

Redescription of *Leptispa abdominalis* Baly, 1858 (Insecta: Coleoptera: Chrysomelidae: Cassidinae: Leptispini), Newly Recorded from Kinmen Island, with Notes on Its Biology

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Abstract

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Leptispa abdominalis Baly, 1858, formerly known from China and Vietnam, is recorded from Kinmen Island. The species is redescribed, and illustrations of diagnostic characters are provided, including pronotum, aedeagus, gonocoxae, and spermatheca. Adults and larvae of this species construct leaf-rolls on *Bambusa* similar to those of *L. pygmaea* Baly.

Key words: Leaf beetle, Taxonomy, Host plant, Poaceae, Leaf-roll.

INTRODUCTION

Two species of the genus *Leptispa* were described from Taiwan by Chûjô (1933). Only one species actually occurs in Taiwan because the other species is a junior synonym of it based on a recent study by the Taiwan Chrysomelid Research Team (Lee & Staines 2010). A series of specimens of *Leptispa* collected from Kinmen Island, near the southeastern coast of mainland China, were determined to represent a species not previously known from Taiwan and its island territories. They were identified as *L. abdominalis* Baly, 1858, originally described from Mainland China. We took the opportunity to redescribe this species and describe diagnostic characters that allow it to be distinguished from the Taiwanese species (*L. miwai* Chûjô, 1933).

MATERIALS AND METHODS

To prepare drawings of the adult reproductive systems, abdomens were separated and boiled in 10% KOH solution, cleared in distilled water, and mounted in glycerin on microscope slides for observation. Specimens were examined and drawings were made using a Leica M165 stereomicroscope. Morphological details were illustrated using a Nikon ECLIPSE 50i microscope. Body parts were then stored in glycerin tubes with the dry mounted specimens.

Specimens examined during this study are deposited in the following collections: BMNH: Natural History Museum, London, UK; MNHN: Museum national d'Histoire naturelle, Paris, France; NMPC: National Museum, Praha, Czech Republic; TARI: Taiwan Agricultur-

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al Research Institute, Taichung, Taiwan.

Exact label data are cited for all type specimens; a double slash (//) divides the data on different labels and a single slash (/) divides the data in different rows. Other comments and remarks are indicated as follow: (p) preceding printed data, (h) preceding handwritten data, (w) white labels, (b) blue labels and (r) red labels.

RESULTS AND DISCUSSION

Leptispa abdominalis Baly

Leptispa abdominalis Baly, 1858: 3; Gressitt, 1939a: 164 (redescription); Gressitt, 1939b: 199 (China: Guangdong); Gressitt, 1950: 74 (redescription); Gressitt & Kimoto, 1963: 903 (China: Guangdong); Chen *et al.*, 1986: 405.

Leptispa atripes Pic, 1925: 16 (Vietnam); Medvedev, 1992: 151 (as synonym of *L. abdominalis*).

Leptispa conicicollis Voronova & Zaitzev, 1982: 121 (Vietnam); Medvedev, 1992: 151 (as synonym of *L. abdominalis*).

Type specimen examined. *Leptispa abdominalis*: Holotype (BMNH), sex undetermined, by monotypy, labeled: "Type/H.T. [p, w, circle label with red border] //N. China [p, w] //Baly Coll. [p, w] //Leptispa/abdominalis/Baly/N. China [w, b]."

Leptispa atripes: Holotype (MNHN), sex undetermined, by monotypy, labeled: "Dap Yam/Sau 24.2.06 [h, w] //Leptispa/n. sp. [h, w] //TYPE [p, r] //Type [h, w] //Museum Paris/Coll. M. Pic [p, w] //atripes/n. sp. [h, w]."

Leptispa conicicollis: in Medvedev's collection, not studied.

Redescription. Length 5.9–6.8 mm, width 1.8–2.0 mm. Overall color black, but legs dark brown and abdomen yellow (Figs. 1A–1C). Anterior margin of head rounded and emarginate, disk with dense puncture and reticulate microsculpture. Pronotum (Fig. 2A) square, disk with reticulate microsculpture only apically, with random coarse punctures interspersed with numerous minute punctures. El-

etra elongate, about 2.6–2.7 times longer than wide, parallel-sided, disk with one longitudinal ridge between striae VIII and IX. Penis (Figs. 2D–2E) strongly curved near base; strongly and apically narrowed, apex truncate; internal sac with one elongate sclerite, basally bifurcate, straight in lateral view. Gonocoxae (Fig. 2G) separated, small, triangular. Spermathecal receptacle (Fig. 2C) strongly swollen, pump much narrow and strongly curved.

Diagnosis. *Leptispa abdominalis* differs from *L. miwai* in the following combination of characters: pronotum with punctures of the same size (Fig. 2A) [coarser punctures at sides of the pronotum in *L. miwai* (Fig. 2B)], yellow abdomen and dark brown legs (Figs. 1A–1C) [black abdomen and legs in *L. miwai* (Fig. 1D)], narrower elytra (Fig. 1A) [broader elytra in *L. miwai*, 2.2–2.4 times longer than wide (Fig. 1D)], presence of longitudinal elytral ridge between striae VIII and IX [reduced in *L. miwai*], strongly narrowed apex of penis (Fig. 2D) [slightly narrowed apex in *L. miwai*], straight endophallic sclerite (Fig. 2E) [strongly curved sclerite in *L. miwai*], reduced and triangular gonocoxae lacking dense setae (Fig. 2G) [well developed gonocoxae with dense setae in *L. miwai* (Fig. 2F)].

Other material examined. CHINA: Guangdong: 2 exs. (BMNH), Honam Island [湖南島], 2.VII.1926, leg. W. E. Hoffman; Hong Kong: 1 ex. (BMNH), 1911–359, leg. F. W. Terry; TAIWAN: Kinmen: 6 exs. (TARI, NMPC), Botanic Park [植物園], 13.VI.2015, leg. Y.-J. Chang; 9 exs. (TARI, BMNH), Shuitou Village [水頭聚落], 21.XI.2016, leg. S.-F. Yu, hand collecting.

Biology. Gressitt (1950) reported bamboo as the host plant for *Leptispa abdominalis* without further information. In this study, we found specimens feeding on leaves of *Bambusa pachinensis* var. *pachinensis* Hayata, 1916 [八芝蘭竹] (Fig. 3A). Larvae (Figs. 3C–3D), pupae (Fig. 3E), and adults (Fig. 3F) were found in different longitudinally oriented leaf-rolls (Fig. 3B). Construction of such leaf-rolls was previously reported only for *Leptispa pygmaea* Baly (Prathapan *et al.* 2009). Thus, this is the

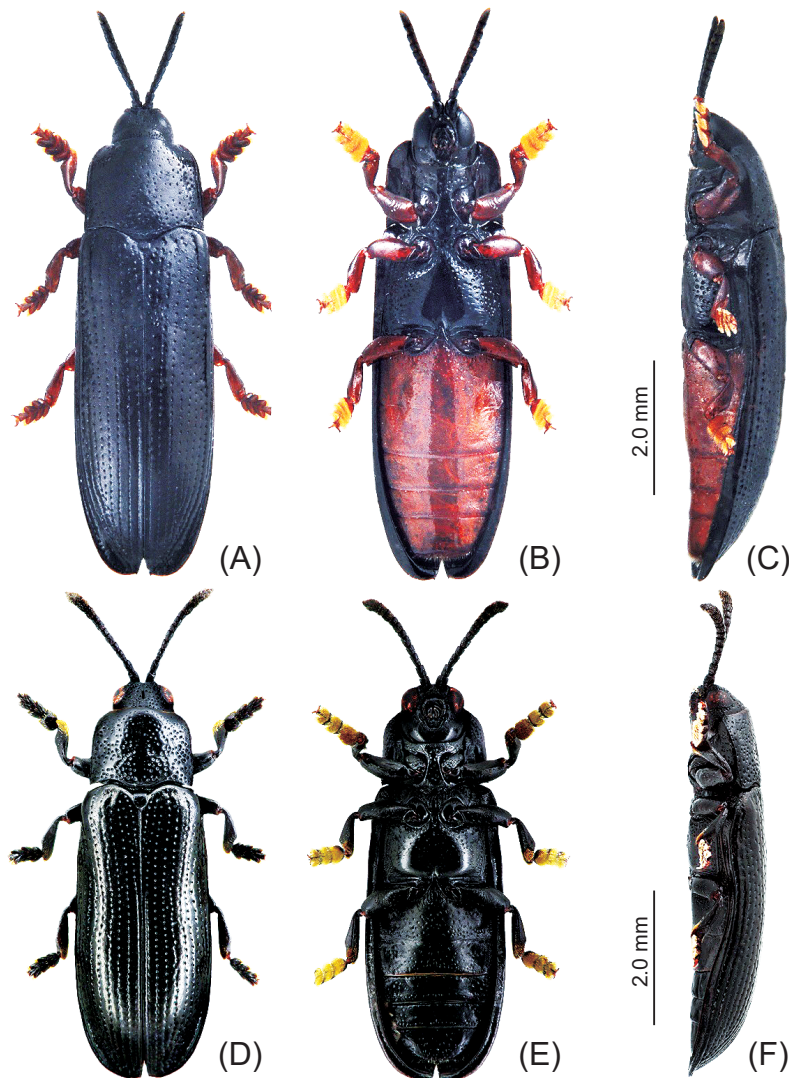


Fig. 1. Color habitus of *Leptispa abdominalis* and *L. miwai*. (A) *L. abdominalis*, collected from Shuitou Village [水頭聚落], Taiwan, dorsal view; (B) Ditto, ventral view; (C) Ditto, lateral view; (D) *L. miwai*, from Yingtzuling [鶯子嶺], Taiwan, dorsal view; (E) Ditto, ventral view; and (F) Ditto, lateral view.

second species documented with such behavior.

Distribution. China, Taiwan (only Kinmen Island, new record), Vietnam.

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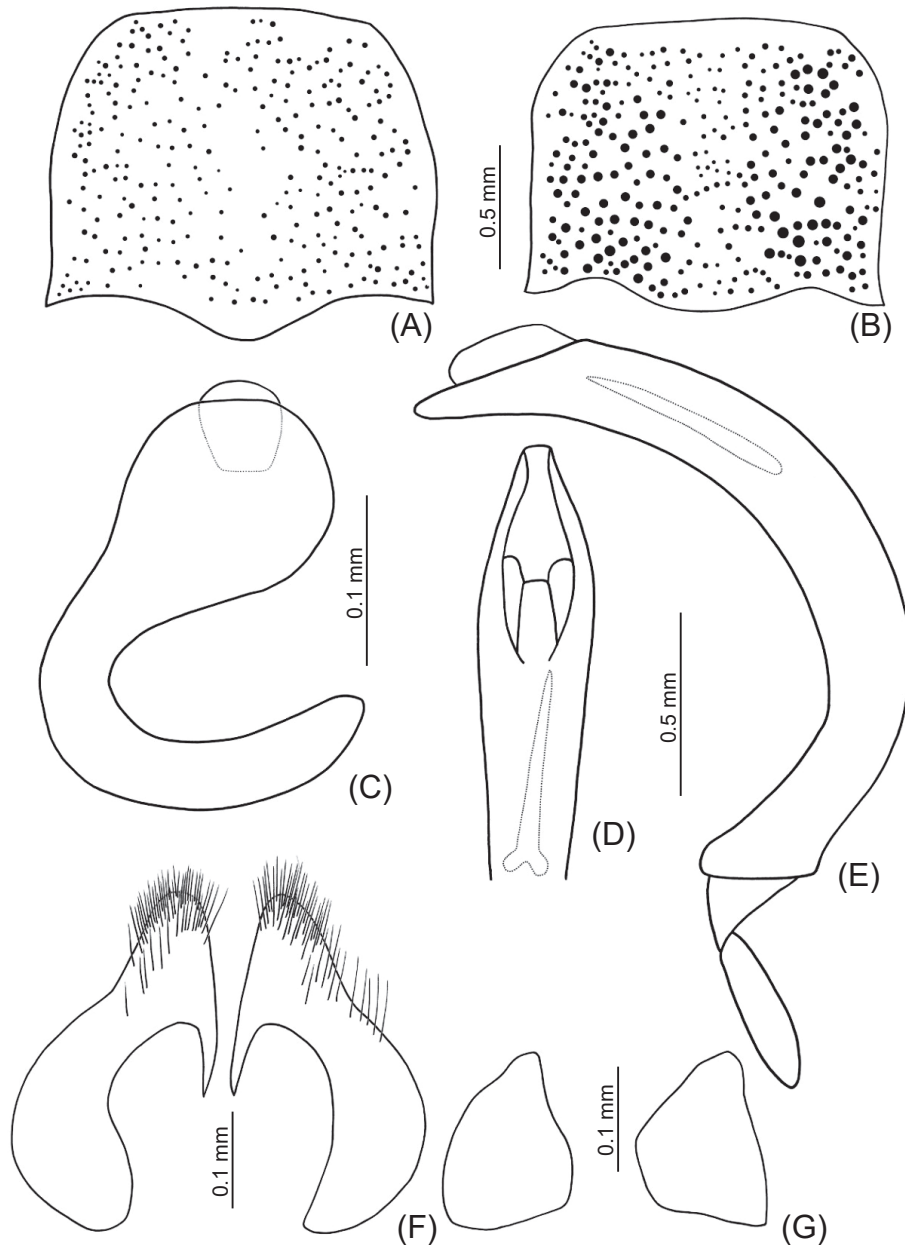


Fig. 2. Diagnostic characters of *Leptispa abdominalis* and *L. miwai*. (A) *L. abdominalis*, pronotum; (B) *L. miwai*, pronotum; (C) *L. abdominalis*, spermatheca; (D) *L. abdominalis*, apex of penis, dorsal view; (E) *L. abdominalis*, penis, lateral view; (F) *L. miwai*, gonocoxae; and (G) *L. abdominalis*, gonocoxae.

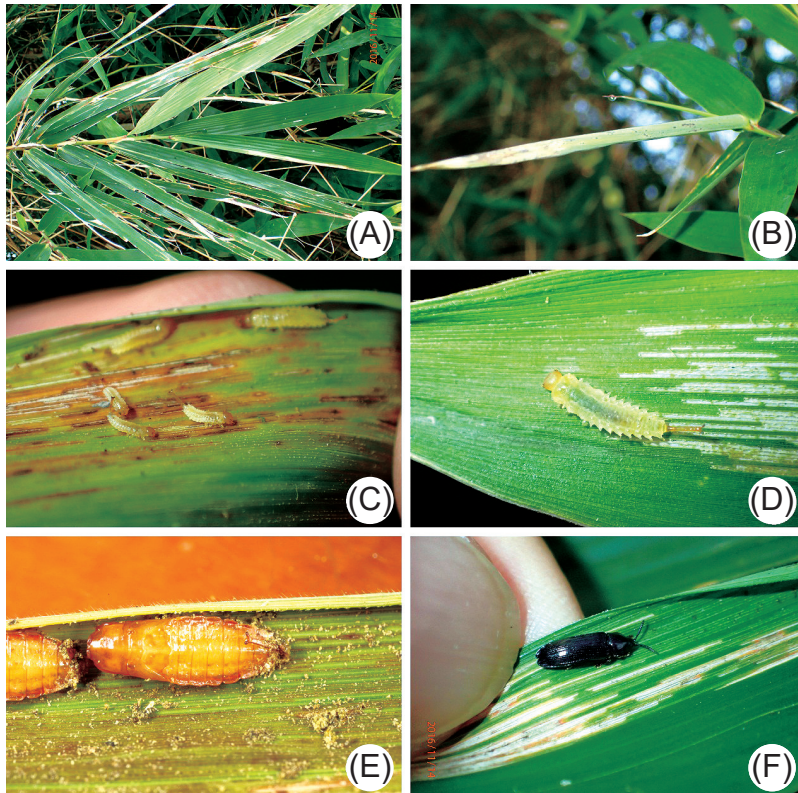


Fig. 3. Field photographs for *Leptispa abdominalis*. (A) Host plant, *Bambusa pachinensis* var. *pachinensis*; (B) leaf-roll constructed by larvae; (C) young larvae; (D) older larva; (E) pupae; and (F) adult.

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金門產新記錄金花蟲：黃腹小扁鐵甲蟲的重新描述 (鞘翅目： 金花蟲科：龜金花蟲亞科：小扁鐵甲蟲族)

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摘要

李奇峰、Lukáš Sekerka。2018。金門產新記錄金花蟲：黃腹小扁鐵甲蟲的重新描述 (鞘翅目：
金花蟲科：龜金花蟲亞科：小扁鐵甲蟲族)。台灣農業研究 67(2):107-112。

黃腹小扁鐵甲蟲 (*Leptispa abdominalis* Baly, 1858) 原本只分布在中國及越南，目前已在金門發現並作重新描述。針對診斷特徵以線圖描繪，包括前胸背板、雄性生殖器、雌蟲生殖突基節及雌蟲受精囊，並對其食草及捲葉行為做進一步的探討。

關鍵詞：金花蟲、分類學、寄主植物、禾本科、捲葉。

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