

**Two new species of the genus *Scorpiops* (Arachnida: Scorpiones: Vaejovidae)
from south-east Asia**

František KOVAŘÍK

U Botiče 1/1389, CZ-140 00 Praha 4, Czech Republic

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Abstract. *Scorpiops (Scorpiops) farkaci* sp. n. from Thailand is described and compared with *Scorpiops (Scorpiops) oligotrichus* Fage. *Scorpiops (Euscorpiops) kaftani* sp. n. from Vietnam is described and compared with *Scorpiops (Euscorpiops) asthenurus* Pocock, *S. (E.) binghamii* Pocock, *S. (E.) bhutanensis* Tikader & Bastawade, *S. (E.) lindbergi* Vachon and *S. (E.) longimanus* Pocock. *S. (E.) longimanus* Pocock and *S. (E.) binghamii* Pocock are recorded from Thailand.

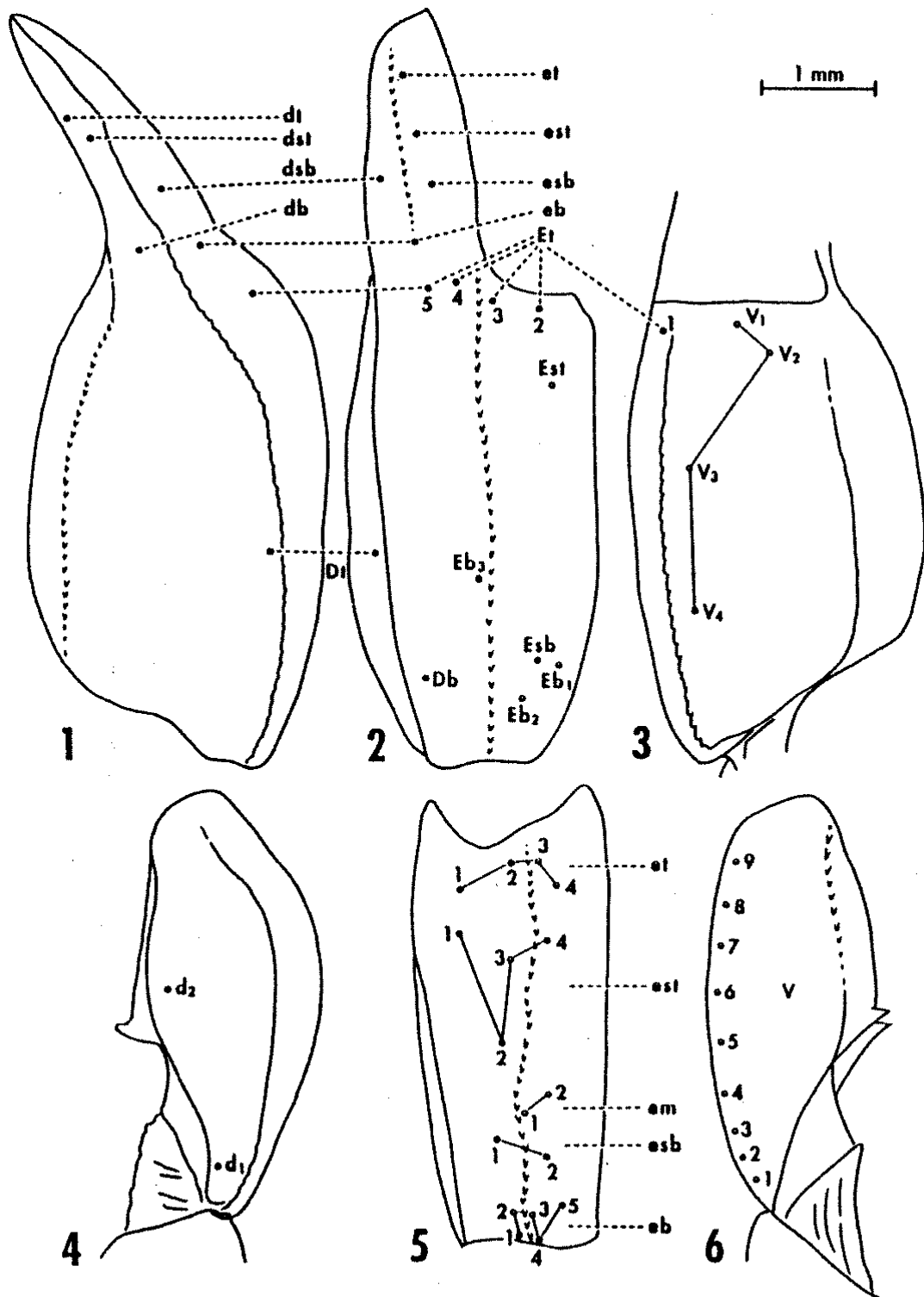
During zoological investigations into the mountain regions of northern Thailand and northern Vietnam two new scorpion species were found which, after having compared them with the species described so far, I describe here as species new to science.

Scorpiops (Scorpiops) farkaci sp. n. (Figs. 1-6, 13, 14, Tab. 1)

DESCRIPTION: General appearance as in Fig. 13. Total length 24.8-32.5 mm (males), 27.3-36.6 mm (females). The measurements of carapace, telson, segments of metasoma, segments of pedipalps and number of teeth in the pectines are given in Tab. 1. For the position and distribution of trichobothria on the pedipalps see Figs. 1-6. Colour dark brown to black. In younger specimens the legs and telson are pale brown, pedipalps and metasoma brown. In contrast to the female, the adult male has a considerably longer manus at almost the same width (see Tab. 1, Figs. 13, 14). The manus length: width ratio is 5.2-5.5 : 3 in the female and 6.6 : 3 in the male.

AFFINITIES: *Scorpiops oligotrichus* Fage, 1933 is the only species of the subgenus *Scorpiops* Peters, 1861 which agrees with *Scorpiops farkaci* sp. n. in bearing 9 trichobothria on the lower surface of the patella. Fage describes *Scorpiops oligotrichus* in 1933 from immature specimens collected in Laos (Djiring and Bana) as a subspecies of *Scorpiops montanus* Karsch, 1879. In 1944, having studied adult specimens coming from various localities in Laos (Pak Lay, Pak Sang, Luang Prabang), Fage raised it to the species level.

The characteristics presented by Fage (1944) are incomplete. Besides the statement on the 9 trichobothria on the lower surface of the patella mention is made only of the total length of the specimens (32-33 mm) and the species is characterized by the shape of its manus, which is hardly longer than wide (the length:width ratio being 4:3), and by poorly developed tubercles on the anterior side of the patella. It is uncertain from Fage's description whether he studied adult females only or both sexes. In *Scorpiops farkaci* sp. n. the tubercles situated on the anterior side of the patella are well developed and the length : width ratio of the manus is a significant character indicating sexual dimorphism (see Figs. 13, 14). Contrary to that is the *Scorpiops oligotrichus*, this ratio in *S. farkaci* sp. n. is 5.2-5.5 : 3 in females and 6.6 : 3 in males. The manus of *S. farkaci* sp. n. is distinctly longer than wide.



Figs 1-6. *Scorpiops (Scorpiops) farkaci* sp.n. female paratype no.5. In Figs 1-3 the first capital letters denote trichobothria situated on the manus; the first low-case ones, those situated on the fixed finger of pedipalp. Figs 4-6 show the distribution of trichobothria on the patella of pedipalp. Explanations: First letters: V, ventral, D, dorsal, E, external. Second, or second plus third letters: b, basal, sb, suprabaasal, m, medial, st, subterminal, t, terminal. Numerals distinguish individual trichobothria of the same classification. Designation and description of trichobothria according to Vachon (1973 and 1980).

Table 1. Measurements of the species described, in mm. Column denoted "Pectines, teeth" contains numbers of teeth, always in both pectines, separated by a colon (:)

	<i>S.(Scorpiops)</i> <i>farkaci</i> sp.n. ♀	<i>S.(Scorpiops)</i> <i>farkaci</i> sp.n. ♂ holotype	<i>S.(Scorpiops)</i> <i>farkaci</i> sp.n. ♂ paratype No.2	<i>S.(Scorpiops)</i> <i>kaftani</i> sp.n. holotype
Total length	27.3 - 36.6	24.8	32.5	31.5
Carapace length	4.5 - 4.6	4.3	4.6	5.5
width	4.6 - 4.8	4.5	4.7	6.0
Metasoma length	13.7 - 16.0	13.8	15.3	15.5
Segment I. length	1.4 - 1.5	1.4	1.5	1.6
width	2.0 - 2.1	2.0	2.1	2.0
Segm. II. length	1.8 - 1.8	1.8	1.8	1.8
width	1.9 - 2.0	1.9	2.0	1.6
Segm. III. length	1.9 - 2.0	2.0	2.1	2.0
width	1.8 - 1.9	1.8	1.9	1.5
Segm. IV. length	2.1 - 2.3	2.1	2.4	2.4
width	1.7 - 1.9	1.7	1.8	1.5
Segm. V. length	3.6 - 3.8	3.7	4.0	4.0
width	1.6 - 1.7	1.6	1.7	1.3
telson length	3.4 - 4.0	3.8	4.2	3.9
Pedipalp				
femur length	3.4 - 4.0	4.2	4.5	6.1
width	1.5 - 1.7	1.8	1.9	2.0
patella length	4.0 - 4.3	4.7	4.8	5.3
width	1.9 - 2.0	1.9	2.0	2.3
tibia length	7.3 - 7.8	8.0	8.0	11.9
manus length	5.0 - 5.7	5.9	6.4	7.2
width	2.8 - 3.2	2.7	2.9	2.7
finger m. length	3.3 - 4.0	3.9	3.9	5.8
Pectines, teeth	6:5 - 6:6	7:7	7:7	6:6

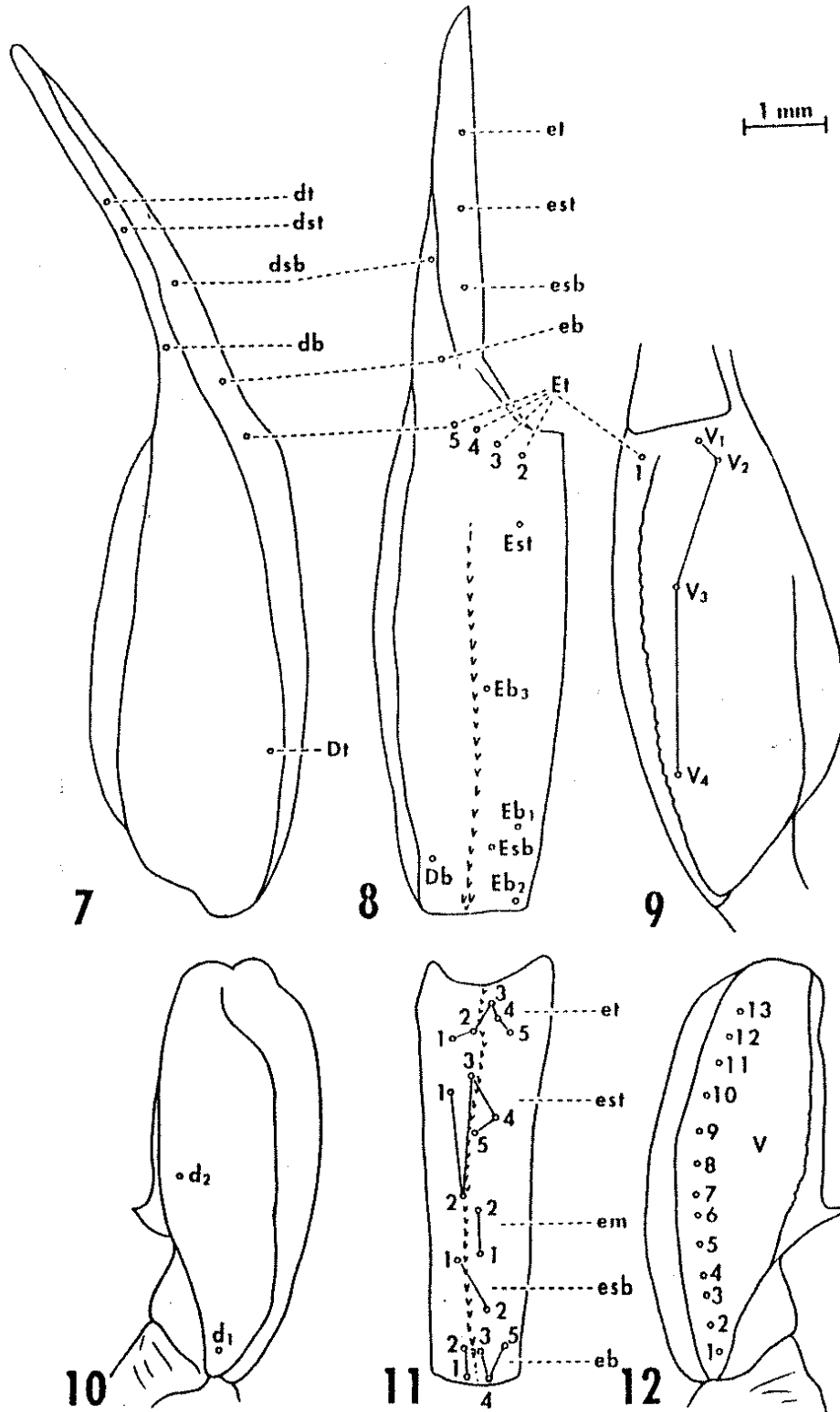
Furthermore, *Scorpiops farkaci* sp. n. can be distinguished from *Scorpiops oligotrichus* by the position of trichobothria on the patella of pedipalp (see Fig. 5 and Vachon 1973, fig. 227). Here it is necessary to respect the fact that the trichobothrium et 2 (Vachon 1973, see fig. 227) is identical with est 3 (Fig. 5).

HOLOTYPE: Male, Thailand bor., prov. Mae Hong Son, Ban Huai Po, 1600-1700m above sea-level, 10.5. 1991, Jan Farkač leg., in author's collection.

PARATYPES: 2 males (nos. 1 and 2), 6 females (nos. 3-8), 4 immature females (nos. 9-12), the same data as on the holotype, and also young that were successfully reared from the imported females. They include 4 young before the first ecdysis (nos. 13-16), 2 young after the first ecdysis (nos. 17 and 18), 9 young after second ecdysis (nos. 19-27) and 2 young after the third ecdysis (nos. 28 and 29). Female, no.3 coll. Jan Farkač, Prague, female no. 4 coll. Department of Zoology, National Museum (Natural History), Prague. The remaining paratypes are deposited in the author's collection.

TYPELOCALITY: A xeric clearing in a mountain virgin forest at elevation of 1600-1700 m; all specimens were found beneath dry buffalo faeces.

DERIVATIO NOMINIS: Named in honour of Jan Farkač, a Czech entomologist who collected the specimens.



Figs 7-12. *Scorpiops (Euscorpiops) kaftani* sp. n. Holotype. In Figs 7-9 the first capital letters denote trichobothria situated on the manus; the first low-case ones, those situated on the fixed finger of pedipalp. Figs 10-12 show the distribution of trichobothria on the patella of pedipalp. Explanations: First letters: V, ventral, D, dorsal, E, external. Second, or second plus third letters: b, basal, sb, suprabasal, m, medial, st, subterminal, t, terminal. Numerals distinguish individual trichobothria of the same classification. Designation and description of trichobothria according to Vachon (1973 and 1980).

Scorpiops (Euscorpiops) kaftani sp. n. (Figs. 7-12, Tab. 1)

DESCRIPTION: Total length 31.5 mm. The measurements of the carapace, telson, segments of the metasoma, segments of the pedipalps, and the number of teeth in the pectines are given in Tab. 1. For the position and distribution of trichobothria on the pedipalps see Figs. 7-12. Colour brown (specimen preserved in alcohol).

AFFINITIES: The separation of *Scorpiops kaftani* sp. n. from the remaining species of the subgenus *Euscorpiops* Vachon, 1973 of the genus *Scorpiops* Peters is facilitated by the different numbers of trichobothria on the lower surface of the patella and by the different numbers of teeth in the pectines. *Scorpiops kaftani* sp. n. bears 13 trichobothria on the lower surface of its patella, *Scorpiops bhutanensis* Tikader & Bastawade, 1983 has 8 trichobothria; *Scorpiops asthenurus* Pocock, 1900 has 9 (Vachon 1980); *Scorpiops longimanus* Pocock, 1893 has 10 or 11 (Tikader & Bastawade 1983); *Scorpiops binghamii* Pocock, 1893 has 13 or 14 (Tikader & Bastawade 1983); and *Scorpiops lindbergi* Vachon, 1980 from Afghanistan has 12 trichobothria.

The species *Scorpiops binghamii* from Burma has 9 teeth in the pectines (Tikader & Bastawade 1983); *Scorpiops longimanus* from Bangladesh and India has 7 teeth (Tikader & Bastawade 1983); and *Scorpiops kaftani* sp. n. has 6 teeth in the pectines.

Furthermore, *Scorpiops kaftani* sp. n. can be distinguished from *Scorpiops longimanus* by the position of trichobothria on the patella of pedipalp (see Fig. 11 and Vachon 1973, fig. 226).

Further differences can be found in the measurements given in Tab. 1, in the distribution of trichobothria on the pedipalps (see Figs. 7-12) and in the papers of Vachon (1980) and Tikader & Bastawade (1983).

HOLOTYPE: Female, Vietnam, Tonkin, Cuc Phong, V. 1986, Milan Kaftan leg., in author's collection.

TYPE LOCALITY: The specimen was found beneath a stone in a mountain forest. *Scorpiops kaftani* sp. n. is the first species of the genus *Scorpiops* Peters found in Vietnam. This means that the range of the genus *Scorpiops* extends further north-east than believed so far.

DERIVATIO NOMINIS: Named in honour of Milan Kaftan, who collected the type specimen.

Scorpiops (Euscorpiops) longimanus Pocock, 1893

MATERIAL: 1 male, 1 female, Thailand, prov. Chiang Mai, Doi Suthep, Pui, 20.IV.1991, leg. Jan Farkač, in author's collection.

COMMENTS: Position and numbers of trichobothria on the external surface of the patella see Fig. 226 in Vachon (1973). Number of trichobothria on the lower surface of the patella is 11. Number of teeth in the pectines is 8, while Tikader & Bastawade (1983) recorded 7 teeth, but Pocock (1900) 6-8 teeth.

MATERIAL: 1 immature female, Thailand, Doi Chiang Dao, 1800 m., V.1991, leg. David Král, in author's collection.

COMMENTS: The same characteristics as in the material from Doi Suthep, but number of trichobothria on the lower surface of the patella is 12.

This species was so far known only from India and Bangladesh, first record from Thailand.

Scorpiops (Euscorpiops) binghamii Pocock, 1893

MATERIAL: 1 immature female, NW Thailand, Mae Hong Son distr., Nupa-ah, 7.-9.5.1992, leg. Jan Strnad, in author's collection.

COMMENTS: This specimen has 20 trichobothria on the external surface of the patella (5 eb, 2 esb, 2 em, 5 est, 6 est), 9 teeth in the pectines and 13 trichobothria on the lower surface of the patella. This species was described from Tenasserim Mts. (central Burma).

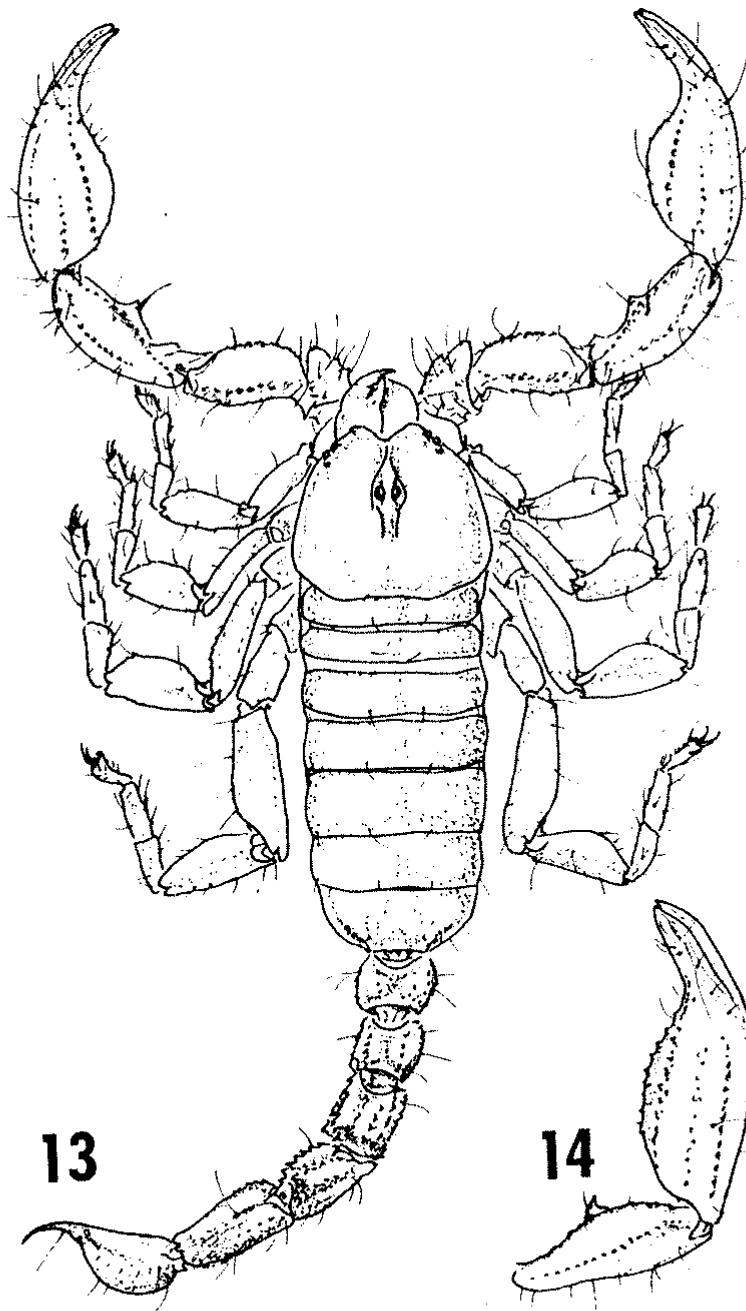


Fig. 13. *Scorpiops (Scorpiops) farkaci* sp. n. female paratype no. 5, total view. Fig. 14. *Scorpiops (Scorpiops) farkaci* sp. n. male holotype, pincers of pedipalp.

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