

First records of *Lacconectus nigrita* Brancucci, 2003 and *Platambus princeps* (Régimbart, 1888) (Coleoptera: Dytiscidae) from Thailand

Ryohei Okada^{1, 2}

¹ Office of Natural Science Research, National Science Museum Thailand, 39, Moo 3, Khlong 5, Khlong Luang, Pathum Thani, 12120, Thailand

² Coleopterological Society of Japan, National Museum of Nature and Science, Tsukuba, 3050005, Japan

Article history

Received: 19 May 2025

Accepted: 26 June 2025

Published online: 31 July 2025

Corresponding author

Ryohei Okada

E-mail: wasserinsekt@kub.biglobe.ne.jp

Editor

Dr. Weeyawat Jaitrong

E-mail: polyrhachis@yahoo.com/
weeyawat@nsm.or.th

Abstract

Two diving beetles (family Dytiscidae), *Lacconectus nigrita* Brancucci, 2003 and *Platambus princeps* (Régimbart, 1888), are recorded from Thailand for the first time. Diagnoses, photographs of habitus and aedeagus are provided. Some variation of *P. princeps* are also briefly discussed.

Keyword: aedeagus, diving beetle, northern Thailand, taxonomy, variation

INTRODUCTION

The family Dytiscidae Leach, 1815 is classified in the order Coleoptera and commonly known as predaceous diving beetles (Larson *et al.*, 2000). This family is highly adapted for aquatic life and regarded as an important and speciose group in freshwater ecosystem, with more than 4,000 described species worldwide (Nilsson and Hájek, 2025). In Thailand, however, its fauna is still very poorly known. Among recent field survey, I collected two dytiscid species from northern Thailand. After detailed examination, these species are identified to *Lacconectus nigrita* Brancucci, 2003 and *Platambus princeps* (Régimbart, 1888) based on their habitus and aedeagous characters. In this paper, I record those species for the first time from Thailand. Photographs of habitus and aedeagus are provided and its variations are briefly discussed.

MATERIAL AND METHODS

Specimens were collected several localities in northern Thailand by the author by

vigorous sweeping using D-frame aquatic net. Identification is based on morphological characters under the stereo and light microscopes by comparison with literatures. Habitus and aedeagus photographs were taken using a Canon EOS 7D mark II with attached Canon MP-E65mm f/2.8 macro lens with 5:1 optical. The several images were combined using the Helicon Focus (Helicon Soft Ltd., Kharkov), and subsequently edited by Adobe Photoshop elements (2008) (Adobe Systems Inc., USA). All specimens are deposited in the Natural History Museum of the National Science Museum, Thailand (THNHM) and private collection of Ryohei Okada, Japan (CRO).

Results

Lacconectus nigrata Brancucci, 2003

(Figure 1A–D)

Lacconectus nigrata Brancucci, 2003: 97 (orig. descr.); Brancucci 2013: 125 (faunistics, key); Nilsson and Hájek, 2025: 79 (cat.).

Specimens examined. Thailand: 1 male, 1 female, Phetchabun Province, Lom Kao District, Ban Noen, St. 187 (alt. 1,620 m), 20.IX.2020, R. Okada leg. (CRO); 2 males, 2 females, same locality, St. 294, 18.VI.2022, R. Okada leg. (CRO, THNHM).

Diagnosis. Body oval elongate, total length: 5.8–6.0 mm; head black with transverse ferruginous marking on frons and V-shaped marking on clypeus. Pronotum black, lateral margins ferruginous. Elytra black with only a preapical testaceous spot, with upper side microreticulated and covered with small deep striae (Figure 1A). Ventral dark brown. Aedeagus, in lateral view, strongly curved and twisted (Figure 1B); in dorsal view, broad and broadly rounded apex (Figure 1C); right paramere broad (Figure 1D) (see Brancucci (2003) for further details and illustrations).

Habitat. The specimens were collected from temporal small pool in a humid forest at high-altitude (1,620 m) with dead leaves near Phu Hin Rongkla National Park.

Comments. *Lacconectus nigrata* belongs to *L. atlas* species-group and among the group can be easily distinguished by its deep striae on elytra and twisted aedeagus (Brancucci, 2013). This species is known so far only from Laos (Louang Namtha, Oudomxai, Louang Prabang, Pongsaly).

Distribution. Laos (Louang Namtha, Oudomxai, Louang Prabang, and Pongsaly) and Thailand (Phetchabun, first record).

Platambus princeps (Régimbart, 1888)

(Figures 1E–I)

Agabus princeps (Régimbart, 1888): Nilsson 1997: 641 (descr.).

Colymbinectes princeps (Régimbart, 1888): Vazirani 1977: 69 (cat.).

Platynectes (*Neoplatynectes*) *princeps* (Régimbart, 1888): Vazirani 1970: 344 (descr.).

Platynectes princeps Régimbart, 1888: 615 (orig. descr.); 1899: 282 (descr.); Zimmerman 1920: 150 (cat.); Feng 1933: 108 (descr.).

Platambus phufahensis Brancucci, 2004: 82 (orig. descr.); 2005: 3

Platambus princeps (Régimbart, 1888): Nilsson 2000: 34; Brancucci 2005: 3; Jia 2024: 64; Nilsson and Hájek, 2025: 35 (cat.).

Platambus balfourbrownei Vazirani, 1965: Rocchi, 1986: 33 (faunistics, ?Thailand); Ghosh and Nilsson, 2012: 8 (cat.).

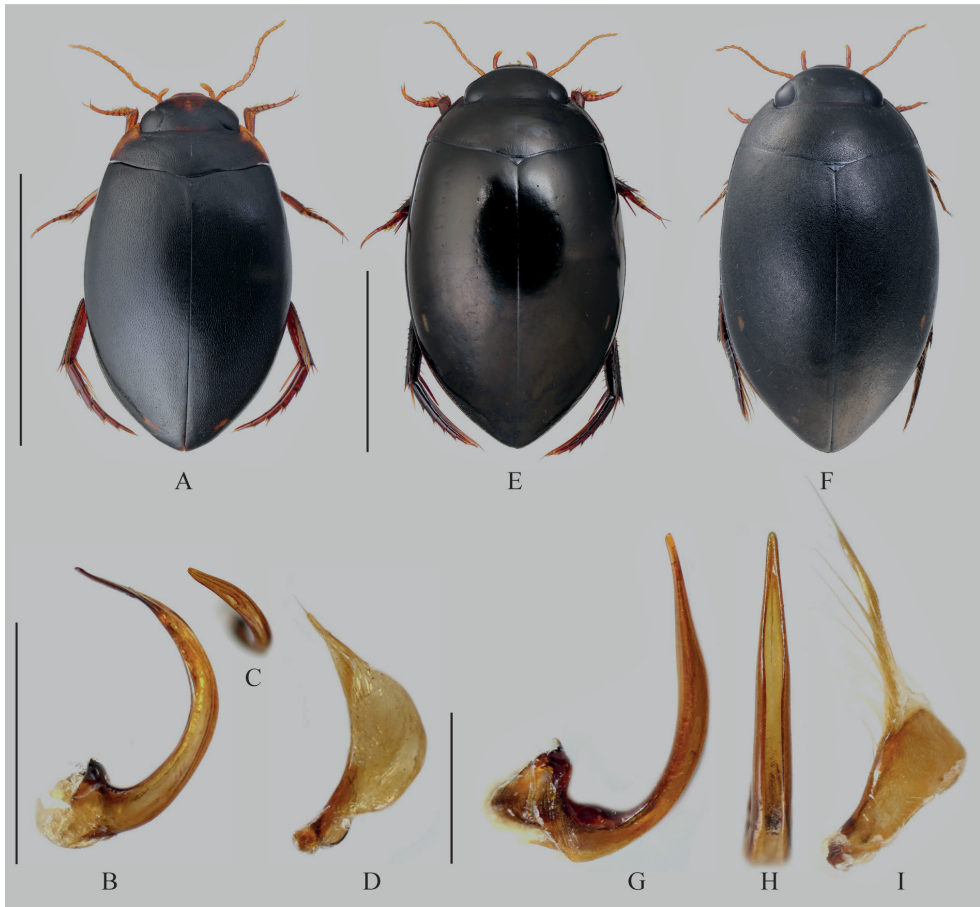


Figure 1. *Lacconectus nigrita* and *Platambus princeps* from Thailand: A–D, *Lacconectus nigrita*; E–I, *Platambus princeps* from Phetchabun Province; A, dorsal habitus, male; B, median lobe of aedeagus, lateral aspect; C, dorsal aspect; D, paramere, lateral aspect; E, dorsal habitus, male; F, female; G, median lobe of aedeagus, lateral aspect; H, dorsal aspect; I, paramere, lateral aspect. Scale bars = 5.0 mm in A, E, F; 1.0 mm in B–D, G–I.

Specimens examined. Eight males, 14 females, Thailand, Chiang Mai Province, Mae Taeng District, Pa Pae, St. 49 (alt. 1,000 m), 15.VI.2019, R. Okada leg. (CRO, THNHM); 2 females, Mae Hong Son Province, Pai District, Mueang Paeng, St. 93 (alt. 760 m), 1.XII.2019, R. Okada leg. (CRO); 2 males, 4 females, Phetchabun Province, Lom Kao District, Ban Noen, St. 187 (alt. 1,620 m), 20.IX.2020, R. Okada leg. (CRO, THNHM).

Diagnosis. Total length: males 9.7–10.3 mm, females 8.9–9.7 mm; head and pronotum completely black. Elytra black with a postmedian and a preapical testaceous spot (Figure 1E–F). Ventral side black; prosternal process elongate, lanceolate, finely bordered laterally and produced into a long and sharp point; metasternal wings moderately broad; metafemora with a short row of strong setae at distal posterior angle; aedeagus, in lateral view, narrow, slightly curved, evenly tapered backwards from middle and very narrowly rounded apex (Figure 1G); in dorsal view, narrow, regularly tapered from base to apex and very narrowly rounded at apex (Figure 1H); base of paramere transverse, the apical part very long (Figure

1I) (see Nilsson (1997) and Brancucci (2004) for further details and illustrations).

Variability. There is a variation of elytral microreticulation. In male, all specimens have finer reticulation giving a shiny appearance (Figure 1E). The female specimens examined varied greatly in microreticulation: specimens from Chiang Mai and Mae Hong Son Provinces had the same shiny appearance as males, while those from Phetchabun Province had very coarse meshes, giving a matte appearance (Figure 1F).

Habitat. This species was collected from small streams with cold and clean water flowing under primary forest, with gravel ground and flood debris, at high altitude (alt. 760–1,620 m). The specimen were found among roots of trees in relatively deep point of small pool.

Comments. *Platambus princeps* was originally described from Myanmar (Tenasserim) and also known from India, Hong Kong, China, Vietnam and Laos (Nilsson, 1997; Brancucci, 2004; 2005). The old Thailand records by Rocchi (1986) (as *Platambus balfourbrownei* Vazirani, 1965) and by The Kanagawa Prefectural Museum (1995) (as *Platambus* sp.) need confirmation, and most likely identical with this species because the existence of *P. princeps* has been overlooked until Nilsson (1995) redetected it from China (Brancucci, 2005).

Within *Platambus princeps*, two relatively distinct morphs of aedeagus are known (Vazirani, 1970; Nilsson, 1997). The aedeagus of specimens from Thailand shows slight subapical constriction which resembles those of Hong Kong and Vietnam (Figures 28–29 in Nilsson, 1997), while minimum distance between base and apex is around 1.57 mm, like those of the other countries (Figures 30–33 in Nilsson, 1997).

Distribution. India, Hong Kong, China, Laos, Myanmar, Thailand (first record): Chiang Mai, Mae Hong Son, Phetchabun.

ACKNOWLEDGEMENTS

I would like to express my sincere thanks to Dr. Günther Wewalka (Vienna, Austria) for his valuable comments to the manuscript. Thanks also due to Dr. Weeyawat Jaitrong (National Science Museum Thailand) for encouragement of this study.

REFERENCES

- Brancucci, M. 2003. Faunistic notes on *Lacconectus* Motschulsky from China and neighbouring countries, and descriptions of new species. pp. 95–113. In: Jäch M.A. and Ji L. (eds.): *Water beetles of China, Vol. 3*. Zoologisch-Botanische Gesellschaft in Österreich and Wiener Coleopterologenverein, Wien. vi + 572 pp.
- Brancucci, M. 2004. Notes on *Platambus* species from Laos, with the description of a new species (Coleoptera, Dytiscidae). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* 77: 81–85.
- Brancucci, M. 2005. Notes on some *Platambus* (s. str.) Thomson, 1859 species from China, with the description of one new species (Coleoptera, Dytiscidae). *Entomologica Basiliensia et Collectionis Frey* 27: 1–5.
- Brancucci, M. 2013. The genus *Lacconectus* Motschulsky, 1855 in Laos (Coleoptera, Dytiscidae): New species and new data. *Entomologica Basiliensia et Collectionis Frey* 34: 103–129.
- Feng, H.T. 1933. Additions and corrections to the catalogue of Chinese Dytiscidae. *Peking Natural History Bulletin* 7 (1932–1933): 323–333.
- Ghosh, S.K. and A.N. Nilsson. 2012. Catalogue of the diving beetles of India and adjacent countries (Coleoptera: Dytiscidae). *Skörvnöpparn* Supplement 3: 1–77.
- Jia, F.L. 2024. *Illustrated Handbook of Aquatic Beetles of China (Myxophaga, Hydradephaga, Hydrophiloidea)*. The Straits Publishing & Distribution Group, Fuzhou. 316 pp. [In Chinese with English title].
- Larson, D.J., Y. Alarie and R.E. Roughley. 2000. *Predaceous diving beetles (Coleoptera: Dytiscidae) of the Nearctic Region, with emphasis on the fauna of Canada and Alaska*. NRC Research Press,

- Ottawa. 982 pp.
- Nilsson, A.N. 1995. Noteridae and Dytiscidae: Annotated check list of the Noteridae and Dytiscidae of China (Coleoptera), pp. 35–96. In: Jäch, M.A. and L. Ji (eds.), *Water Beetles of China, Vol. I*. Zoologisch-Botanische Gesellschaft in Österreich and Wiener Coleopterologenverein, Wien, 410 pp.
- Nilsson, A.N. 1997. A redefinition and revision of the *Agabus optatus*-group (Coleoptera, Dytiscidae); an example of Pacific intercontinental disjunction. *Entomologica Basiliensia* 19: 621–651.
- Nilsson, A.N. 2000. A new view on the generic classification of the *Agabus*-group of genera of the Agabini, aimed at solving the problem with a paraphyletic *Agabus* (Coleoptera: Dytiscidae). *Koleopterologische Rundschau* 70: 17–36.
- Nilsson, A.N. and J. Hájek. 2025. *A world catalogue of the family Dytiscidae, or the diving beetles (Coleoptera, Adephaga)*. Version 1.1.2025. 329 pp. Available from: http://www.waterbeetles.eu/documents/W_CAT_Dytiscidae_2025.pdf on 18 May 2025.
- Régimbart, M. 1888. Viaggio di Leonardo Fea in Birmania e regioni vicine. *Annali del Museo Civico di Storia Naturale, Genova* 6(26): 609–623.
- Régimbart, M. 1899. Révision des Dytiscidae de la région Indo-Sino-Malaise. *Annales de la Société Entomologique de France* 68: 186–367.
- Rocchi, S. 1986. Dytiscidi di Birmania, Thailandia e Sri Lanka, con descrizione di due nuove species. *Bollettino della Società Entomologica Italiana, Genova* 118 (1–3): 31–34.
- The Kanagawa Prefectural Museum. 1995. *Dytiscoidea catalogue collected by Terutsune Abe*. Kanagawa Prefectural Museum of Natural History, Kanagawa. 66 pp.
- Vazirani, T.G. 1970. Contributions to the study of aquatic beetles (Coleoptera). VII. A revision of Indian Colymbetinae (Dytiscidae). *Oriental Insects* 4: 303–362.
- Vazirani, T.G. 1977. Catalogue of Oriental Dytiscidae. Records of the Zoological Survey of India. *Miscellaneous Publication Occasional Paper* 6 (1976): 1–111.
- Zimmermann, A. 1920. Dytiscidae, Haliplidae, Hygrobiidae, Amphizoidae. In: Schenkling, S. (eds.): *Coleopterorum Catalogus. Vol. 4, pars 71*. W. Junk, Berlin. 326 pp.