recorded other than two males of the type series.

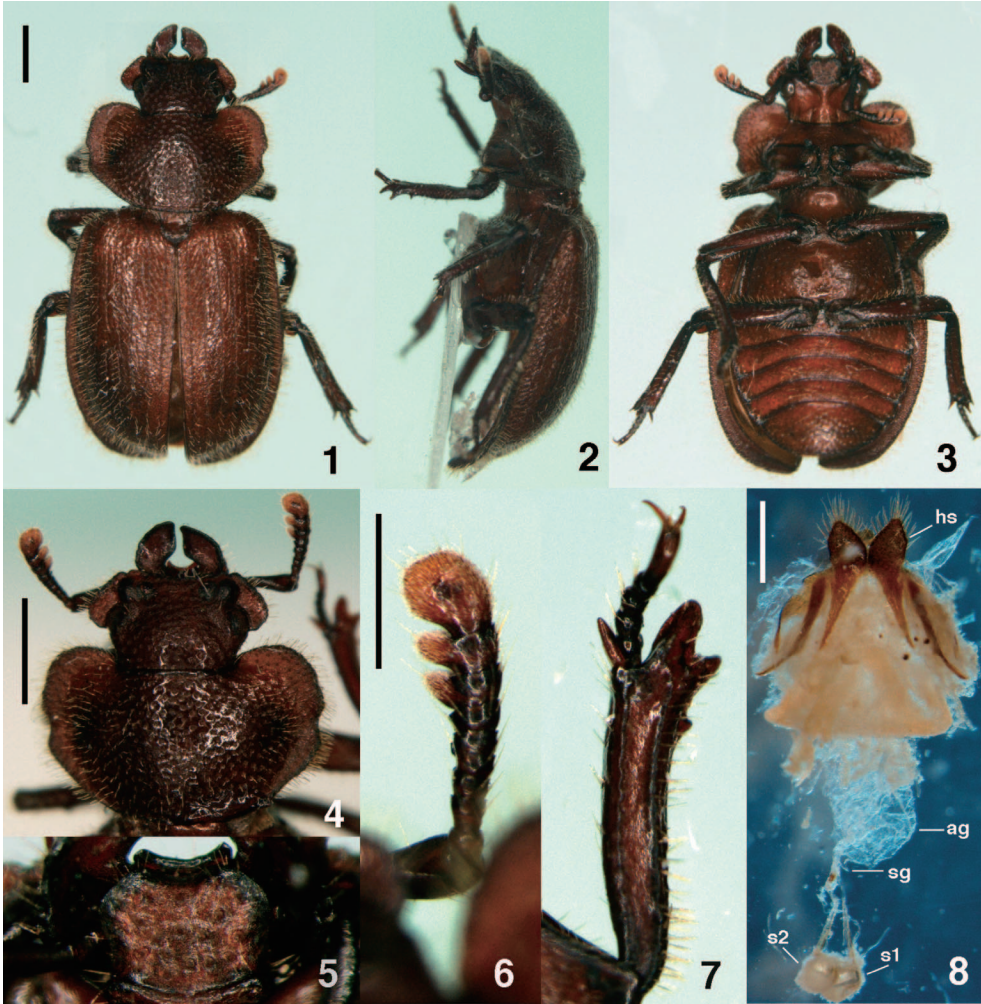
Recently, we have had an opportunity to examine a female specimen of the genus *Torynognathus* collected from Pasoh of the Malay Peninsula through the courtesy of Mr. K. WADA, Tokyo. After a careful examination, it was concluded that the specific characteristics of the female specimen at our hand were identical with those of the male paratype of *T. chrysomelinus* deposited in the entomological collections of the Natural History Museum of London. In this paper, we will record an additional specimen of *T. chrysomelinus*, and briefly describe some important characteristics of the female of this species for the first time.

Torynognathus chrysomelinus BOMANS, 1986

(Figs. 1–9)

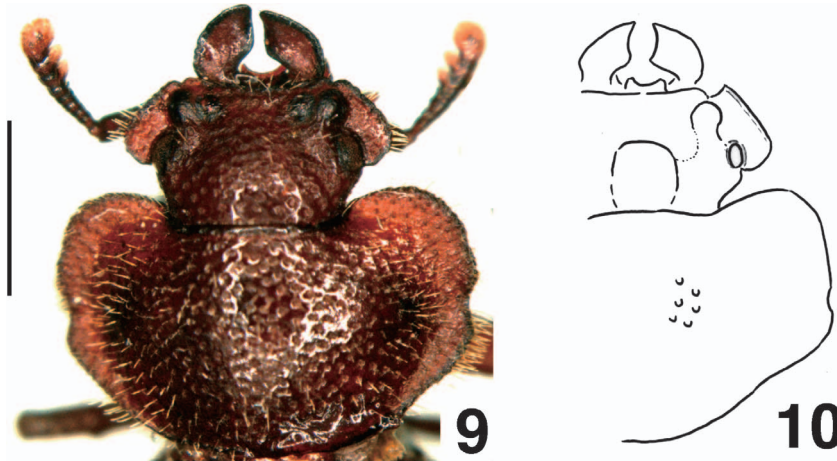
Torynognathus chrysomelinus BOMANS, 1986, *Nouv. Revue Ent.*, (N.S.), 3, p. 308. — KRAJCIK, 2001, *Lucanidae of the World*, p. 53; 2003, *Lucanidae of the world*, 2, p. 172.
Aegus (Torynognathus) chrysomelinus: MAES, 1992, *Revta. Nicarag. Ent.*, 22, p. 106.

Description of female. Length from anterior margin of head (excluding mandibles) to apex of elytra 7.6 mm. Body (Figs. 1–3) dull glossy and reddish brown in color, upper surface closely and shallowly punctured; each puncture bearing a long golden hair. Head (Figs. 4, 9) transverse, with a protuberance on each side close to frontal



Figs. 1–8. *Torynognathus chrysomelinus*, ♀. — 1, dorsal view; 2, lateral view; 3, ventral view; 4, head and pronotum; 5, mentum; 6, antenna; 7, front tibia; 8, genital organs (ag: accessory gland, hs: hemisternite, s1 and s2: two-lobed spermatheca, sg: spermathecal gland). Scales: 1.0 mm for Figs. 1–4 and 0.5 mm for Figs. 6–8.

margin of eye. Canthus (Fig. 9) well developed, completely dividing eye, not distinctly angular in front, almost straight at side; hind angle rather rounded. Antenna (Fig. 6) consisting of ten segments; eighth to tenth segments forming partly pubescent club. Mandibles simple, short and broad, curved laterally, without inner teeth. Mentum (Fig. 5) roundly emarginate at the apex. Prothorax (Figs. 4, 9) broader than long, with rounded large anterior lobes; each lateral margin with a distinct concavity at middle;



Figs. 9-10. Head and pronotum of *Torynognathus* spp., ♀. — 9, *T. chrysomelinus*; 10, *T. oberthueri*, paralectotype. Scale: 1.0 mm for Figs. 9-10.

base strongly rounded. Elytra slightly wider than pronotum; upper surface with faint striae. Legs (Fig. 7) slender; tibiae simple, without spine at lateral side of middle and hind tibiae; tarsi very short and compact.

Female genital organ (Fig. 8). Styli absent. Hemisternites relatively large and well sclerotized; pointed apices with long setae. Accessory gland very large. Spermathecal gland very small. Spermatheca with large two circular lobes.

Specimen examined. 1 ♀, Pasoh Forest Res., Negeri Sembilan, West Malaysia, FRG 20-II, 1982, M. KUBOTA leg.

Specimen compared. All the specimens examined for comparison were deposited in the entomological collections of the Natural History Museum of London.

T. chrysomelinus: 1 ♂, paratype, Malaysia, 22 miles N. E. Kuala Lumpur, alt. 600 m, 9-VI-1962 (E. E. ROSS & D. Q. CAVAGNARO); originally in collection of H. E. BOMANS.

T. oberthueri: 1 ♂, lectotype, N. Sumatra, Semangoes Forest, J. BOUCHARD; 1 ♀, paralectotype, same data as the lectotype.

Notes. The female of *T. chrysomelinus* is closely related to that of *T. oberthuri* but is distinguished from the latter by the following characteristics (Figs. 9, 10): 1) Body gloss dimmer, and golden setae on dorsal surface much longer than those of *T. oberthuri*; 2) middle part of the upper surface of head rather depressed but not swollen as in *T. oberthuri*; 3) a concavity at the middle of each lateral margin of prothorax larger and broader than that of *T. oberthuri*; 4) front angle of canthus rather rounded but not

sharply produced forwards as in *T. oberthuri*; 5) punctures on the surface of prothorax rather sparser and shallower than those of *T. oberthuri*.

Sexual dimorphism between male and female of *T. chrysomelinus* is almost the same as in *T. oberthuri*: head, clypeus and mandibles of male are slightly larger and broader than those of female.

The morphological features of the genus *Torynognathus* are quite curious, and ARROW (1935) suggested that such characteristics of the genus as setose upper surface, simple unspined tibiae and rounded anterior lobes of the prothorax may indicate some possible degree of relationship to the genera *Aegus* and *Aegotypus*. Consequently, MAES (1992) accepted ARROW's suggestion and downgraded the genus *Torynognathus*, as well as *Aegotypus*, to subgenera within the genus *Aegus*. He also assigned *Aegus marginivillosus* DE LISLE, 1967, of which the female holotype has solely been known from New Guinea, to the members of the subgenus *Torynognathus* (MAES, 1992). As the result of examination of female genital organs in the present study, it was revealed that the female of *T. chrysomelinus* had two-lobed spermatheca, which was also shared by the females of some species of the genus *Aegus* (MURAI, personal observation). Further detailed comparative studies on the morphology including male and female genital organs of the genus *Torynognathus* will possibly clarify its systematic position within the family Lucanidae.

Acknowledgments

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要 約

荒谷邦雄・村井悠孔：マレー半島で得られた *Torynognathus chrysomelinus* (コウチュウ目クワガタムシ科) の追加標本の記録と雌の記載。—— 小型で特異な形態をした *Torynognathus* 属は、スマトラから記載された *T. oberthuri* に基づいて創設されたクワガタムシ科の小属である。本属の2番目の種としてマレー半島から記載された *T. chrysomelinus* BOMANS (1986) は珍しい種のように、記載以来、タイプ標本に指定された2頭の雄のみが知られているに過ぎず、雌は未知であった。筆者らは、最近、東京都の和田薫氏のご厚意で、マレー半島で採集された本属の1種の標本を検視する機会を得た。大英自然史博物館に所蔵されている *T. chrysomelinus* の雄のパラタイプ標本との比較を含む詳細な検討の結果、今回の標本が初めて得られた *T. chrysomelinus* の雌であることが明らかとなった。本種の雌はスマトラ産の本属のタイプ種である *T. oberthuri* の雌と非常によく似ているが、1) 体表面の光沢は鈍く、背面に生えた金色の毛は *T. oberthuri* のものと比べてずっと長い；2) 頭部の中央部は平らで、*T. oberthuri* のような隆起部がない；3) 前胸背

板の側縁にある凹みが *T. oberthuri* のものと比べると大きくて目立つ； 4) 眼縁突起の前縁部は丸く， *T. oberthuri* のように鋭く前方に突出しない； 5) 前胸背板上面の点刻は *T. oberthuri* に比べて粗で浅い，等の特徴によって区別できる。また，本属の形態における性的二型はきわめて小さく， *T. oberthuri* および *T. chrysomelinus* の両種とも，雄の方が雌に比べて頭部や頭盾，大顎がやや大きく幅広い，という程度の差異しかないことも明らかとなった。

Torynognathus 属は，クワガタムシ科の中でもきわめて特異な形態的特徴を有しているが，ARROW (1935) は本属の記載の中で，毛で覆われた体表面や浅い条溝が走る鞘翅，棘列のない脛節，両側が丸く大きく突出する前胸背板の前縁部，などの本属に見られるいくつかの形態的特徴が，*Aegus* 属とその近縁属，中でも *Aegotypus* 属のいくつかの種と共通していることを指摘し，*Aegotypus* 属と本属に何らかの類縁関係がある可能性を示唆した。その後，MAES (1992) はこのARROW (1935) の示唆に基づいて，世界のクワガタムシ科のリストの中で *Torynognathus* 属および *Aegotypus* 属を *Aegus* 属の亜属のうちの1つにそれぞれ格下げして扱った。今回，*T. chrysomelinus* の雌の交尾器形態を観察した結果，本種の雌は2つの大きい房状の受精嚢を持つことが明らかとなったが，この特徴は少なくとも著者らが観察した *Aegus* 属の種の雌と共通していた。今後，まだ報告のない *Torynognathus* 属の雄交尾器形態をはじめとするさらなる詳細な形態の比較検討によって，クワガタムシ科における本属の系統的な位置が明らかになることを期待したい。

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