

DYTISCIDAE:
IV. Notes on Chinese *Lacconectus* MOTSCHULSKY, 1855
with description of a new species from Hainan
(Coleoptera)

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Abstract

The Chinese species of *Lacconectus* MOTSCHULSKY (Coleoptera: Dytiscidae) are reviewed. *Lacconectus hainanensis* sp.n. is described from Hainan (SW China). It is related to *L. strigulifer* ZIMMERMANN and *L. punctipennis* ZIMMERMANN. New Chinese records of *L. formosanus* (KAMIYA) and a modification to the key to the species of the genus are presented. Three species are known to occur in China, the record of a fourth species (*L. laccophiloides* ZIMMERMANN) is doubtful.

Key words: Coleoptera, Dytiscidae, *Lacconectus*, China, new species, faunistics.

Introduction

The genus *Lacconectus* MOTSCHULSKY, 1855 of the subfamily Copelatinae is confined to the Oriental region. It includes 40 species (BRANCUCCI 1986, 1987, 1989). NILSSON (1995) summarized the knowledge about the three species occurring in China. The object of this paper is to describe one new species of the *Lacconectus fulvescens*-group sensu BRANCUCCI (1986) from Hainan (SW China) and give some distributional notes on other Chinese species. In China the genus is confined to the tropical south including the islands Hainan and Taiwan. The provinces Jiangxi and Fujian mark the northeastern distribution of the genus.

Material and methods

The material used for this study is based partly on specimens collected by the CWBS (deposited in NMW and CASS), and on additional material deposited in the NMW and CH.

Acronyms & CWBS localities:

- CASS Chinese Academy of Sciences, Institute of Applied Ecology, Shenyang
CWBS China Water Beetle Survey
CH Collection Lars Hendrich, Berlin, Germany
NMW Naturhistorisches Museum Wien, Vienna, Austria.

CWBS loc. 193: **Hainan Province**; Qiongzong County; Wuzhi Shan [= Five Finger Mountain] Resort, ca. 2 km from Wuzhi Shan Village, ca. 30 km E Maoyang Town; small stream, ca. 2 - 3 m wide, shaded, flowing through degraded primary forest, below Wuzhi Shan Resort, ca. 600 m a.s.l.; 17./18.I.1996; leg. Jäch, Ji & Wang (see JACH & Ji 1998a: Fig. 3).

CWBS loc. 194: **Hainan Province**; Qiongzong County; stream, ca. 5 m wide, densely shaded, flowing partly through deep gorge, through primary forest, above Wuzhi Shan Resort; ca. 700 - 800 m a.s.l.; 18.I.1996; leg. Jäch, Ji & Wang.

CWBS loc. 204: **Hainan Province**; Ledong County; foot of Jianfeng [= Sharp Peak] Mountain, ca. 4 km E Jianfeng Town; river, ca. 5 - 10 m wide, fast flowing, through secondary forest, with big boulders, margins with rock pools, springfed pools and some seepage water, ca. 150 m a.s.l.; 22./24.1.1996; leg. Jäch, Ji & Wang (see Ji & JACH 1998b: Fig. 11).

CWBS loc. 208: **Hainan Province**; Ledong County; Jianfeng Mountains; 5 km E Tian Chi Village; two small streams, ca. 3 m wide, flowing through degraded primary forest and shrubs, ca. 800 m a.s.l.; 23.1.1996; leg. Jäch, Ji & Wang.

Drawings were made with an Olympus VMZ supported by SEMs. The style of the descriptive notes follows BRANCUCCI (1986).

Taxonomy

Lacconectus hainanensis sp.n.

TYPE LOCALITY: Hainan (CWBS loc. 204).

TYPE MATERIAL. Holotype ♂: "CHINA: Hainan (204) 4km E Jiangfeng, 150m Jianfeng Mts., 1996 22./24.1., leg. Jäch" (NMW). Paratypes: 30 exs. same data as holotype (NMW, CASS, CH); 5 exs.: CWBS loc. 193 (NMW, CH); 5 exs.: CWBS loc. 194 (CASS, NMW); 2 exs.: CWBS loc. 208 (NMW).

DIAGNOSIS: Body broadly oval, almost matt, brown, paler on disc of head, on sides of pronotum and on base of elytra. Lateral margins of elytra narrowly darkened.

Measurements: TL = 4.9 mm - 5.9 mm, TL-H = 4.5 mm - 5.3 mm; width = 2.8 mm - 3.3 mm.

Head testaceous-brown, dark brown alongside eyes, semi-matt. Surface sculpture consisting of small, almost rounded and well-impressed meshes and of minute but deep punctures. Clypeal grooves, a row of coarse punctures alongside eyes and a transverse depression beside eyes; punctures very large. Antennae testaceous; joints slender, the 5th 2 times as long as broad.

Pronotum testaceous-brown, paler at sides, semi-matt. Microsculpture consisting of very small, more or less rounded and well-impressed meshes and of dense minute and deep punctures. Longitudinal median suture moderately impressed. Anterior and lateral rows of punctures coarse; punctures large and strongly coalescent. The entire base with large and well-spaced punctures. Lateral margins completely bordered.

Elytra semi-matt, brown, with a subbasal testaceous-brown band. The base and the lateral margins narrowly brownish-black. Epipleura testaceous on basal quarter, blackish-brown on the apical 3/4. Microreticulation visible at the usual magnification (80x) on basal half. Elytra with a shagreened lustre posteriorly. Punctuation of 2 kinds, the smaller one consisting of minute punctures surrounded by petal-like meshes at the base and the larger one of less numerous, but very large punctures covering the entire elytra and becoming slightly sparser behind. Sutural row of punctures with dense punctures in the apical third. Discal and sublateral rows of punctures interrupted just before anterior edge; the punctures irregularly distributed and mixed with those of the interspaces on apical half, in a straight line and very close-set anteriorly.

Underside testaceous-brown. Legs testaceous. Prosternal process ovoid-elongate, 1.8 times as long as broad, distinctly bordered at sides, broadly rounded at apex. Metacoxal lines represented only by a short furrow at the middle of their length. Sternites 3, 4 and 5 with few small punctures. Anal sternite almost smooth, narrowly microreticulate along posterior margin, with minute and sparse punctures and with coarse oblique depression formed by 2 coalescent punctures on each side of the middle. Posterior margin bordered and broadly rounded.

Aedeagus: Penis (Fig. 1) in lateral view, regularly curved, evenly tapered in apical third and rounded at apex. In dorsal view, evenly tapered in apical part and pointed at apex. Parameres (Fig. 2) broad.

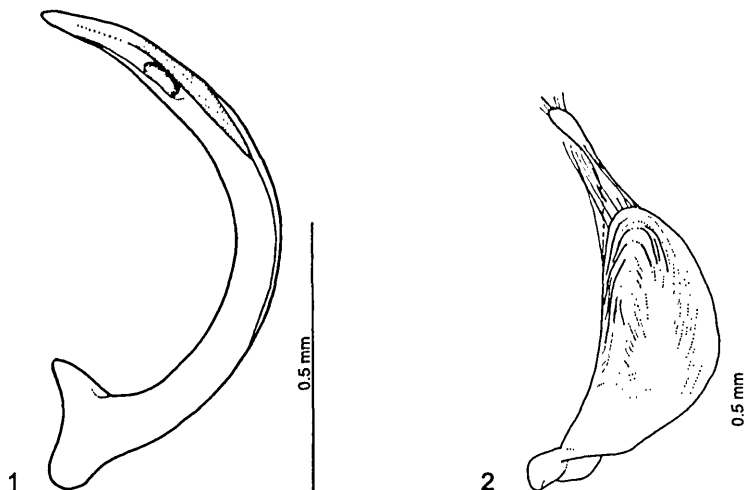


Fig. 1 - 2: *Lacconectus hainanensis*, aedeagus in lateral view, 1) penis, 2) right paramere.

DISTRIBUTION (Fig. 3): So far known only from the type locality.

AFFINITIES: This species is very near to *Lacconectus strigulifer* ZIMMERMANN, 1928 from Myanmar and *Lacconectus punctipennis* ZIMMERMANN, 1928 from Java, Sumatra and Bali. From *L. strigulifer* it can easily be distinguished by the presence of large punctures instead of large striae on the elytra. From the latter it differs clearly by the visible (80x) microreticulation on the elytra. *Lacconectus hainanensis* sp.n. differs from both by the depression formed by 2 (5 in *L. punctipennis* and *L. strigulifer*) coalescent punctures on each side of the anal sternite and the form of the median lobe (BRANCUCCI 1986, HENDRICH & BALKE 1995).

Modified key to the genus *Lacconectus* (after BRANCUCCI 1986)

- 26 Elytra with large punctures in the interspaces, the least numerous in the 2nd interspace 27
- Pronotum and elytra covered with short and deep striae. Aedeagus (Fig. 94). Burma 28. *L. strigulifer* ZIMMERMANN, 1928
- 27 Smaller species (4.5 - 4.8 mm). Interspaces of the elytra covered with less dense large punctures which do not reach the apex in the 1st interspace. Aedeagus (Fig. 93). Vietnam, Cambodia, N-Thailand 26. *L. punctatus* BRANCUCCI, 1986
- Larger species (4.9 - 5.9 mm). All interspaces of the elytra covered with dense and large punctures which reach almost the apex even in the 1st interspace. Elytra shining, microreticulation not visible 27. *L. punctipennis* ZIMMERMANN, 1928
- Elytra semi-matt, microreticulation visible 27'. *L. hainanensis* sp.n.

Faunistics

Lacconectus basalis SHARP

Lacconectus basalis SHARP, 1882: 598 (orig. descr.); BRANCUCCI 1986: 126 (Taiwan); NILSSON & al. 1995: 359 (Taiwan); NILSSON 1995: 41 (cat.).

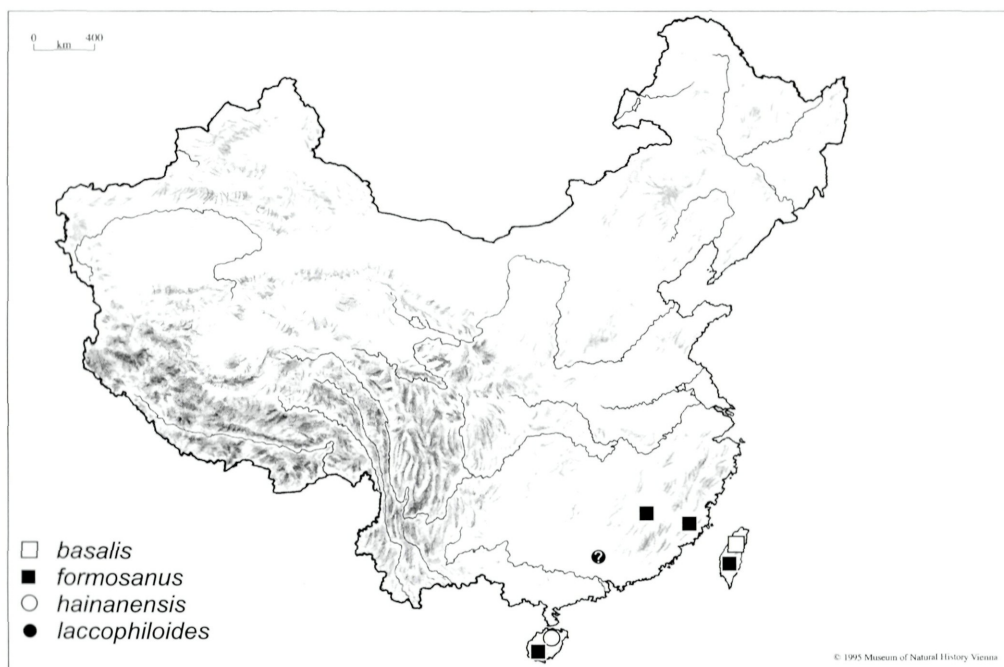


Fig. 3: Geographical distribution of *Lacconectus* species in China.

Distribution (Fig. 3): West Malaysia, Thailand, Myanmar, Vietnam, Taiwan (BRANCUCCI 1986, NILSSON 1995). No records from Mainland China.

Lacconectus formosanus (KAMIYA)

Platynectes formosanus KAMIYA, 1938: 30 (orig. descr., Taiwan).

Lacconectus formosanus (KAMIYA, 1838): BRANCUCCI 1986: 124 (Fujian, Taiwan); NILSSON & al. 1995: 359 (Taiwan); NILSSON 1995: 41 (cat.).

Material studied: W Jiangxi, Jinggang Shan, Ciping, 2.-14.VI.1996, 1 ♂ (NMW); Taiwan, Taipei, Gongliao, 14.III.1993, leg. L.-J. Wang, 3 ♂♂ and 2 ♀♀ (CH); Hainan (CWBS loc. 194), 2 ♂♂ and 2 ♀♀ (NMW, CASS, CH).

Remarks. A very variable species (see BRANCUCCI 1986). The different Chinese populations from Mainland China and Hainan probably belong to one or more undescribed subspecies.

Distribution (Fig. 3): Vietnam, China (Hainan, Fujian, Jiangxi, Taiwan).

(Lacconectus laccophiloides ZIMMERMANN)

Lacconectus laccophiloides ZIMMERMANN, 1928: 175 (orig. descr.); BRANCUCCI 1986: 141 (syn.); NILSSON 1995: 41 (cat.).

Lacconectus kurosawai SATŌ, 1979: 39 (orig. descr.); ZENG 1989: 7 (Guangdong).

Distribution (Fig. 3): This species was described from the Philippines. BRANCUCCI (1986) recognised three subspecies, occurring on Palawan, Balabac and Luzon. The subspecific assignment of ZENG's (1989) specimens from Guangdong is unknown and the occurrence of this species in China is doubtful. The specimens probably belong to an undescribed species.

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