

Notes on carrion beetles (Coleoptera: Silphidae) from India

Údaje o mrchožroutovitých broucích (Coleoptera: Silphidae) z Indie

Jan RŮŽIČKA¹⁾, Hana ŠÍPKOVÁ¹⁾ & Jan SCHNEIDER²⁾

¹⁾Department of Ecology, Faculty of Environmental Sciences, Czech University of Life Sciences Prague, Kamýcká 129, CZ-165 21 Praha 6, Czech Republic;

e-mail: ruzickajan@fzp.czu.cz

²⁾Lípová 15, CZ-120 00 Praha 2, Czech Republic; e-mail: nicrophorus@hotmail.com

Distribution, Coleoptera, Silphidae, India, Palaearctic region, Oriental region

Abstract. Records of eight species of carrion beetles from India are presented. *Nicrophorus melissae* Sikes et Madge, 2006, *N. trumboi* Sikes et Madge, 2006 and *Thanatophilus porrectus* (Semenov, 1890) are reported from India for the first time. *Nicrophorus nepalensis* Hope, 1831 is reported from India: Arunachal Pradesh for the first time. Distribution of *N. nepalensis* and *Thanatophilus minutus* Kraatz, 1876 in India is summarized and mapped. Additional recent records of *Nicrophorus encaustus* Fairmaire, 1896 from Jammu and Kashmir and *Thanatophilus dentiger* (Semenov, 1890) from Uttarakhand are provided. A necrophagous association of *Necrophila* (*Deutosilpha*) *rufithorax* (Wiedemann, 1823) with carrion of *Semnopithecus entellus* (Dufresne, 1797) (Primates: Cercopithecidae) is reported.

INTRODUCTION

Only 18 species of carrion beetles (13 species of Silphinae and five species of Nicrophorinae) were known from India (Růžička & Schneider 2004, Nishikawa & Sikes 2008). Older literature (e.g. Portevin 1920, 1926, Hatch 1928) mostly provides imprecise data on species' distribution. Concrete records are scattered in more recent publications (Schawaller 1981, 1982, Růžička et al. 2000, Růžička & Schneider 2002, 2003, Nishikawa & Sikes 2008), and more complete reviews are available only for one subgenus (Růžička & Schneider 2011) and a single species group (Sikes et al. 2006).

The present paper provides additional records for eight species of carrion beetles, with two Nicrophorinae and one Silphinae species reported for the first time from India. The distribution of *Thanatophilus minutus* Kraatz, 1876, a species rarely represented in collections, is summarised.

MATERIAL AND METHODS

Specimens examined are deposited in the following museums and private collections (acronyms according to Arnett et al. 1993):

- BMNH – Natural History Museum, London, England (M. V. L. Barclay);
- DUBC – Institute of Systematic Biology, University of Daugavpils, Daugavpils, Latvia (A. Shavrin);
- JCOC – private collection of Jonathan Cooter, Hereford, England;
- JRUC – private collection of Jan Růžička, Praha, Czech Republic;
- JSCC – private collection of Jan Schneider, Praha, Czech Republic;

- MNHN – Muséum national d’Histoire naturelle, Paris, France (Azadeh Taghavian);
 NSMT – National Science Museum, Tokyo, Japan (S. Nomura);
 OUMNH – Oxford University Museum of Natural History, Oxford, England (D. J. Mann);
 WBAC – private collection of Wolfgang Barries, Wien, Austria;
 ZSM – Zoologische Staatssammlung München, Germany (M. Balke).

All material was identified or revised by J. Růžička or J. Schneider (marked as JR or JS in material sections further in the text). Distribution maps were produced and edited in ESRI ArcMap 9.3 of ArcGIS Desktop 9.3 suite. For map layers, free available level 0 and level 1 data from Global Administrative Areas (<http://www.gadm.org/world>) were used.

RESULTS

Nicrophorus encaustus Fairmaire, 1896

Nicrophorus encaustus Fairmaire, 1896: 82 (description, type locality “Simla”)

Material examined. India: *Jammu and Kashmir*: NE Srinagar, Sonamarg [ca. 24°17'N 075°17'E], 2600–2800 m, 1.–7.viii.2004, Puchner leg., JS det., 1 ♀ (JSCC); Srinagar – Great Himalaya Range, Daksun env. [not located], 2400–2500 m, 27.vii.–11.viii.2004, Puchner leg., JS det., 1 ♂ (JSCC).

Distribution. Rare species, known only from northern India (Jammu and Kashmir, Himachal Pradesh, Uttarakhand) and Nepal (Sikes 2002).

Nicrophorus melissae Sikes et Madge, 2006

Nicrophorus melissae Sikes et Madge in Sikes et al., 2006: 344 (description, distribution; type locality “Nepal: Ganesh Himal, 7 km W Godlang, 2950 m”)

Material examined. India: *Arunachal Pradesh*: Tawang Monastery env., 27°35'30"N 91°51'00"E, 2700–3000 m, 19.–27.v.2004, L. Dembický leg., JS det., 1 ♂ (JSCC).

Distribution. Recently described from Nepal and Bhutan (Sikes et al. 2006), first record from India.

Nicrophorus trumboi Sikes et Madge, 2006

Nicrophorus trumboi Sikes et Madge in Sikes et al., 2006: 358 (description, distribution; type locality “Nepal, Solo Khumbu Dist., Mtms east of Lukla, 2840–2900 m”)

Material examined. India: *Sikkim*: West Sikkim district, Kangchendzonga [= Kanchenjunga] area, Choka [= Bakhim, ca. 27°23'N 088°10'E], 3050 m, 25.ix.1983, S. Uéno leg., JR det., 1 ♂ (NSMT).

Distribution. Recently described from Nepal and Bhutan (Sikes et al. 2006), first record from India.

Nicrophorus nepalensis Hope, 1831

Nicrophorus nepalensis Hope, 1831: 21 (description; type locality “Nepaul”)

Material examined. India: *Arunachal Pradesh*: 0.3 km SSE of Dirang, 27°20'32"N 092°16'17"E, 1550 m, 27.iv.–1.v.2008, H. Podskalská & P. Šípek leg., baited pitfall traps (rotten fish), on open / sparse vegetation, dry slope, JR det., 8 ♂♂, 8 ♀♀ (JRUC); *Himachal Pradesh*: Manali, road to Leh, 32°16'25.7"N 077°11'23.6"E, 2015 m, 10.vii.2004, M. Uher leg., JR det., 1 ♂ (WBAC).

Distribution. Widely distributed from Pakistan, India, China, Myanmar, Laos, Thailand,

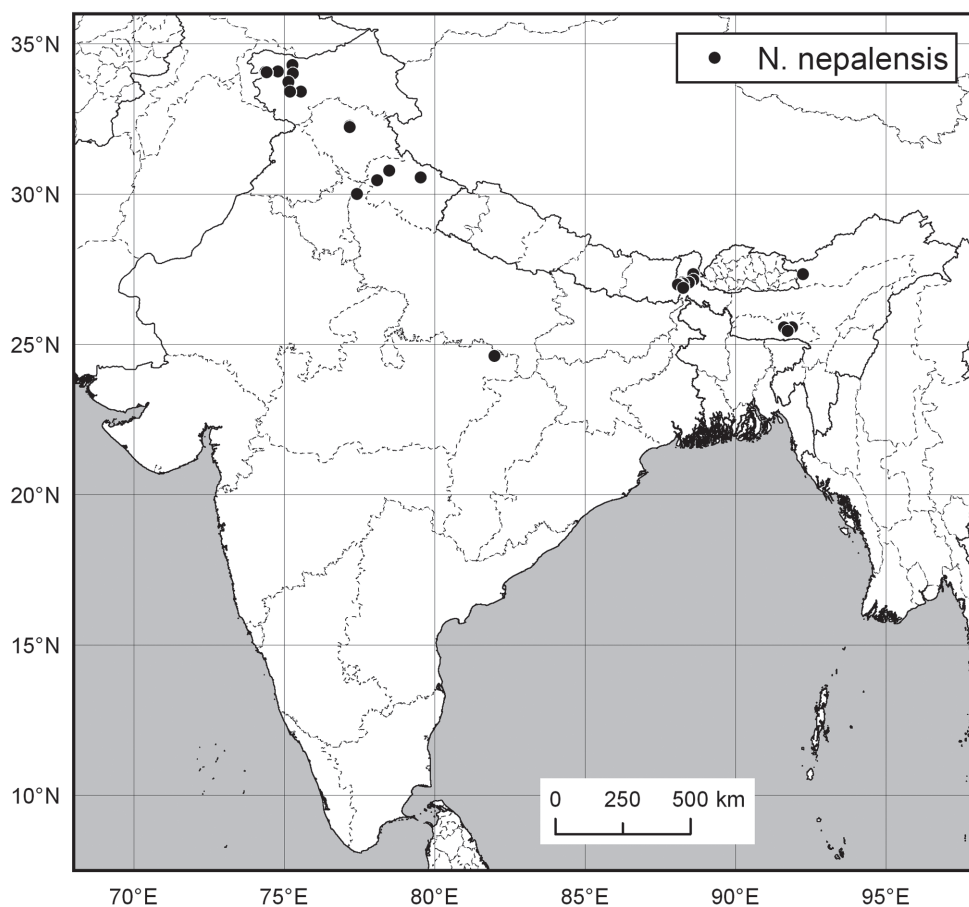


Fig. 1. Known distribution of *Nicrophorus nepalensis* Hope in India.

Obr. 1. Známé rozšíření druhu *Nicrophorus nepalensis* Hope v Indii.

Malaysia, Cambodia, Vietnam, Philippines to Japan (Ryuku Islands) (Sikes et al. 2006, Nishikawa & Sikes 2008). In India known from Jammu and Kashmir (Schawaller 1982, Růžička & Schneider 2002, Sikes et al. 2006), Himachal Pradesh (Nishikawa & Sikes 2008), Uttarakhand (Schawaller 1982, Sikes et al. 2006), Madhya Pradesh (Sikes et al. 2006), West Bengal (Schawaller 1982, Sikes et al. 2006, Nishikawa & Sikes 2008), Sikkim (Sikes et al. 2006) and Meghalaya (Růžička et al. 2000, Sikes et al. 2006). First record from Arunachal Pradesh; known distribution in India is summarized in Fig. 1.

Necrophila (Deutosilpha) rufithorax (Wiedemann, 1823)

Silpha rufithorax Wiedemann, 1823: 71 (description, type locality "Bengalia")

Material examined. India: *Uttarakhand:* left side of Kosi river, 5 km N Ramnagar [ca. 29°26'N 79°08'E], 7.–11.vi.2011, A. Anishchenko leg., under carrion of *Semnopithecus entellus*, JR det., 2 specimens (DUBS).

Bionomy. Most historical material examined did not give collecting circumstances (Růžička & Schneider 2011: 9). This record under the carrion of the langur *Semnopithecus entellus* (Dufresne, 1797) (Primates: Cercopithecidae) confirms a necrophagous association of *Necrophila* (*Deutosilpha*) *rufithorax* (Wiedemann, 1823) with large mammals.

Distribution. Known from India, Nepal and Sri Lanka (Růžička & Schneider 2011).

Thanatophilus dentiger (Semenov, 1890)

Silpha (*Thanatophilus*) *dentiger* Semenov, 1890: 303 (description, type locality “Thibet sept.-or., montes Amdo circa monast. Pabor-tassy nec non ad fluv. Taschitu”)

Material examined. India: *Uttarakhand*: 19 km N Mandaly [= Kandai (?)], Wan [= Van, ca. 30°12'N 079°37'E], 2700 m, 28.iv.–2.v.2006, E. Kučera leg., JS det., 2 ♂♂, 4 ♀♀ (JSCC).

Distribution. Known from Pakistan, China (Xizang autonomous district, Qinghai, Sichuan and Yunnan provinces), Nepal and India (Schawaller 1981, 1982, Růžička & Schneider 2002, Nishikawa & Sikes 2008), and, with uncertainty, also from Tajikistan (Nikolaev & Kozminykh 2002). From India reported from Himachal Pradesh (Schawaller 1981, Růžička & Schneider 2002) and Uttarakhand (as Uttar Pradesh, Růžička & Schneider 2002), the latter is based only on two old, imprecise records from Gori River Gorge [= Johar Valley, ca. 30°36'N 080°09'E].

Thanatophilus minutus Kraatz, 1876

Thanatophilus minutus Kraatz, 1876: 374 (description, type locality “Thibet”)

Material examined. India: *Himachal Pradesh*: Simla [= Shimla, ca. 31°05'N 077°10'E], iv.–vi.1896, without collector's name, ex coll. R. Oberthur, JR det., 1 ♀ (MNHN); same data, vii.1896, JR det., 1 ♂ (MNHN); *Uttarakhand*: Landour [ca. 30°28'N 078°06'E], without date, Benson leg., in carcasses, JR det., 1 ♂ (OUMNH); Dehradun [ca. 30°19'N 078°02'E], x.1944, without collector's name, JR det., 1 ♂ (ZSM); same data, xi.1944, JR det., 2 ♂♂, 1 ♀ (ZSM); same data, i.1945, JR det., 3 ♂♂, 2 ♀♀ (ZSM); same data, JR det., 1 ♂, 1 ♀ (JRUC); 19 km N Mandaly [= Kandai (?)], Wan [= Van, ca. 30°12'N 079°37'E], 2700 m, 28.iv.–2.v.2006, E. Kučera leg., JR det., 1 ♂ (BMNH); same data, JS det., 2 ♂♂ (JSCC); *Madhya Pradesh*: Vindhya Hills [centroid ca. 24°37'N 082°00'E], 1921, without collector's name, ex coll. R. Oberthur, JR det., 2 ♀♀ (MNHN); (*imprecise records*): W Almora Dn., Kumaon [division], v.1912, H. G. Champion leg., JR det., 1 ♀ (BMNH); “India”, without date, Heabsey [leg.], JR det., 1 ♂, 2 ♀♀ (OUMNH); “Sahne” [not interpreted], without date, JR det., 2 ♂♂, 1 ♀ (OUMNH); same data, JR det., 1 ♂ (JRUC); without date, Captn. Boys [leg.], JR det., 1 ♀ (OUMNH); “India Orient.”, without date [but before 1905], without collector's name, ex coll. Fry, JR det., 2 ♂♂ (BMNH).

Distribution. Rare species, known from Afghanistan (single record from Kabul pass, Nikolaev & Kozminykh 2002), China: “Tibet” (only imprecise record – Kraatz 1876, Hatch 1928) and India. From India reported from Himachal Pradesh: Kulu [= Kullu, ca. 31°57'N 077°07'E] (Portevin 1926), Simla (Růžička & Schneider 2002) (cited as “Punjab” by Hatch 1928), Spiti [ca. 32°14'N 078°02'E] (Růžička & Schneider 2002); Uttarakhand: Badarinath env. [ca. 30°41'N 079°30'E] (Růžička & Schneider 2002); Madhya Pradesh: Vindhya Hills (Růžička & Schneider 2003); Sikkim [centroid ca. 27°31'N 088°31'E] (Portevin 1920); and “Assam” [centroid of nowadays Assam ca. 26°12'N 092°56'E] (Portevin 1920, Hatch 1928, Růžička & Schneider 2003). Additional records from India; known distribution in India is summarized in Fig. 2.

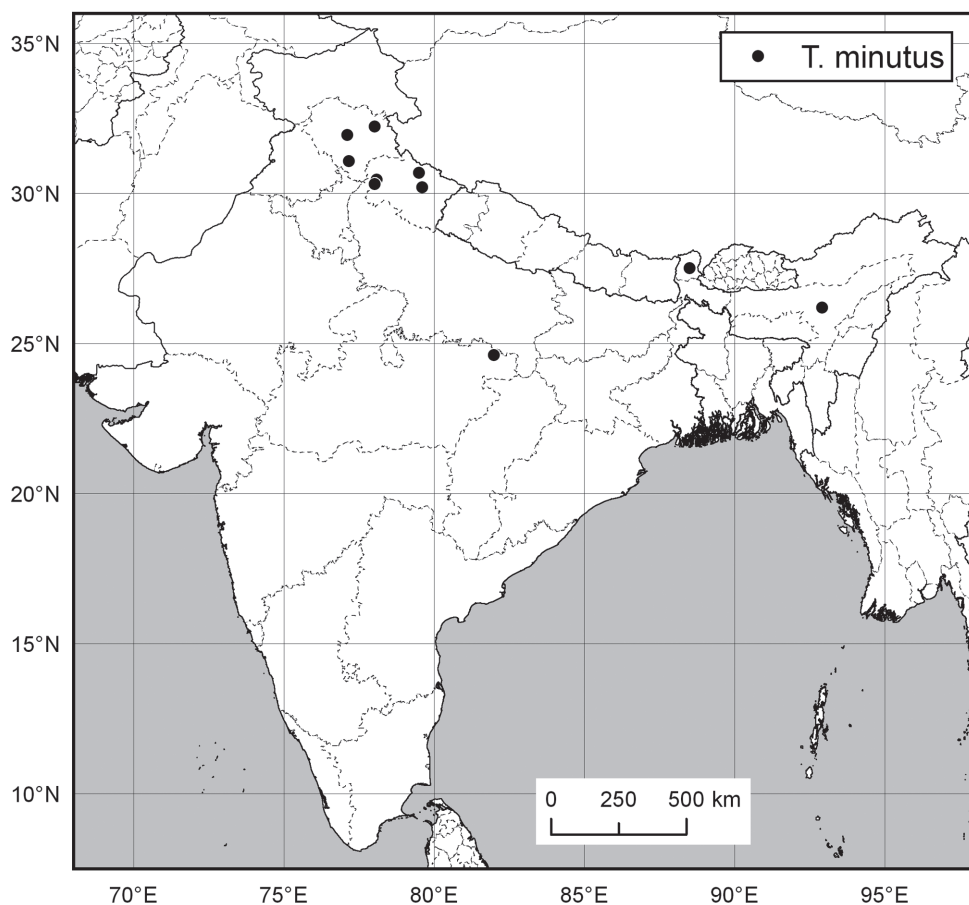


Fig. 2. Known distribution of *Thanatophilus minutus* Kraatz in India. Imprecise records from Sikkim and Assam are state centroids only.

Obr. 2. Známé rozšíření druhu *Thanatophilus minutus* Kraatz v Indii. Obecné údaje ze Sikkimu a Ásámu reprezentují jen centroidy obou států.

Thanatophilus porrectus (Semenov, 1890)

Silpha (*Thanatophilus*) *porrecta* Semenov, 1890: 301 (description, type locality “Turkestan chinens., ad fluv. Pachpu nec non apud urbem Polu”); same data, JS det., 3 ♂♂, 4 ♀♀ (JSCC).

Material examined. India: *Jammu and Kashmir*: W Sumda Chenmo, Drogulika mountain pasture [ca. 34°08'N 077°06'E], 4100 m, 11.ix.2009, K. Krause leg., JR det., 1 ♂, 1 ♀ (JCOC); same data, JR det., 1 ♀ (JRUC); same data, JS det., 3 ♂♂, 4 ♀♀ (JSCC).

Distribution. Widely distributed but scarce species, known from Armenia, Uzbekistan, Afghanistan, Pakistan, Tajikistan, Kyrgyzstan, China (Xizang autonomous region and Qinghai province) and Russia (Far East) (Schawaller 1981, Růžička & Schneider 1996, 2002, 2004, Nikolaev & Kozminykh 2002, Nishikawa 2011). First record from India.

ACKNOWLEDGEMENTS. We are obliged to all colleagues listed in Material and Methods for the possibility to study collections under their care or for loan of material for our study. Vít Dvořák (Czech University of Life Sciences Prague, Praha, Czech Republic) assisted with preparation of the distribution maps using ArcGIS software. The present study was partly supported by a grant of the Grant Agency of the Czech Republic (206/07/1053) to Jan Růžička.

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SOUHRN

Práce uvádí údaje o rozšíření osmi druhů mrchožroutovitých brouků (Coleoptera: Silphidae) z Indie. Hrobařici *Nicrophorus melissae* Sikes et Madge, 2006 a *N. trumboi* Sikes et Madge, 2006, známí zatím pouze z Nepálu a Bhútánu (Sikes et al. 2006), jsou uvedeni poprvé i z Indie, z území Arunáčalpradéše, resp. Sikkimu. Mrchožrout *Thanatophilus porrectus* (Semenov, 1891), rozšířený od Arménie po Dálný východ Ruska (Schawaller 1981, Růžička & Schneider 1996, 2002, 2004, Nikolaev & Kozminykh 2002), je uveden poprvé i z Indie, z území Džammú a Kašmíru. Druh *Nicrophorus nepalensis* Hope, 1831 je poprvé hlášen z Arunáčalpradéše. Shrnuto je rozšíření dvou druhů v Indii, hrobařika *N. nepalensis* a ve sbírkách vzácně zastoupeného mrchožrouta *Thanatophilus minutus* Kraatz, 1876; známé nálezy obou druhů v Indii jsou znázorněny na schematických mapách (obr. 1, 2). Uvedeny jsou i další recentní údaje o hrobařikovi druhu *Nicrophorus encaustus* Fairmaire, 1896 z území Džammú a Kašmíru a o mrchožroutu *Thanatophilus dentiger* (Semenov, 1890) z Uttarákhandu (dříve nazývaného Uttarāñčal či Uttarpradéš).

Komentován je také nález mrchožrouta *Necrophila (Deutosilpha) rufithorax* (Wiedemann, 1823) pod mršinou hulmana posvátného (*Semnopithecus entellus* (Dufresne, 1797)) z Uttarákhandu, který potvrzuje nekrofágní způsob života tohoto druhu brouka na velkých mršinách savců.