

# A Checklist and Local Names Designation for Thai Scorpions (Scorpiones)

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## Abstract

The checklist of the Thai scorpions is provided with their local names in Thai. The list comprises 42 species of scorpions belonging to five families: Buthidae Koch, 1837; Chaerilidae Pocock, 1893; Hormuridae Laurie, 1896; Scorpionidae Latreille, 1802; and Scorpiopidae Kraepelin, 1905. The genus *Scorpiops* Peters, 1861 is represented by the highest number of species, with 22 species, while the three with the lowest number of species are *Javanimetrus* Couzijn, 1978; *Isometrus* Ehrenberg, 1828; and *Thaicharmus* Kovařík, 1995, each consisting of only one species at present. The subdivision map of Thailand and photographs of scorpions representing their own genera are also provided.

## Keywords

Arachnology, Buthidae, Chaerilidae, Hormuridae, Scorpionidae, Scorpiopidae

## Introduction

Scorpions are arthropods belonging to the class Arachnida, order Scorpiones. Their prevalent characteristics are elongated chelae and a metasoma with the telson serving as the sting at the apex. The most recent report documents over 2,200 described species in worldwide (Di *et al.*, 2024), with several species discovered in Thailand. Kovařík's work provided a checklist of Thai scorpions, describing 13 species along with two vague species belonging to four families (Kovařík, 1995). There has been no other updated checklist in Thailand since

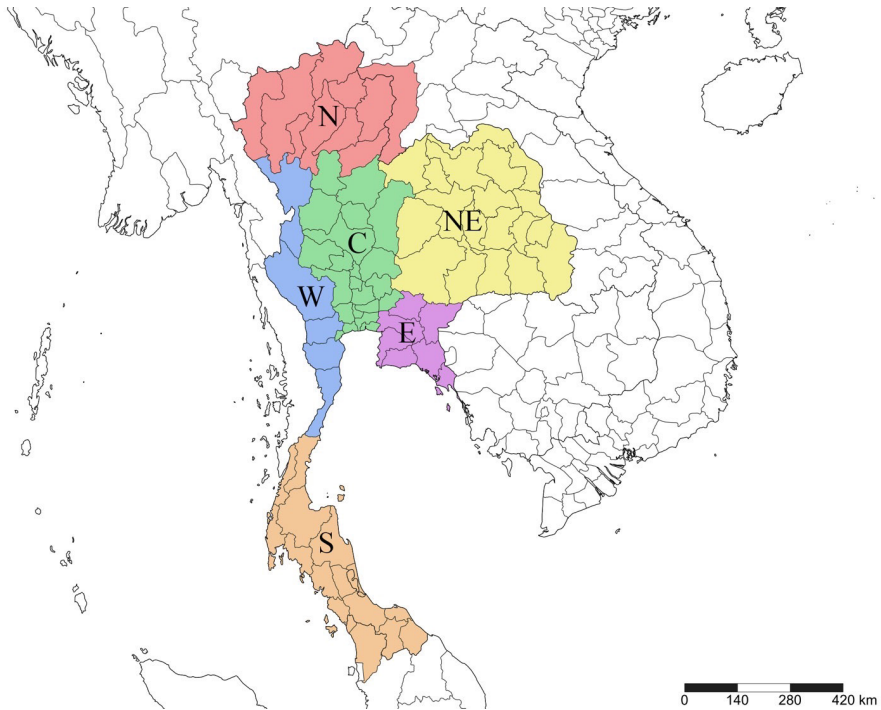
then. According to our investigation, we aimed to update the latest checklist of Thai scorpions by reviewing literature that studied or mentioned scorpions in Thailand. As a result, 42 species belonging to five families are listed in the latest version of the checklist based on literature with 30 additional species from Kovařík's version (1995).

The envenomation caused by scorpions has become a serious medical problem in tropical countries (Theakston *et al.*, 2003). Their venom mainly affects sodium-potassium ion channels (Possani *et al.*, 2000). The study case of scorpion stings in Thailand appeared very scarcely known, although there possibly were over a hundred thousand victims per year (Uawonggul *et al.*, 2006). Upon further investigation for this study, we discovered that the common names which were remarkably well-known even on the official Thai website were only listed two names as “แมงป่องบ้าน (Maeng Pong Ban)” and “แมงป่องช้าง (Maeng Pong Chang)”.

We assume that the former problem is caused by the scientific names of scorpions were unknown and far exceed the number of current local names, so people are unable to accurately inform the doctor correctly about exact species they were stung by. Thus, we are considering giving the local names of the unrecognized scorpions with the assistance of groups of people who are interested in this living entity. With these names, we wish to increase awareness about the arachnological biodiversity in Thailand.

## Materials and Methods

This study mainly focuses on creating a checklist of The scorpions documented in Thailand based on existing literature. The taxonomic classification in this study is based on Prendini's work (Prendini, 2011). The localities mentioned in all publications were organized into six subdivisions of the country (Figure 1) following Martin and Ritchie (2020). The map was generated using simplemappr (Shorthouse, 2010), as depicted by the following acronyms: **N** – Northern Thailand; **NE** – Northerneast Thailand; **W** – Western Thailand; **E** – Eastern Thailand; **C** – Central Thailand; **S** – Southern Thailand; and **TS** – Tropicopolitan species, appeared to conceivably occur in all subdivisions of Thailand. The meaning of “erroneous” is mislabeled for the type locality of type specimen.



**Figure 1.** Six subdivisions of Thailand.

To create new local names, we considered popularizing names among various communities, including scorpion keepers, arachnologists, taxonomists, general biologists, medical personnel, or even normal citizens interested in the study. Additionally, the challenge of species-level identification makes it difficult for victims or ordinary people to provide precise ethnopharmacological reports. For this reason, we also include local common names at the generic level.

## Results and Discussion

There are five families, nine genera, and 42 species of Thai scorpions in the current list. The update of former reported species either *Reddyanus vittatus* (Pocock, 1900), *Reddyanus petrzekai* (Kovařík, 2003), *Liocheles nigripes* (Pocock, 1897), *Scorpiops longimanus* (Pocock, 1893), *Heterometrus petersii* (Thorell, 1876), *Heterometrus longimanus* (Herbst, 1800) or a synonym of *Lychas mucronatus* (Fabricius, 1798) (*L. kotao* Lourenço, 2020) are briefly explained at the end of this section.

The result shows that genus *Scorpiops* Peters, 1861 had the highest species number which consisted of 22 species, while the three lowermost were *Javanimetrus* Couzijn, 1978; *Isometrus* Ehrenberg, 1828; and *Thaicharmus* Kovařík, 1995 which consisted of only one species each. The other details of the results are given below.

## Checklist of species found in Thailand

### Order Scorpiones Koch, 1850

#### Suborder Neoscorpionina Thorell and Lindström, 1885

#### Infraorder Orthosternina Pocock, 1911

#### Family Buthidae Koch, 1837

#### Genus *Isometrus* Ehrenberg, 1828 แมงป่องหางยาว (Figure 2A)

##### 1. *Isometrus maculatus* (DeGeer, 1778)

**Thai name:** แมงป่องหางยาวลายจุด

**Type locality:** Surinam and Peniylvanie [= Suriname and the state of Pennsylvania in the USA, according to original description (DeGeer, 1778)].

**Distribution in Thailand:** Appeared to conceivably occur in all subdivisions (TS).

**Distribution outside Thailand:** Cosmopolitan (almost around the world).

**References:** Vachon (1972); Koch (1997); Kovařík (2003).

#### Genus *Lychas* Koch, 1845 แมงป่องบ้าน/ทวยมัน/แมงงอด (Figure 2B)

##### 2. *Lychas chanthaburiensis* Ythier and Lourenço, 2022

**Thai name:** แมงป่องบ้านเหลืองจันทบุรี

**Type locality:** Thailand, Chanthaburi Province.

**Distribution in Thailand:** Only known from the type locality (E).

**Distribution outside Thailand:** None.

**Reference:** Ythier and Lourenço (2022).

##### 3. *Lychas krali* Kovařík, 1995

**Thai name:** แมงป่องบ้านลายกระ

**Type locality:** Thailand, Tak Province.

**Distribution in Thailand:** Occurred along the Thanon Thong Chai Range (N, W).

**Distribution outside Thailand:** None.

**References:** Kovařík (1995); Kovařík (1997).

##### 4. *Lychas mucronatus* (Fabricius, 1798)

**Thai name:** แมงป่องบ้านธรรมดา

**Type locality:** “India orientali” [= East India].

**Distribution in Thailand:** Appeared to conceivably occur in all subdivisions (TS).

**Distribution outside Thailand:** Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Vietnam, India? (see in the type locality section).

**References:** Di *et al.* (2011); Ythier and Lourenço (2022).

##### 5. *Lychas scutilus* Koch, 1845

**Thai name:** แมงป่องบ้านหางยาว

**Type locality:** “Ostindien, die Insel Bintang” [= Indonesia, Bintang].

**Distribution in Thailand:** Appeared to conceivably occur in all subdivisions (TS).

**Distribution outside Thailand:** Australia (Coco Islands), China, India, Myanmar, Malaysia, and Indonesia.

**References:** Koch (1845); Ythier and Lourenço (2022).

Genus *Reddyanus* Vachon, 1972 แมงป่องต้นไม้ (Figure 2C)

6. *Reddyanus schwotti* Kovařík and Šťáhlavský, 2019

Thai name: แมงป่องต้นไม้ข่อยยาว

Type locality: Thailand, Sa Kaeo Province.

Distribution in Thailand: Sa Kaeo Province (E) and Surat Thani Province (S).

Distribution outside Thailand: Cambodia.

Reference: Kovařík and Šťáhlavský (2019).

7. *Reddyanus neradi* (Kovařík, 2013)

Thai name: แมงป่องต้นไม้ขอสั้น

Type locality: Thailand, Chanthaburi Province.

Distribution in Thailand: Only known from the type locality (E).

Distribution outside Thailand: None.

Reference: Kovařík and Šťáhlavský (2019).

Genus *Thaicharmus* Kovařík, 1995 แมงป่องจิวสยาม (Figure 2D)

8. *Thaicharmus mahunkai* Kovařík, 1995

Thai name: แมงป่องจิวสยามสีตาลไหม้

Type locality: Thailand, Phetchaburi province.

Distribution in Thailand: Occurred in Western Thailand and also possibly in Central Thailand (C?, E).

Distribution outside Thailand: None.

Reference: Kovařík (1995).



**Figure 2.** Genera of Scorpion in Thailand: **A** – *Isometrus* (Buthidae), แมงป่องทางยาว; **B** – *Lychas* (Buthidae), แมงป่องบ้าน; **C** – *Reddyanus* (Buthidae), แมงป่องต้นไม้; **D** – *Thaicharmus* (Buthidae), แมงป่องจิวสยาม; **E** – *Chaerilus* (Chaerilidae), แมงป่องนคร; **F** – *Liocheles* (Hormuridae), แมงป่องเปลือกไม้; **G** – *Heterometrus* (Scorpionidae), แมงป่องข้าง; **H** – *Javanimetrus* (Scorpionidae), แมงป่องข้างก้ามแบน; **I** – *Scorpiops* (Scorpiopidae), แมงป่องผา.

## Family Chaerilidae Pocock, 1893

Genus *Chaerilus* Simon, 1877 แมงป่องแคระ (Figure 2E)

### 9. *Chaerilus cimrmani* Kovařík, 2012

**Thai name:** แมงป่องแคระนิ้วสั้น

**Type locality:** Thailand, Phetchaburi Province.

**Distribution in Thailand:** Occurred in the Tenasserim Range (W, S).

**Distribution outside Thailand:** None.

**References:** Kovařík (2012); Kovařík *et al.* (2018a).

### 10. *Chaerilus kautti* Kovařík, Lowe, Stockmann and Štáhlavský, 2020

**Thai name:** แมงป่องแคระก้ามเรียว

**Type locality:** Thailand, Prachuap Khiri Khan Province.

**Distribution in Thailand:** Only known from the type locality (W).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020b).

### 11. *Chaerilus neradorum* Kovařík, Lowe and Štáhlavský, 2018

**Thai name:** แมงป่องแคระเกาะสมุย

**Type locality:** Thailand, Surat Thani Province, Samui Island.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2018a).

### 12. *Chaerilus stockmannorum* Kovařík, Lowe and Štáhlavský, 2018

**Thai name:** แมงป่องแคระเปรต

**Type locality:** Thailand, Trang Province.

**Distribution in Thailand:** Generally occurred in Southern Thailand (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2018a).

### 13. *Chaerilus thai* Lourenço, Sun and Zhu, 2010

**Thai name:** แมงป่องแคระป่าบาลา

**Type locality:** Thailand, Narathiwat Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Lourenço *et al.* (2010).

## Family Hormuridae Laurie, 1896

Genus *Liocheles* Sundevall, 1833 แมงป่องเปลือกไม้ (Figure 2F)

### 14. *Liocheles australasiae* (Fabricius, 1775)

**Thai name:** แมงป่องเปลือกไม้ก้ามแบน

**Type locality:** in insulis Oceani pacifi [= An Island in the Pacific Ocean].

**Distribution in Thailand:** Appeared to conceivably occur in all subdivisions (TS).

**Distribution outside Thailand:** China, Korea, India, Myanmar, Cambodia, Laos, Vietnam, the Philippines, Malaysia, Indonesia, Polynesia, Micronesia, and Australia.

**References:** Koch (1997); Kovařík (1995); Kovařík *et al.* (2018b).

## Family Scorpionidae Latreille, 1802

Genus *Heterometrus* Ehrenberg, 1828 แมงป่องข้าง/แมงเงา (Figure 2G)

### 15. *Heterometrus cimrmani* Kovařík, 2004

**Thai name:** แมงป่องข้างปีกซีใต้

**Type locality:** Thailand, Trang Province.

**Distribution in Thailand:** Mostly distributed below Nakhon Si Thammarat Province (S).

**Distribution outside Thailand:** Malaysia (Langkawi Island).

**Reference:** Kovařík (2004); Kawai *et al.* (2023).

### 16. *Heterometrus laoticus* Couzijn, 1981

**Thai name:** แมงป่องข้างลาว

**Type locality:** Laos.

**Distribution in Thailand:** Widely distributed in the upper part of Thailand (N, NE, W, C).

**Distribution outside Thailand:** Laos.

**Reference:** Kawai *et al.* (2023).

### 17. *Heterometrus minotaurus* Plíšková, Kovařík, Košulič and Štáhlavský, 2016

**Thai name:** แมงป่องข้างกำมยาว

**Type locality:** Thailand, Surat Thani Province.

**Distribution in Thailand:** Possibly occurred in the upper Tenasserim Range (W?, S).

**Distribution outside Thailand:** None.

**References:** Plíšková *et al.* (2016); Kawai *et al.* (2023).

### 18. *Heterometrus silenus* (Simon, 1884)

**Thai name:** แมงป่องข้างเวียดนาม

**Type locality:** The Philippines, Mindanao Island (erroneous).

**Distribution in Thailand:** Currently occurs in the Eastern part of Thailand (NE, E).

**Distribution outside Thailand:** Cambodia and Vietnam.

**Reference:** Kawai *et al.* (2023).

### 19. *Heterometrus spinifer* (Ehrenberg, 1828)

**Thai name:** แมงป่องข้างมลาญ

**Type locality:** India (erroneous).

**Distribution in Thailand:** Solely limited around the Thai-Malaysian border (S).

**Distribution outside Thailand:** Malaysia (Peninsular Malaysia and Tioman Island).

**Reference:** Kawai *et al.* (2023).

Genus *Javanimetrus* Couzijn, 1978 แมงป่องข้างกำมแบน (Figure 2H)

### 20. *Javanimetrus cyaneus* (Koch, 1836)

**Thai name:** แมงป่องข้างกำมแบน

**Type locality:** Indonesia, Java Island.

**Distribution in Thailand:** Only reported from Satun Province (S).

**Distribution outside Thailand:** Indonesia (Java, Sumatra), the Philippines (Laguna).

**Reference:** Prendini and Loria (2020).

## Family Scorpiopidae Kraepelin, 1905

Genus *Scorpiops* Peters, 1861 แมงป่องผา (Figure 2I)

### 21. *Scorpiops anthracinus* (Simon, 1887)

**Thai name:** แมงป่องผาทวย

**Type locality:** Myanmar, Tavoy (Kovařík, 2013).

**Distribution in Thailand:** Only known from Phetchaburi Province (W).

**Distribution outside Thailand:** Myanmar.

**Reference:** Kovařík *et al.* (2020a).

### 22. *Scorpiops bastawadei* Kovařík, Lowe, Stockmann and Štáhlavský, 2020

**Thai name:** แมงป่องผาทางขาวสตูล

**Type locality:** Thailand, Satun Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

### 23. *Scorpiops birulai* Kovařík, Lowe, Stockmann and Štáhlavský, 2020

**Thai name:** แมงป่องผาชุมพร

**Type locality:** Thailand, Chumphon Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

### 24. *Scorpiops binghamii* Pocock, 1893

**Thai name:** แมงป่องผาตะนาวศรี

**Type locality:** Central Tenasserim [= Myanmar].

**Distribution in Thailand:** Mae Hong Son Province (N).

**Distribution outside Thailand:** Myanmar.

**References:** Pocock (1893); Kovařík (1995); Lourenço and Ythier (2022).

### 25. *Scorpiops chiangmai* (Lourenço, 2019)

**Thai name:** แมงป่องผาเชียงใหม่

**Type locality:** Thailand, Chiang Mai Province.

**Distribution in Thailand:** Only known from type locality (N).

**Distribution outside Thailand:** None.

**References:** Lourenço (2019); Kovařík *et al.* (2020a).

### 26. *Scorpiops citadelle* (Kovařík, 2013)

**Thai name:** แมงป่องผาทางขาวสุราษฎร์

**Type locality:** Thailand, Surat Thani Province.

**Distribution in Thailand:** Occurred in the Tenasserim Range (W, S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2013b).

**27. *Scorpiops dii* Kovařík, Lowe, Stockmann and Štáhlavský, 2020**

**Thai name:** แมงป่องผาแม่กำปอง

**Type locality:** Thailand, Chiang Mai Province.

**Distribution in Thailand:** Only known from the type locality (N).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

**28. *Scorpiops dunlopi* Kovařík, Lowe, Stockmann and Štáhlavský, 2020**

**Thai name:** แมงป่องผาเล็กเมืองพังงา

**Type locality:** Thailand, Phang-nga Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

**29. *Scorpiops farkaci* Kovařík, Lowe, Stockmann and Štáhlavský, 2020**

**Thai name:** แมงป่องผาเขาภาคเหนือ

**Type locality:** Thailand, Mae Hong Son Province.

**Distribution in Thailand:** Occurred in few provinces of Northern Thailand (N).

**Distribution outside Thailand:** Vietnam.

**References:** Kovařík *et al.* (2020a); Lourenço and Ythier (2022).

**30. *Scorpiops grandjeani* (Vachon, 1974)**

**Thai name:** แมงป่องผาทางขามะละกา

**Type locality:** Malaysia.

**Distribution in Thailand:** Only known from Trang Province (S).

**Distribution outside Thailand:** Malaysia.

**Reference:** Kovařík *et al.* (2020a).

**31. *Scorpiops kautti* Kovařík, Lowe, Stockmann and Štáhlavský, 2020**

**Thai name:** แมงป่องผานครศรี

**Type locality:** Thailand, Nakhon Si Thammarat Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

**32. *Scorpiops krabiensis* Kovařík, Lowe, Stockmann and Štáhlavský, 2020**

**Thai name:** แมงป่องผากระบี่

**Type locality:** Thailand, Krabi Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

**33. *Scorpiops neradi* (Kovařík, Plíšková and Štáhlavský, 2013)**

**Thai name:** แมงป่องผาเล็กแก่งกรุง

**Type locality:** Thailand, Surat Thani Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2013a).

**34. *Scorpiops orioni* (Kovařík, Košulič, Št'áhlavský, Plíškova, Dongkhamfu and Wongprom, 2015)**

**Thai name:** แมงป่องผาดอยอินท์

**Type locality:** Thailand, Chiang Mai Province.

**Distribution in Thailand:** Only known from the type locality (N).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2015).

**35. *Scorpiops phatoensis* Kovařík, Lowe, Stockmann and Št'áhlavský, 2020**

**Thai name:** แมงป่องผาเล็กพะโต๊ะ

**Type locality:** Thailand, Chumphon Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

**36. *Scorpiops prasiti* Kovařík, Lowe, Stockmann and Št'áhlavský, 2020**

**Thai name:** แมงป่องผาปางมะผ้า

**Type locality:** Thailand, Mae Hong Son Province.

**Distribution in Thailand:** Only known from the type locality (N).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

**37. *Scorpiops problematicus* (Kovařík, 2000)**

**Thai name:** แมงป่องผาเจ้าปัญหา

**Type locality:** Thailand, Chiang Mai Province.

**Distribution in Thailand:** Only known from the type locality (N).

**Distribution outside Thailand:** None.

**Reference:** Kovařík (2000); Kovařík *et al.* (2020a).

**38. *Scorpiops scheibae* Kovařík, Lowe, Stockmann and Št'áhlavský, 2020**

**Thai name:** แมงป่องผาทางแฉกขนอม

**Type locality:** Thailand, Nakhon Si Thammarat Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

**39. *Scorpiops schumacheri* Kovařík, Lowe, Stockmann and Št'áhlavský, 2020**

**Thai name:** แมงป่องผาเล็กเมืองตรัง

**Type locality:** Thailand, Trang Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

**40. *Scorpiops sherwoodae* Kovařík, Lowe, Stockmann and Štáhlavský, 2020**

**Thai name:** แมงป่องผาทางชาวพังงา

**Type locality:** Thailand, Phang-nga Province.

**Distribution in Thailand:** Only known from the type locality (S).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

**41. *Scorpiops thailandus* Kovařík, Lowe, Stockmann and Štáhlavský, 2020**

**Thai name:** แมงป่องผาเขาภาคกลาง

**Type locality:** Thailand, Nakhon Nayok Province.

**Distribution in Thailand:** Mostly distributed in Central Thailand, occurred in parts of Northeastern Thailand (NE, C).

**Distribution outside Thailand:** None.

**Reference:** Kovařík *et al.* (2020a).

**42. *Scorpiops wongpromi* (Kovařík, Soleglad and Košulič, 2013)**

**Thai name:** แมงป่องผาวงษ์พรหม

**Type locality:** Thailand, Ubon Ratchathani Province.

**Distribution in Thailand:** Only known from the type locality (NE).

**Distribution outside Thailand:** Laos.

**Reference:** Kovařík *et al.* (2013b).

## Erroneous or dubious records in Thailand

The presence of *Reddyanus vittatus* and *Liocheles nigripes* by Kovařík (1995) has not been substantiated by any specimen from Thailand up to the date of publication. Therefore, these two species are considered to not be included in the current list.

*Reddyanus petrzekai* was initially erected as *Isometrus (Reddyanus) petrzekai*, with its distributional range spanning from Vietnam through Thailand (Kovařík, 2003). Subsequently, partial specimens were re-described as new species in Kovařík and Štáhlavský (2019). Consequently, the reported distributions beside its type locality in Vietnam became inaccurate, resulting in the representation of the genus *Reddyanus* in Thailand with only two species, as shown in the list provided by this study.

*Scorpiops longimanus* was previously documented in Thailand by Kovařík (1995). However, subsequent studies by Kovařík *et al.* (2013b; 2020a) demonstrated that the individuals of genus *Scorpiops* were restricted to a limited area around their type localities. Malsawmdawngliana *et al.* (2021) reported its presence in India and Bangladesh, resulting in doubt of its recorded occurrence in Thailand.

*Heterometrus longimanus* was once prevalent throughout Southeast Asia, including Thailand, but its distribution was later restricted to the Sundaic region (Kovařík, 2004). Prendini and Loria (2020) confirmed the presence of this species in India (Andaman Island), Malaysia,

Singapore, Indonesia, and the Philippines. They also noted that in the Mergui Archipelago, Myanmar, the species was *Heterometrus laevigatus* (Thorell, 1876) which has been reclassified as *H. minotaurus* and *H. cimrmani* (Kawai *et al.*, 2023). In conclusion, *H. longimanus* no longer occurs in Thailand.

*Heterometrus petersii* was previously documented in Vietnam, Laos, Thailand, Cambodia, Malaysia, and the Philippines (Kovařík, 2004). However, many of these reports of distribution were found to be incorrect due to the misidentification (Prendini and Loria, 2020). The Indochinese specimens in Kovařík's work (2004) was re-identified as *H. silenus* by Kawai *et al.* (2023). So, the status of *H. petersii* in Thailand has been eliminated.

*Lychas kotao* was described by Lourenço (2020) from Ko Tao Islands, Surat Thani Province based on only the female holotype. Kovařík (2023) proposed this species as a junior synonym of *Lychas mucronatus* because it was likely to be just an intraspecific variation of *Lychas mucronatus*.

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## References

- Di Nicola, M.R., M. Colombo, G.E.N. Kass, G. Paolino, P.N. Strong and C.M. Dorne. 2024. Scorpions: taxonomy, anatomy, medical relevance, venom composition, pharmacology, toxicology and clinical management. In Philip Wexler (ed.). *Encyclopedia of Toxicology* (Fourth Edition). Academic Press: 445–456.
- Di, Z., Y. He, Y. Wu, Z. Cao, H. Liu, D. Jiang and W. Li. 2011. The scorpions of Yunnan (China): updated identification key, new record and redescription of *Euscorpions kubani* and *E. shidian* (Arachnida, Scorpiones). *Zookeys* 23(82): 1–33. <https://doi.org/10.3897/zookeys.82.715>.
- Kawai, K., T. Unnahachote, Y. Suttisatid and V. Tang. 2023. A review of *Heterometrus* in Thailand (Scorpiones: Scorpionidae). *Euscorpions* 373: 1–25.
- Koch, C.L. 1845. *Die Arachniden*. C.H. Zech'sche Buchhandlung. Nürnberg, 11, 174 pp.
- Koch, L.E. 1997. The taxonomy, geographic distribution and evolutionary radiation of Australo-Papuan scorpions. *Western Australian Museum* 5(2): 83–367.
- Kovařík, F. 1995. Review of Scorpionida from Thailand with descriptions of *Thaicharmus mahunkai* gen. et sp. n. and *Lychas kralli* sp. n. (Buthidae). *Acta Societatis Zoologicae Bohemicae* 59: 187–207.
- Kovařík, F. 1997. Revision of the genera *Lychas* and *Hemilychas*, with descriptions of six new species (Scorpiones: Buthidae). *Acta Societatis Zoologicae Bohemicae* 61: 311–371.

- Kovařík, F. 2000. Revision of family Scorpipidae (Scorpiones), with descriptions of six new species. *Acta Societatis Zoologicae Bohemicae* 64: 153–201.
- Kovařík, F. 2003. A review of the genus *Isometrus* Ehrenberg, 1828 (Scorpiones: Buthidae) with descriptions of four new species from Asia and Australia. *Euscorpius* 10: 1–19.
- Kovařík, F. 2004. A review of the genus *Heterometrus* Ehrenberg, 1828, with descriptions of seven new species (Scorpiones, Scorpionidae). *Euscorpius* 15: 1–60
- Kovařík, F. 2012. Five new species of *Chaerilus* Simon, 1877 from China, Indonesia, Malaysia, Philippines, Thailand, and Vietnam (Scorpiones: Chaerilidae). *Euscorpius* 149: 1–14.
- Kovařík, F. 2013. *Alloscorpiops citadelle* sp. n. from Thailand (Scorpiones: Euscorpiidae: Scorpipinae). *Euscorpius* 157: 1–9.
- Kovařík, F., J. Plíšková and F. Šťáhlavský. 2013a. *Euscorpiops neradi* sp. n. from Thailand (Scorpiones: Euscorpiidae: Scorpipinae). *Euscorpius* 158: 1–8.
- Kovařík, F., M.E. Sologlad and O. Košulič. 2013b. *Alloscorpiops wongpromi* sp. n. from Thailand and Laos (Scorpiones: Euscorpiidae: Scorpipinae). *Euscorpius* 160: 1–12.
- Kovařík, F., M.E.O. Košulič, F. Šťáhlavský, J. Plíšková, W. Dongkhamfu and P. Wongprom. 2015. Two new species of *Euscorpiops* Vachon, 1980 from Thailand and Myanmar (Scorpiones: Euscorpiidae: Scorpipinae). *Annales zoologici* 65(1): 109–112. <https://doi.org/10.3161/00034541ANZ2015.65.1.009>
- Kovařík, F., G. Lowe and F. Šťáhlavský. 2018a. Three new *Chaerilus* from Malaysia (Tioman Island) and Thailand (Scorpiones: Chaerilidae), with a review of *C. cimrmani*, *C. sejnai*, and *C. tichyi*. *Euscorpius* 268: 1–27.
- Kovařík, F., K.B. Ranawana, V.A. Sanjeeva Jayarathne, S. Karunaratna, and A. Ullrich. 2018b. *Liocheles australasiae*. In Scorpions of Sri Lanka (Arachnida, Scorpiones). Part II. Family Hormuridae, pp. 1-5 in *Euscorpius* 258: 1–5.
- Kovařík, F. and F. Šťáhlavský. 2019. Revision of the genus *Reddyanus* from Southeast Asia, with description of five new species from Cambodia, Malaysia, Thailand and Vietnam (Scorpiones: Buthidae). *Euscorpius* 295: 1–45.
- Kovařík, F., G. Lowe, M. Stockmann and F. Šťáhlavský. 2020a. Revision of genus-group taxa in the family Scorpipidae Kraepelin, 1905, with description of 15 new species (Arachnida: Scorpiones). *Euscorpius* 325: 1–140.
- Kovařík, F., G. Lowe, M. Stockmann and F. Šťáhlavský. 2020b. Two new *Chaerilus* from Thailand and Laos (Scorpiones: Chaerilidae). *Euscorpius* 324: 1–20.
- Kovařík, F. 2023. *Lychas jakli* sp. n. (Scorpion: Buthidae) from Indonesia. *Euscorpius* 367: 1–8.
- Lourenço, W.R., D. Sun and M. Zhu. 2010. A new species of *Chaerilus* Simon, 1877 (Scorpiones, Chaerilidae) from Thailand. *The Raffles Bulletin of Zoology* 58(1): 79–85.
- Lourenço, W.R. 2019. A new species of *Euscorpiops* Vachon, 1980 from Doi Pha Hom Pok National Park in Thailand (Scorpiones: Scorpipidae). *Revista Ibérica de Aracnologia* 34: 51–54.
- Lourenço, W.R. and E. Ythier. 2022. A new species of the genus *Scorpiops* Peters, 1861, subgenus *Euscorpiops* Vachon, 1980 from Laos (Scorpiones: Scorpipidae). *Faunitaxys*, 10 (27): 1–9.
- Lourenço, W.R. 2020. A new species of *Lychas* C. L. Koch, 1845 from Ko Tao Island, Thailand (Scorpiones: Buthidae). *Revista Iberica de Aracnologia* 36: 59–64. Malsawmdawngliana, F., M. Vabeiryureilai, V. Siammawii, L. Muansanga, G. Hmar, H. Decemson and H.T. Lalremsanga. 2021. On the occurrence of *Scorpiops longimanus* (Pocock, 1893) (Arachnida: Scorpipidae) In Mizoram,

- Northeast India. *Taprobanica* 11: 4–11.
- Martin, S.A. and R.J. Ritchie. 2020. Sourcing Thai geography literature for ASEAN and international education. *Singapore Journal of Tropical Geography* 41(1): 61–85. <https://doi.org/https://doi.org/10.1111/sjtg.12296>
- Plišková, J., F. Kovařík, O. Košulič and F. Št'áhlavský. 2016. Description of a new species of *Heterometrus* Ehrenberg, 1828 (Scorpiones: Scorpionidae) from Thailand with remarks about the utilization of cytogenetic data in taxonomy of the genus. *Annales Zoologici* 66(3): 467–476. <https://doi.org/10.3161/00034541ANZ2016.66.3.011>
- Pocock, R.I. 1893. Notes on the classification of scorpions, followed by some observations upon synonymy, with descriptions of new genera and species. *Annals and Magazine of Natural History* 6(12): 303–330. <https://doi.org/10.1080/00222939308677626>
- Possani, L.D., E. Merino, M. Corona, F. Bolivar and B. Becerril. 2000. Peptides and genes coding for scorpion toxins that affect ion-channels. *Biochimie* 82(9–10): 861–868. [https://doi.org/10.1016/s0300-9084\(00\)01167-6](https://doi.org/10.1016/s0300-9084(00)01167-6)
- Prendini, L. 2011. Order Scorpiones C.L. Koch, 1850. In: Zhang, Z.-Q. (ed.) Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness. *Zootaxa*. 3148: 115–117.
- Prendini, L. and S.F. Loria. 2020. Systematic revision of the Asian forest scorpions (Heterometrinae Simon, 1879), revised suprageneric classification of Scorpionidae Latreille, 1802, and revalidation of Rugodentidae Bastawade *et al.*, 2005. *Bulletin of the American Museum of Natural History* 442: 1–480. <https://doi.org/10.1206/0003-0090.442.1.1>
- Shorthouse, D.P. 2010. *SimpleMappr, an online tool to produce publication-quality point maps*. Downloaded from <http://www.simplemappr.net> on 26 October 2023
- Theakston, R.D., D.A. Warrell and E. Griffiths. 2003. Report of a WHO workshop on the standardization and control of antivenoms. *Toxicon* 41(5): 541–557.
- Uawonggul, N., A. Chaveerach, S. Thammasirirak, T. Arkaravichien, C. Chuachan and S. Daduang. 2006. Screening of plants acting against *Heterometrus laoticus* scorpion venom activity on fibroblast cell lysis. *Journal of Ethnopharmacology* 103(2): 201–207. <https://doi.org/10.1016/j.jep.2005.08.003>
- Vachon, M. 1972. Remarques sur les scorpions appartenant au genre *Isometrus* H. et E. (Buthidae) à propos de l'espèce *Isometrus maculatus* (Geer) habitant l'île de Pâques. *Cahiers Pacifique* 16: 169–180.
- Ythier, E. and W.R. Lourenço. 2022. A new species of *Lychas* C. L. Koch, 1845 from Thailand (Scorpiones: Buthidae). *Faunitaxys* 10(26): 1–7.

