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TO THE KNOWLEDGE OF THE SUBFAMILY DYNASTINAE (COLEOPTERA: SCARABAEIDAE) FROM THAILAND

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Summary. Three species of the rhinoceros beetles subfamily Dynastinae, *Clyster scaurus* Prell, 1911; *Dichodontus crassus* Silvestre, 2001 and *Trichogomphus lunicollis* Burmeister, 1847, are recorded from Thailand for the first time. A list of 32 rhinoceros beetle species known from Thailand is provided also.

Key words: rhinoceros beetle, Dynastini, Oryctini, fauna, new records, Asia.

В. Патомваттананурак, Т. Джинтонг, В. Тасен. К познанию подсемейства Dynastinae (Coleoptera: Scarabaeidae) Таиланда // Дальневосточный энтомолог. 2019. N 393. С. 1-10.

Резюме. Впервые для Таиланда указываются три вида пластинчатоусых жесткокрылых подсемейства Dynastinae (*Clyster scaurus* Prell, 1911; *Dichodontus crassus* Silvestre, 2001 и *Trichogomphus lunicollis* Burmeister, 1847). Также приводится список известных из Таиланда 32 видов этого подсемейства.

INTRODUCTION

Dynastinae Macleay, 1819 is one of the larger beetle subfamilies of the family Scarabaeidae. The members of the subfamily can be found around the world, especially in the tropical zone. Currently about 1,500 species in 225 genera are known (Rolf & Richard, 2016). Among them, over 200 species are found in Southeast Asia. Thirty-two species have been recorded from Thailand (Arrow, 1910; Arrow, 1914; Endrodi, 1969; Endrodi, 1978; Mizunuma, 1999; Dechambre, 1996; Ek-Amnuay, 2002; Rowland, 2006; Rowland, 2011; Jameson & Wada, 2009; Jameson & Drumont, 2013; Jakl & Zidek, 2015; Table 1).

In the course of our examination of the Dynastinae specimens deposited in the Natural History Museum of the National Science Museum, Thailand, we located three species new to Thailand. In the present paper we record these three species with their diagnostic characteristics.

MATERIALS AND METHODS

This study was mainly based on specimens deposited in the Natural History Museum of the National Science Museum, Thailand. The images were taken by a Nikon AF-S Micro NIKKOR 60 mm attached to a Nikon D7000 digital camera. Male genitalia were removed from abdomen then pin-mounted on triangular papers.

The following parts of the body were measured using digital caliper: **BL** – Body Length; **BW** – Body Width.

Abbreviations of the type depositories and others are as follows: **NHMW** – Museum of Natural History Vienna, Austria; **MfN** – Museum für Naturkunde, Germany; **MNHN** – Muséum National d'Histoire Naturelle, France; **OUNNH** – Oxford University Museum of Natural History, UK; **THNHM** – Thailand Natural History Museum.

NEW RECORDS

Subfamily Dynastinae MacLeay, 1819

Tribe Oryctini Mulsant, 1842

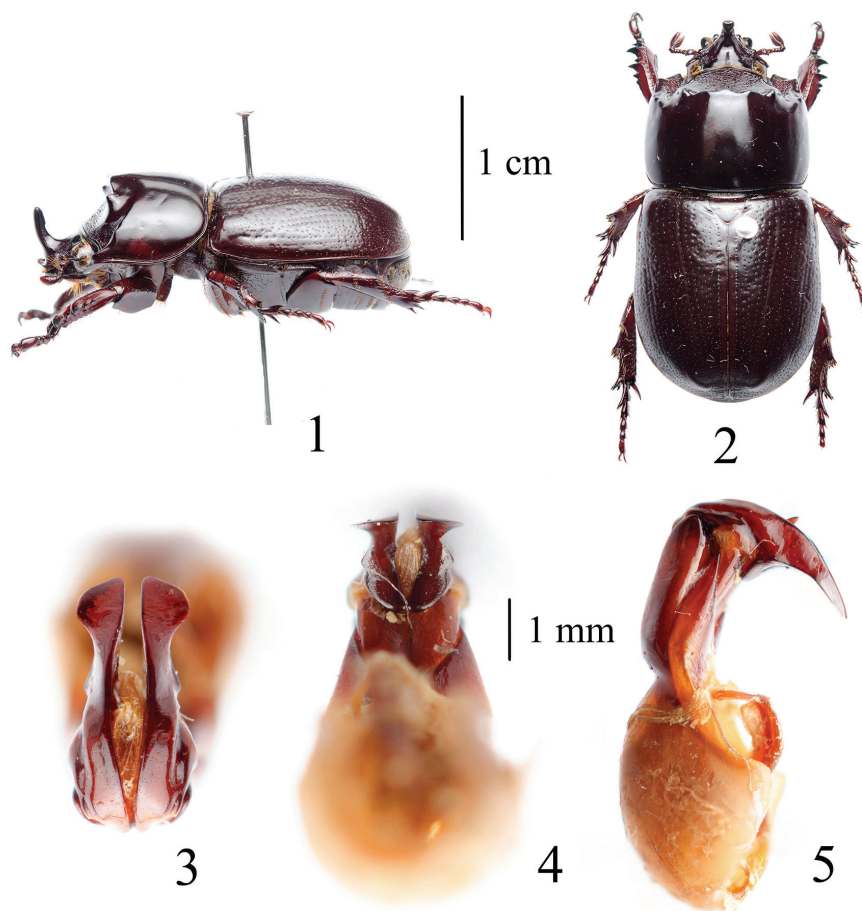
Clyster scaurus Prell, 1911

Figs 1–5

Clyster scaurus Prell, 1911: 208. Type locality: Cochinchine [VIETNAM], Saigon [Ho Chi Minh] (MfN).

Clyster scaurus: Endrodi, 1974: 320, fig. 1.

MATERIAL. Thailand: Trat Province, Ko Kud district, Ban Khlong Chao, 19.IV 2009, 1♂ (THNHM-I-10052, THNHM), T. Jeenthong leg.; Trat Province, Muang district, Laemglad, Lan Sai beach, 29.V 2016, 1♀ (THNHM-I-10010, THNHM), T. Jeenthong leg.



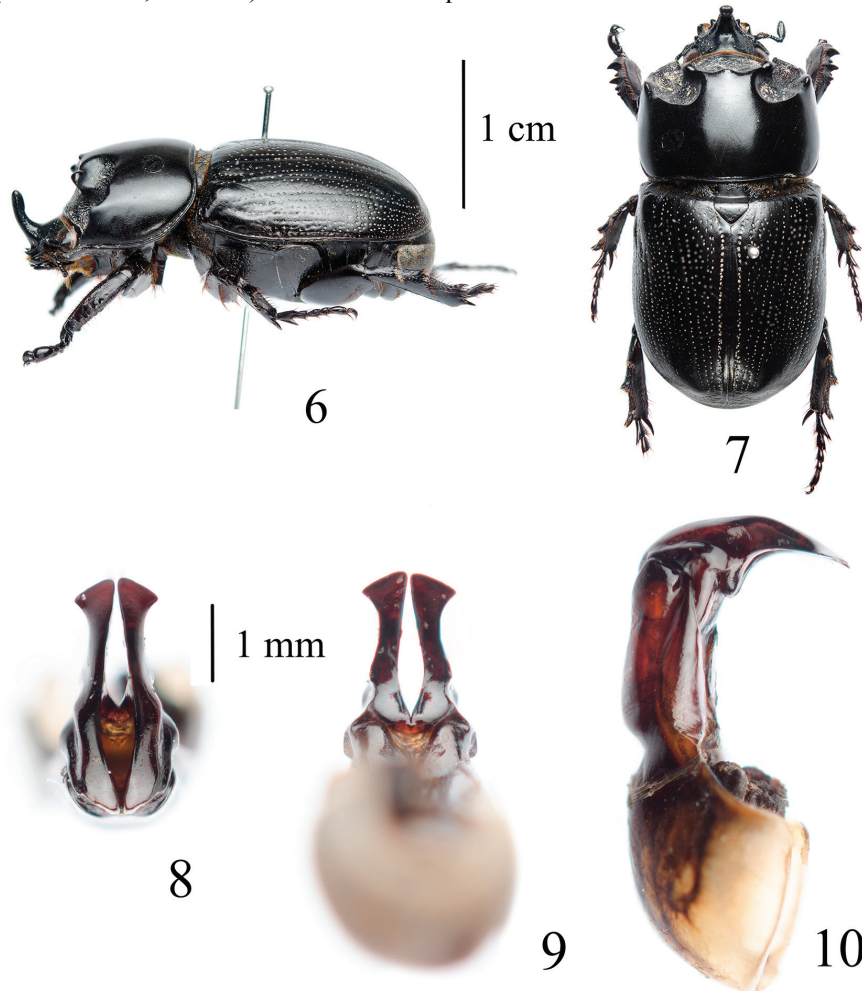
Figs 1–5. *Clyster scaurus*: 1 – male, lateral view; 2 – male, dorsal view; 3 – male genitalia, dorsal view; 4 – male genitalia, ventral view; 5 – male genitalia, lateral view.

DIAGNOSIS. *Adult male* (Figs 1–2). BL 26 mm, BW 12 mm. Body entirely dark brown; anterior face of pronotum punctate, while posterior face smooth and shiny; elytra finely punctate. This species is most closely related to *Clyster itys* (Olivier, 1789), a Sundaland species (Figs 6–10), but can be separated from the latter by the following characteristics: 1) anterior face of pronotum flat and steep anteriorly, its posterior margin laterally with two small acute denticles, and ridge connecting the denticles sinuate (with two large truncate denticles, and ridge connecting the denticles with a distinct denticle in the latter), 2) area around lateral denticles shallowly depressed (distinctly deeply depressed in the latter, see figs 6–7). *Male genitalia* (Figs 3–5). In dorsal view, paramere relatively long, broader anteriorly and gradually narrowed medially then suddenly broaden apically; apex of paramere

with strongly convex lateral margin but almost straight inner margin (Fig. 3). In lateral view, paramere strongly curved down, its apex relatively sharp (Fig. 15) (see male genitalia of the closely related species *C. itys*, Figs 8–10, for comparison).

DISTRIBUTION. Vietnam (Prell, 1911; Endrodi, 1974) and Thailand (**new record**).

REMARKS. To date, *C. scaurus* has been known only from the type locality (Ho Chi Minh, Vietnam). We record this species in Thailand for the first time.



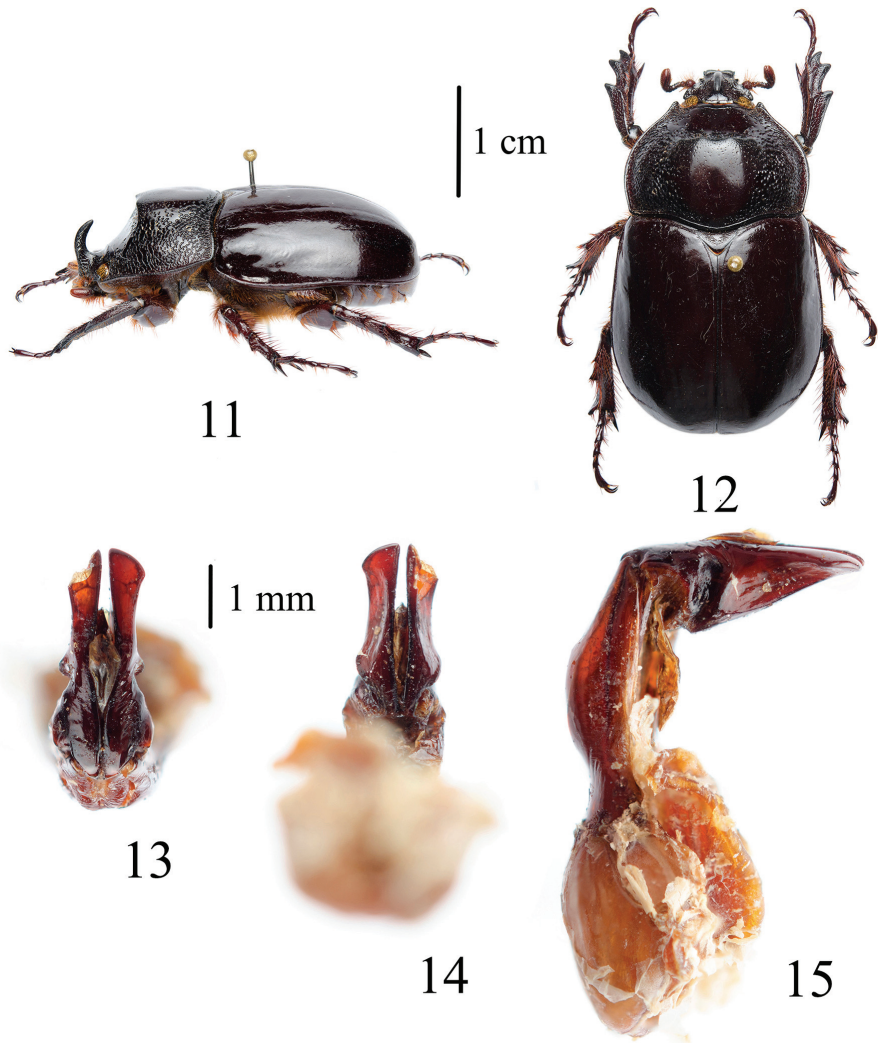
Figs 6–10. *Clyster itys*: 6 – male, lateral view; 7 – male, dorsal view; 8 – male genitalia, dorsal view; 9 – male genitalia, ventral view; 10 – male genitalia, lateral view.

***Dichodontus crassus* Silvestre 2001**

Figs 11–15

Dichodontus crassus Silvestre 2001: 225. Type locality: Malaisie, Cameron Highlands (MNHN; images of holotype and paratype available on Muséum National d'Histoire Naturelle Website (2019) were examined).

MATERIAL EXAMINED. **Thailand:** Surat Thani Province, Ban Na Sarn District, Plai Nam Subdistrict, 15-28.IX 1987, 1♂ (THNHM-I-10053, THNHM), 4♀ (THNHM-I-10054 to THNHM-I-10057, THNHM), J. Nabhitabhata leg.; Nakhon Si Thammarat Province, Khao Nan National Park, San Yen, 18.IV 2007, 7♀ (THNHM-I-10058 – THNHM-I-10064, THNHM), W. Jaitrong leg.



Figs. 11 – 15. *Dichodontus crassus*: 11– male, lateral view; 12 – male, dorsal view; 13– male genitalia, dorsal view; 14 – male genitalia, ventral view; 15 – male genitalia, lateral view.

DIAGNOSIS. *Adult male* (Figs 11–12). BL 33 mm, BW 19 mm. Body entirely black. Elytra smooth and shiny. This species is closely related to *Dichodontus grandis* Ritsema, 1882 (Sumatran species), but can be separated from the latter by the following characteristics of the male genitalia (Figs 13–15): 1) parameres symmetry, in dorsal view, paramere weakly concave laterally (strongly concave in *D. grandis*); 2) lateral margin with a small tooth at middle length (relatively large tooth in *D. grandis*); 3) in lateral view, paramere subtriangular and bluntly angulate apically. In dorsal view this species is relatively broader than in *D. grandis* (BL/BW 1.71–1.86 in *D. crassus* vs 1.84–2.00 in *D. grandis*).

DISTRIBUTION. Thailand (**new record**) and W Malaysia (Silvestre, 2001).

REMARKS. The male specimen deposited in THNHM is relatively small compared with the holotype (BL 47 mm), but the specimen agreed well with the images of a paratype (available on <https://science.mnhn.fr/institution/mnhn/collection/ec/item/ec4451>). Male genitalia of the Thai specimen also agreed well with the images and original description of this species (see Fig. 6 in Silvestre, 2001). Body index (BL/BW) is 1.74 (BL/BW 1.71–1.86 in the type series).

***Trichogomphus lunicollis* Burmeister, 1847**

Figs 16–20

Trichogomphus lunicollis Burmeister, 1847: 221. Type locality: BORDERINDIEN (OUMNH).

Trichogomphus lunicollis: Endrodi, 1974: 348; Mizunuma, 1999: 30.

Trichogomphus alcides Snellen van Vollenhoven, 1864: 151. Type locality: BORNEO. [Junior synonym of *Trichogomphus lunicollis*: Arrow, 1928: 74].

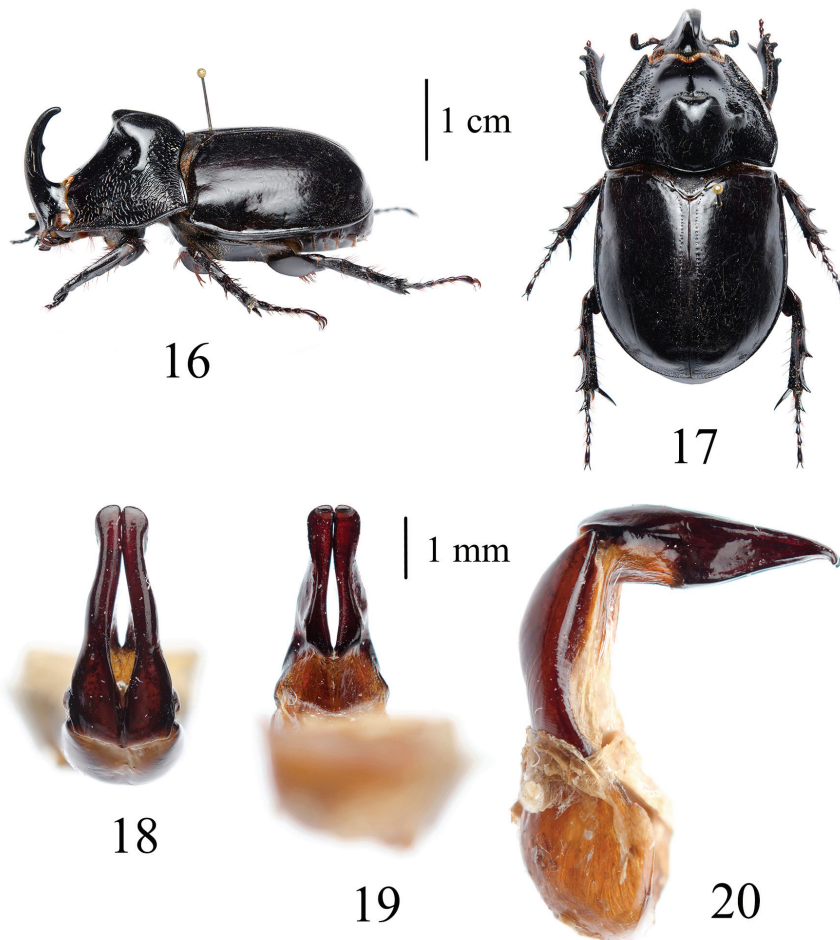
Trichogomphus giganteus Sternberg, 1907: 352. Type locality: BORNEO (Nord Borneo), Kina-Balu (MfN). [Junior synonym of *Trichogomphus lunicollis*: Endrodi, 1974: 348].

MATERIAL. **Thailand**: 1♂ (THNHM-I-02645, THNHM), Yala Province, Than To District, Hala-Bala Forest, 1.VI 2014, T. Jeenthong leg.

DIAGNOSIS. *Adult male* (Figs 16–17). BL 44 mm, BW 23 mm. *Trichogomphus lunicollis* has a black and shining body. Elytra smooth and shiny; pronotum with dense punctures along its margin. This species can be easily separated from the other members of the genus by the following characteristics: 1) pronotum subtriangular (round or subrectangular in the other species); 2) thoracic horn broad, thick and strongly bifurcate (but thoracic horn very small in the Thai specimen). 3) cephalic horn thick and curved up with a small tooth at middle (without tooth in the other species). *Male genitalia* (Figs 18–20). Symmetric; in dorsal view, paramere relatively long and narrow, with sinuate lateral margin and weakly concave inner margin; posterior margin of paramere roundly convex. In lateral view, paramere narrower apically; apex hook-like and down curved.

DISTRIBUTION. Thailand (**new record**), W Malaysia (Mizunuma, 1999), Sumatra (Endrodi, 1974; Mizunuma, 1999), Borneo (Endrodi, 1974; Mizunuma, 1999).

REMARKS. *Trichogomphus lunicollis* is a Malayan species, but was inaccurately mentioned as an Indian species by Arrow (1910). The present male specimen was collected from southern Thailand (located in Sundaland).



Figs 16 – 20. *Trichogomphus lunicollis*: 16– male, lateral view; 17 – male, dorsal view; 18 – male genitalia, dorsal view; 19 – male genitalia, ventral view; 20 – male genitalia, lateral view.

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Table 1. Checklist of subfamily Dynastinae (Scarabaeidae) of Thailand.

Species	Distribution in Thailand	Note
<i>Alissonotum cribratellum</i> (Fairmaire, 1893)	Thailand	Endrodi, 1969
<i>Allomyrina pfeifferi</i> (Redtenbacher, 1867)	Surat Thani	Hwang, 2011
<i>Blapephorus pinguis</i> Fairmaire, 1898	Chiang Rai, Chiang Mai, Nakhon Ratchasima, Chanthaburi, Kanchanaburi, Surat Thani, Narathiwat	Ek-Amnuay, 2002
<i>Chalcosoma atlas</i> (Linnaeus, 1758)	Chiang Mai, Nakhon Ratchasima, Chanthaburi, Kanchanaburi, Ranong, Satun, Yala, Pattani, Narathiwat	Ek-Amnuay, 2002
<i>Chalcosoma chiron</i> (Olivier, 1789)	Chanthaburi, Trat, Surat Thani, Nakhon Si Thammarat, Trang	Ek-Amnuay, 2002 (referred to as <i>C. caucasus</i> (synnonyim))
<i>Clyster itys</i> (Olivier, 1789)	Chonburi, Songkhla	RBINS, 2019
<i>Clyster retusus</i> Arrow, 1908	Ranong	Ek-Amnuay, 2002
<i>Clyster scaurus</i> Prell, 1911	Trat	New record
<i>Dichodontus coronatus</i> Burmeister, 1847	Ranong, Surat Thani, Narathiwat, Nakhon Si Thammarat	Arrow, 1910
<i>Dichodontus crassus</i> Silvestre, 2001	Surat Thani, Nakhon Si Thammarat	New record
<i>Eophileurus confinis</i> Prell, 1913	Chanthaburi, Bangkok	Arrow, 1914 (referred to as <i>E. siamensis</i> (synnonyim)); Jakl & Zidek, 2015
<i>Eophileurus malyi</i> Endrodi, 1978	Pattani	Endrodi, 1978; Jakl & Zidek, 2015
<i>Eophileurus spinosus</i> Lamant-Voirin, 1995	Chiang Mai	Lamant-Voirin, 1995; Jakl & Zidek, 2015
<i>Eophileurus thailandensis</i> Endrodi, 1978	Chiang Mai, Nakhon Ratchasima	Endrodi, 1978; Jakl & Zidek, 2015
<i>Eupatorus birmanicus</i> Arrow, 1908	Mae Hong Son, Tak, Kanchanaburi, Ranong	Ek-Amnuay, 2002
<i>Eupatorus gracillicornis</i> Arrow, 1908	Chiang Rai, Chiang Mai, Petchabun, Loei, Nakhon Ratchasima, Kanchanaburi, Ratchaburi	Ek-Amnuay, 2002
<i>Eupatorus siamensis</i> (Laporte-Castelnau, 1867)	Chaiyaphum, Phetchabun, Loei, Nakhon Ratchasima	Ek-Amnuay, 2002

Table 1. Continue.

Species	Distribution in Thailand	Note
<i>Microrhyctes monodon</i> (Fairmaire, 1893)	Nakhon Ratchasima	Arrow, 1910
<i>Heteronychus lioderes</i> Redtenbacher, 1867	Thailand	Endrodi, 1969; Mizunuma, 1999
<i>Oryctes gnu</i> Mohnike, 1874	Tak, Kanchanaburi, Pattani, Narathiwat	Ek-Amnuay, 2002
<i>Oryctes rhinoceros</i> (Linnaeus, 1758)	Thailand	Ek-Amnuay, 2002
<i>Pachyoryctes solidus</i> Arrow, 1908	Phrae, Lampang	Ek-Amnuay, 2002
<i>Peltonotus morio</i> Burmeister, 1847	Chiang Mai	Jameson & Drumont, 2013
<i>Peltonotus nasutus</i> Arrow, 1910	Thailand	Jameson & Drumont, 2013
<i>Peltonotus tigris</i> Jameson & Wada, 2009	Phetchabun	Jameson & Wada, 2009; Jameson & Drumont, 2013
<i>Trichogomphus galeatus</i> Dechambre, 1996	Kanchanaburi	Dechambre, 1996
<i>Trichogomphus lunicollis</i> Burmeister, 1847	Yala	New record
<i>Trichogomphus martabani</i> (Guerin-Meneville, 1834)	Chiang Mai, Phetchabun, Kanchanaburi, Ratchaburi, Nakhon Ratchasima, Chanthaburi	Ek-Amnuay, 2002
<i>Trichogomphus mongol</i> Arrow, 1908	Chiang Mai	Ek-Amnuay, 2002
<i>Trypoxylus dichotomus politus</i> Prell, 1934	Chiang Rai	Ek-Amnuay, 2002; Hwang, 2011
<i>Xylotrupes mniszehi beckeroides</i> Rowland, 2006	Thailand	Rowland, 2006
<i>Xylotrupes siamensis</i> Minck, 1920	Thailand	Rowland, 2011; Hwang, 2011

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