

Correspondence

<http://urn:lsid:zoobank.org:pub:E3430553-C504-46F4-8710-E67EAD069D80>

A.V. Matalin^{*1, 2)}, J. Wiesner³⁾. ON THE DISTRIBUTION AND TAXONOMY OF THE TIGER BEETLE GENUS *THERATES* LATREILLE, 1816 (COLEOPTERA, CARABIDAE: CICINDELINAE) FROM VIETNAM. – *Far Eastern Entomologist*. 2016. N 327: 8-13.

1) Moscow State Pedagogical University, Scientific and Education Centre of Ecology & Biodiversity, Kibalchicha str. 6, build. 3, Moscow 129164, Russia. *Corresponding author, E-mail: andrei-matalin@yandex.ru

2) Pirogov National Research Medical University, Department of Biology, Ostrovitianova str. 1, Moscow 117997, Russia.

3) Dresdener Ring 11, D-38444 Wolfsburg, Germany. E-mail: juergen.wiesner@wolfsburg.de

Summary. The distribution of 13 tiger beetles species of the genus *Therates* Latreille, 1816 from Vietnam is clarified. *T. cribratus* Fleutiaux, 1893 is new to the fauna of Vietnam. *T. kubani* Wiesner, 1988, **stat. n.** is considered as a separate species different from *T. tonkinensis* W. Horn, 1902.

Key words: Carabidae, Cicindelinae, tiger beetle, new status, new records, distribution, Vietnam.

А. В. Маталин, Ю. Визнер. О распространении и таксономии жуков-скакунов рода *Therates* Latreille, 1816 (Coleoptera, Carabidae: Cicindelinae) Вьетнама // Дальневосточный энтомолог. 2016. N 327. С. 8-13.

Резюме. Уточняется распространение 13 видов жуков-скакунов рода *Therates* Latreille, 1816 во Вьетнаме. *T. cribratus* Fleutiaux, 1893 впервые приводится для фауны Вьетнама. *T. kubani* Wiesner, 1988, **stat. n.** рассматривается как самостоятельный вид, отличный от *T. tonkinensis* W. Horn, 1902.

The genus *Therates* Latreille, 1816 is widespread in southeastern Asia (Wiesner, 1992), and contains *ca* 120 species. Vietnam is characterized by one of the most diverse faunas of *Therates*, because 22 species are presently known there, and 14 of them being endemic to this country (Wiesner, 1988, 1992, 2013, 2016; Matalin & Wiesner, 2006; Matalin *et al.*, 2012). New data on distribution and taxonomy of some Vietnamese species of *Therates* are given below. The studied specimens are kept in the following museums or private collections: ZISP – Zoological Institute of the Russian Academy of Science, St. Petersburg, Russia, MPU – Moscow State Pedagogical University, Moscow, Russia, SIEE – A.N. Severtsov Institute of Ecology & Evolution, Russian Academy of Sciences, Moscow, Russia, cAN – collection of Alexander Napolov, Riga, RigaZoo, Latvia.

Genus *Therates* Latreille, 1816

The '*cribratus*' species-group

Therates cribratus Fleutiaux, 1893

MATERIAL EXAMINED. Vietnam: Gia Lai Prov., ~ 40 km NEE of Pleiku, 14°12'11"N, 108°18'54"E, Kon Ka Kinh National Park, h=890 m, at light, 9-22.V 2016, 1♀, leg. D. Fedorenko (MPU).

NOTES. This rare species was described from Lakhon, Siam (Fleutiaux, 1893). Later this locality was considered as lying in Laos (Wiesner, 1988). In 2000, one male of *T. cribratus* was found on Mount Shwe Taung, Kumon Mt. Range, Kachin State of Myanmar (Sawada & Wiesner, 2000). Then Sawada and Wiesner (2002) pointed out that “no actual localities are known” from Laos, but recently the locality “*Lakhon*” was once again associated with the province Khammouane of Laos (Wiesner & Geiser, 2016). However, the Soi Lakhon sub-district of the Lat Yao district of the province Nakhon Sawan of Thailand seems the most probable type locality for this species. Here we firstly recorded *T. cribratus* from Vietnam.

The ‘*chennelli*’ species-group

***Therates tonkinensis* W. Horn, 1902**

Figs 1, 3

MATERIAL EXAMINED. **Vietnam:** Thai Nguyen Prov., 50 km NE of Thai Nguyen, h=300 m, 15.V 1963, 1♂, leg. O. Kabakov (ZISP, MPU); Tuyen Quang Prov., 160 km NNW of Ha Noi, NE of Na Hang, h=150-200 m, 26.V-14.VI 1996, 3♂, 2♀, leg. A. Napolov, I. Roma (MPU, cAN); Hoa Binh Prov., Yen Thuy distr., Lac Thinh, Cuc Phoung Natn. Park, 20°23’N, 105°34’E, 1-2.V 2002, 1♀, leg. S. Belokobylskij (ZISP), Hoa Binh Prov., Yen Thuy distr., Da Phuc, 20°18’N, 105°35’E, h=1000 m, 3-4.V 2002, 3♀, leg. S. Belokobylskij (ZISP, MPU).

NOTES. This species was described from the “*Mauson-Gebirge*” (Horn, 1902), currently Mount Mau Son in the province Lang Son of Vietnam. Later it was found in the Vietnamese national parks Hoang Lien Son, Lao Cai Province and Ba Be, Bac Kan (not Cao Bang) Province (Wiesner, 2013). Here *T. tonkinensis* is firstly recorded from the Hoa Binh and Thai Nguyen provinces of Vietnam.

***Therates kubani* Wiesner, 1988, stat. n.**

Figs 2, 4

MATERIAL EXAMINED. **Vietnam:** Thai Nguyen Prov., 50 km NE of Thai Nguyen, h=300 m, 15.V 1963, 1♂, 2♀, leg. O. Kabakov (ZISP, MPU).

NOTES. *T. kubani* was described as a subspecies of *T. tonkinensis* from Tam Dao (Wiesner, 1988), later was recorded only from the Vietnamese province Vinh Phuc (Wiesner, 1992; Matalin, 2001). The colour of the labrum, the puncturation of the elytra, the shape of the central elytral spot, as well as the shape of the aedeagus were the main features to distinguish these subspecies (Wiesner, 1988). However, in the latest revision of the *chennelli*-group, based on a study of additional material, the synonymy of *T. tonkinensis tonkinensis* with *T. tonkinensis kubani* was proposed because of the high variability found in such external features as the colour of the labrum and the maculation of the elytra, but not the shape of the aedeagus (Wiesner, 2013). Meanwhile, the shape and size of the aedeagus in these taxa are clearly different (Figs 3, 4). Moreover, the shape of the labrum and the proportions of its apical portion (Figs 1, 2) are different as well. All this, as well as the sympatric occurrence (50 km NE of Thai Nguyen) are sound arguments for considering these taxa as separate species. In addition, *T. kubani* is recorded from the Thai Nguyen Province for the first time.

***Therates probsti* Wiesner, 1988**

MATERIAL EXAMINED. **Vietnam:** Hoa Binh Prov., Mai Chau distr., Pa Co Xa Linh, 20°44’N, 104°53’E – 20°45’N, 104°54’E, h=1100–1200 m, 19-23.IV 2002, 6♂, 7♀, leg. S.

Belokobylskij (ZISP, MPU); Hoa Binh Prov., Mai Chau distr., Hang Kia, 20°44'N, 104°53'E, h=1300 m, 25-26.IV 2002, 3♀, leg. S. Belokobylskij (ZISP); Phu Tho Prov., ~90 km N of Hanoi, Xuan Son National Park, 27°07'52''N, 104°57'07'' E, h=400–470 m, 6-15.VI 2014, 2♂, leg. D. Fedorenko (MPU, SIEE).



Figs 1–4. Males of *Therates tonkinensis* (1, 3) and *T. kubani* (2, 4). 1, 2 – labrum, dorsal view; 3, 4 – aedeagus, left lateral view.

NOTES. Until now this species was known from the provinces Phongsali, Louangnamtha, Oudomxai, Houaphan and Attapeu of Laos, as well as from the provinces Son La, Bac Kan, Lao Cai and Vinh Phuc of Vietnam (Wiesner, 1988, 2013; Wiesner & Geiser, 2016). The above records are the new to the provinces Hoa Binh and Phu Tho.

***Therates baolocensis* Wiesner, 1996**

MATERIAL EXAMINED. **Vietnam:** Dak Lak Prov., Chu Yang Sin National Park, 12°23'48''N, 108°20'59''E, upper flow of Krong Kmar River, h~1000 m, 30.III-14.IV 2012, 2♂, 2♀, leg. D. Fedorenko (MPU, SIEE); Binh Phuoc Prov., Bu Gia Map National Park, env. Bu Gia Map, 12°11'37''N, 107°12'21''E, h=350–540 m, 18-19.IV 2009, 1♀, leg. D. Fedorenko (SIEE); the same locality but 12°11'38''N, 107°12'22''E, h=350–540 m, 26.IV-4.V 2013, 2♀, leg. D. Fedorenko (MPU, SIEE).

NOTES. This species was described as a subspecies of *T. probsti*, based on a single female (Wiesner, 1996). After a study of additional material, including a male, *T. baolocensis* was elevated to species rank (Wiesner, 2013). Until now this species has been known only from Vietnamese province Lam Dong (Wiesner, 1996; 2013); here it is recorded from Dak Lak and Binh Phuoc provinces of Vietnam.

***Therates haucki* Moravec, Wiesner, 2001**

MATERIAL EXAMINED. **Vietnam:** 45 km N of Hanoi, Ba Vi National Park, 21°04'N 105°21'38''E, h=1050–1100 m, leaf litter, 18.VI 2014, 1♂, leg. D. Fedorenko (SIEE).

NOTES. This species was described from the province Nan of Thailand (Moravec & Wiesner, 2001). It was found in the province Houaphan of Laos (Wiesner, 2013). *T. belokobylskii* Matalin et Wiesner, 2006 was described from the Vietnamese province Hoa Binh (Matalin & Wiesner, 2006) but latter it was considered as synonym of *T. haucki* (Wiesner, 2013). The record of *T. haucki* from the Ba Vi National Park is a new for the Ha Noi City Municipality.

***Therates topali* Mandl, 1972**

MATERIAL EXAMINED. **Vietnam:** Phu Tho Prov., ~90 km N of Hanoi, Xuan Son National Park, 27°07'01''N, 104°56'39''E, h=400–700 m, 6-15.VI 2014, 5♂, 5♀, leg. D. Fedorenko (MPU, SIEE); Tuyen Quang Prov., 160 km NNW from Ha Noi, env. of Na Hang, h=150–200m, 26.V-14.VI 1996, 1♂, leg. A. Napolov, I. Roma (cAN).

NOTES. Until now this species was known from the provinces Son La, Cao Bang, Hoa Binh, Vinh Phuc, Nin Binh and Quang Binh of Vietnam (Wiesner, 1988, 2013). Here *T. topali* is recorded for the first time from Phu Tho and Tuyen Quang provinces.

***Therates vietnamensis* Wiesner, 1988**

MATERIAL EXAMINED. **Vietnam:** Tuyen Quang Prov., NW of Son Duong, Tam Dao Mountain Ridge, h=200 m, 16.V 1962, 1♂, leg. O. Kabakov (ZISP); Hoa Binh Prov., Mai Chau distr., Pa Co, 20°45'N, 104°54'E, h=1200 m, 20.IV 2002, 1♂, leg. S. Belokobylskij (ZISP); Hoa Binh Prov., Yen Thuy distr., Da Phuc, 20°18'N, 105°35'E, h=100 m, 3-4.V 2002, 2♂, 3♀, leg. S. Belokobylskij (MPU); Phu Tho Prov., ~90 km N of Hanoi, Xuan Son National Park, 27°07'01''N, 104°56'39''E, h=400–700 m, 6-15.VI 2014, 3♂, 4♀, leg. D. Fedorenko (MPU, SIEE).

NOTES. This species was described as a subspecies of *T. topali* from Vietnam (Wiesner, 1988). However, after an additional study (Sawada & Wiesner, 1997) it was considered as a separate species. Until now this species was known from Vietnamese provinces Cao Bang, Ninh Binh, Tuyen Quang, Quang Binh and Vinh Phuc (Wiesner 1988, 2013; Matalin 2001). Here *T. vietnamensis* is recorded from the Hoa Binh and Phu Tho provinces for the first time.

***Therates clavicornis* W. Horn, 1902**

MATERIAL EXAMINED. Vietnam: Tuyen Quang Prov., 160 km NNW of Ha Noi, NE of Na Hang, h=150–200 m, 26.V-14.VI 1996, 1♂, 2♀, leg. A. Napolov, I. Roma (MPU, cAN).

NOTES. This species was described from the 'Mauson-Gebirge' (Horn, 1902), until now known only from the province Lang Son of Vietnam (Wiesner, 1988, 2013). Here this species is recorded for the first time from the Tuyen Quang Province.

***Therates paulae* Wiesner, 2016**

MATERIAL EXAMINED. Vietnam: Dak Lak Prov., Chu Yang Sin Natn. Park, 12°23'48''N, 108°20'59''E, upper flow of Krong Kmar River, h=1000 m, 30.III-14.IV 2012, 2♂, 1♀, leg. D. Fedorenko (MPU, SIEE); Kon Tum Prov., Kon Plong distr., near Mount Ngok Boc I, 14°44'N, 108°18'E, h=1100–1200 m, 8-23.IV 2014, 1♂, 1♀, leg. D. Fedorenko (MPU, SIEE); Kon Tum Prov., Chu Mom Ray Natn. Park, 14°36'N, 107°42'30''E, h=1100–1350 m, 28.III-4.IV 2015, 1♀, leg. D. Fedorenko (MPU).

NOTES. This species was described from the Bach Ma National Park in Thua Thien Hue Province of Vietnam (Wiesner, 2016). The new records from the provinces Kon Tum and Dak Lak considerably extend the distribution of *T. paulae* to the south.

***Therates rugifer* W. Horn, 1902**

MATERIAL EXAMINED. Vietnam: Tuyen Quang Prov., 160 km NNW of Ha Noi, env. of Na Hang, h=150–200 m, 26.V-14.VI 1996, 6♂, 8♀, leg. A. Napolov, I. Roma (MPU, cAN).

NOTES. Until now this species was known from the provinces Lang Son, Ninh Binh and Vinh Phuc of Vietnam (Horn, 1902, 1924; Wiesner, 1988, 2013). Here *T. rugifer* is recorded for the first time from the Tuyen Quang Province.

***Therates schuelei* Wiesner, 2013**

MATERIAL EXAMINED. Vietnam: Nghe An Prov., mountains SE of Kua Rao (= Tuong Duong), h=500 m, 28.IV 1962, 1♂, leg. O. Kabakov (ZISP).

NOTES. This species was described from the province Thua Thien-Hue in central Vietnam (Wiesner, 2013). A new locality in the Nghe An Province considerably extend the distribution of *T. schuelei* to the north.

The '*tuberosus*' species-group

***Therates angustatus pseudotuberosus* Wiesner, 1988**

MATERIAL EXAMINED. Vietnam: Vinh Phuc Prov., Tam Dao, h=900m, 1.VII 1962, 1♂, leg. O. Kabakov (ZISP); Lam Dong Prov., 25 km NNW of Bap Loc, near Loc Bao, 11°44'18''N, 107°42'08''E, h=800 m, at light, 5-20.IV 2013, 1♀, leg. D. Fedorenko (MPU).

NOTES. This subspecies was described from Tam Dao and until now known only from the province Vinh Phuc in the Red River delta region of Vietnam (Wiesner, 1988). The new record of *T. a. pseudotuberosus* from the Lam Dong Province, Central Highlands region considerably extends the distribution of this subspecies to the south.

AKNOWLEDGEMENTS

We are very grateful to Dr. Boris Kataev (St-Petersburg, Russia), Dr. Dmitry Fedorenko (Moscow, Russia), and Mr. Alexander Napolov (Riga, RigaZoo, Latvia), who kindly loaned the material for study. We also extend our thanks to Dr. Sergei Golovatch (Moscow, Russia) who revised the English of an advanced draft. The investigation of first author was supported by the Ministry of Education and Science of the Russian Federation (Project No 6.632.2014/K).

REFERENCES

- Fleutiaux, E. 1893. Remarques sur quelques Cicindelidae et descriptions d'espèces nouvelles. *Annales de la Société Entomologique de France*, 62: 483–502.
- Horn, W. 1902. Neue Cicindeliden gesammelt von Fruhstorfer in Tonkin 1900. *Deutsche Entomologische Zeitschrift*, 1902: 65–75.
- Horn, W. 1924. Faune entomologique de l'Indochine française. *Opuscles d'Institute Scientifique du Indochine*, 3: 325.
- Matalin, A.V. 2001. Tiger-beetles of the genus *Therates* Latreille, 1817 in the collection of Zoological Institute, St. Petersburg (Coleoptera: Carabidae: Cicindelinae). *Zoosystematica Rossica*, [2000], 9(2): 387–389.
- Matalin, A.V. & Wiesner, J. 2006. Two new species of *Therates* Latreille, 1817 from Vietnam (Coleoptera, Cicindelidae). *Entomologische Zeitschrift, Stuttgart*, 116: 37–39.
- Matalin, A.V., Wiesner, J. & Udovichenko, P.A. 2012. A new species of genus *Therates* Latreille, 1817 (Coleoptera: Cicindelidae) from southern Vietnam. *Entomologische Zeitschrift, Stuttgart*, 122(5): 201–203.
- Moravec, J. & Wiesner, J. 2001. Description of new species of the genera *Pronyssa* Bates, 1874, and *Therates* Latreille, 1817, with notes on others (Coleoptera: Cicindelidae). *Entomologische Zeitschrift, Stuttgart*, 111: 226–228.
- Sawada, H. & Wiesner, J. 1997. Beitrag zur Kenntnis der Cicindelidae von Meghalaya (Nordost-Indien) und Bemerkungen zu *Therates* (Coleoptera). *Entomologische Zeitschrift, Stuttgart*, 107: 73–86.
- Sawada, H. & Wiesner, J. 2000. Tiger beetles of Myanmar (Burma) collected by Mr. Shinjii Nagai and his fellow workers (Coleoptera: Cicindelidae). *Entomological Revue of Japan*, 55: 95–110.
- Sawada, H. & Wiesner, J. 2002. Further new records of tiger beetles collected in Laos (Coleoptera: Cicindelidae). *Entomological Revue of Japan*, 57(1): 65–99.
- Wiesner, J. 1988. Die Gattung *Therates* Latr. und ihre Arten. *Mitteilungen der Münchner Entomologischen Gesellschaft*, 78: 5–107.
- Wiesner, J. 1992. *Verzeichnis der Sandlaufkäfer der Welt (Checklist of the Tiger Beetles of the World)*. Keltern, Verlag Erna Bauer. 364 pp.
- Wiesner, J. 1996. Neues über *Therates* aus Indien und Vietnam (Coleoptera. Cicindelidae). *Entomologische Zeitschrift, Stuttgart*, 106: 504–508.
- Wiesner, J. 2013. The *chennelli* group of the genus *Therates* Latreille (Coleoptera: Cicindelidae). *Insecta Mundi*, 0315: 1–86.
- Wiesner, J. & Geiser, M. 2016. Faunistic survey of the tiger beetles (Coleoptera, Carabidae, Cicindelinae) of Laos. *Entomologica Basiliensia et Collectionis Frey*, 35: 61–117.