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Euscorpiops kubani sp.nov. from Laos (Scorpiones, Euscorpiidae, Scorpiopinae)

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KOVAŘÍK F. 2004: *Euscorpiops kubani* sp.nov. from Laos (Scorpiones, Euscorpiidae, Scorpiopinae). *Acta Musei Moraviae, Scientiae biologicae* (Brno) **89:** 13–18. – *Euscorpiops kubani* sp.nov. is described and compared with other species of the genus in the form of a key. In the new species, the external trichobothria on the patella number 18 or 19 (5 or 6 eb, 2 esb, 2 em, 4 est, 5 et) and the ventral trichobothria on the patella number 10 or 9. The pectinal teeth number 7 or 8. *E. kubani* sp.nov. is closest to *E. longimanus* (Pocock, 1893) and *E. problematicus* (Kovařík, 2000). Apart from the trichobothrial counts and positions, these three species can also be separated through differences in sexual dimorphism. In the male of *E. kubani* sp.nov., the fingers of the pedipalp are flexed, whereas in the female they are nearly straight, only slightly undulate. The same sexual dimorphism is present in *E. asthenurus* (Pocock, 1900) from Bhutan and India; however, apart from the geographical distribution it also differs in the number of ventral trichobothria on the patella (8 or 9) and in the number of pectinal teeth (5 or 6). *Euscorpiops kubani* sp.nov. is the first species of the genus recorded from Laos.

Key words. Euscorpiidae, Scorpiopinae, *Euscorpiops*, *Euscorpiops kubani* sp.nov., Laos, key

Euscorpiops Vachon, 1980

Scorpiops Kraepelin, 1899: 179 (in part); KOVAŘÍK (2000): 164 (in part); KOVAŘÍK (2001): 85 (in part).
Scorpiops (*Euscorpiops*) Vachon, 1980: 155 (in part); TIKADER & BASTAWADE (1983): 452 (in part); BASTAWADE (1997): 104 (in part).
Euscorpiops: STOCKWELL (1989): 120 (in part); SISSOM (1990): 114 (in part); KOVAŘÍK (1998): 141 (in part); LOURENÇO (1998): 246 (in part); FET (2000): 488 (in part); SOLEGLAD & SISSOM (2001): 93.
Type species: *Scorpiops asthenurus* Pocock, 1900

Comments. *Euscorpiops* was described by VACHON (1980: 155) as a subgenus, and became a genus with the elevation of the Scorpiopsinae to family status. Vachon distinguished *Euscorpiops* from *Scorpiops* through the number of external trichobothria on the patella: 17 in *Scorpiops* and 18–20 in *Euscorpiops*. At that time he described *Scorpiops* (*Euscorpiops*) *lindbergi* Vachon, 1980, in which a different morphology and closeness to species placed in *Scorpiops* led me to synonymize *Euscorpiops* with *Scorpiops* (see KOVAŘÍK 2000: 164). At that time I also synonymized *S. kraepelini* Lourenço, 1998 with *S. lindbergi* Vachon, 1980 and pointed out the position of trichobothrium *Eb3* in relation to species groups (see KOVAŘÍK 2000: 166).

SOLEGLAD & SISSOM (2001) revised the family Euscorpiidae, where they placed the subfamily Scorpiopinae and revived the genus *Euscorpiops*, but on the basis of position of trichobothrium *Eb3* (SOLEGLAD & SISSOM 2001: 52, Figs 114, 115) rather than on the number of trichobothria on the patella. This led to the transfer of *Euscorpiops lindbergi* (Vachon, 1980) (= *Scorpiops kraepelini* Lourenço, 1998) to *Scorpiops* and, vice versa, of *S. montanus* Karsch, 1879 to *Euscorpiops*.

***Euscorpiops kubani* sp.nov.** (Figs 1–6, Tab. 1)

Material examined. Holotype male, type locality: Laos, prov. Phongsaly, Phongsaly env., 21°41–2'N-102°06–8'E, 1500 m, leg. Vít Kubáň; (deposited in the Moravian Museum, Brno, Czech Republic).
Other type material. Allotype female: Laos, prov. Phongsaly, Phongsaly env., 21°41–2'N-102°06–8'E, 1500 m, 28.V.–20.VI.2003, leg. Vít Kubáň; (Moravian Museum, Brno, Czech Republic). 1 paratype male: Laos, prov. Phongsaly, Ban Sano Mai env., 21°21'N-102°03'E, ca 1150 m, 19.–26.V.2004, leg. Vít Kubáň; (author´s collection).

Diagnosis. Adult male holotype 39 mm long, other adults 43.6 (female allotype) and 45.3 (male paratype) mm long. Base colour uniformly reddish-black. Pectinal teeth number 7 or 8 in both sexes. Sexual dimorphism expressed in shape of pedipalp fingers: in male flexed, in female nearly straight (slightly undulate). External trichobothria on patella number 18 or 19 (5 or 6 eb, 2 esb, 2 em, 4 est, 5 et); ventral trichobothria on patella number 10 or 9.

Description. The adult male holotype is 39 mm long. The second male (paratype) is 45.3 mm long, and the female allotype is 43.6 mm. Measurements of the carapace, telson, segments of the metasoma and segments of the pedipalps, and numbers of pectinal teeth are given in Table 1. Sexual dimorphism is expressed in the shape of pedipalp fingers, flexed in the male (Fig. 2) and nearly straight (slightly undulate) in the female, and in the shape of the genital operculum. The base colour is uniformly reddish-black.

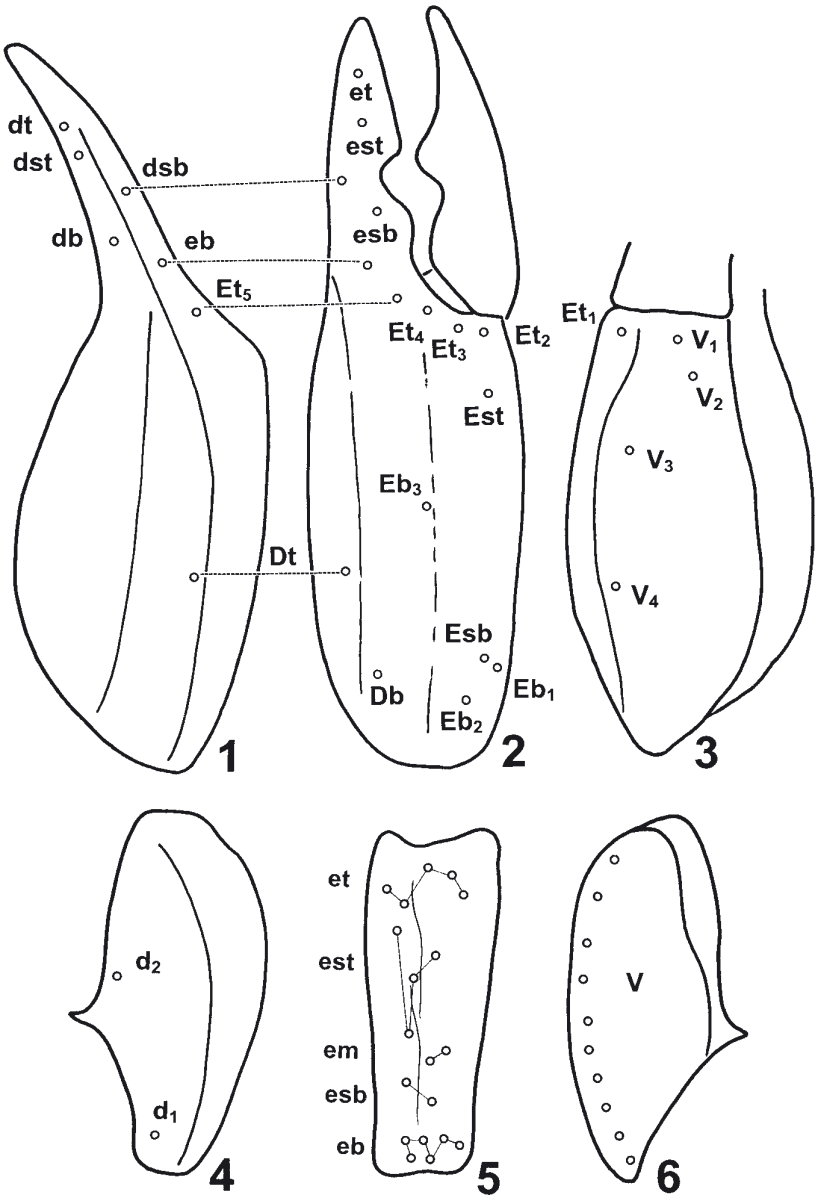
Mesosoma and carapace: The mesosoma is granulated, with one median carina, and the seventh segment bears two or four inconspicuous carinae ventrally. The entire carapace is densely granulated, without carinae. Pectinal teeth number 7–8 in both sexes.

Metasoma and telson: The metasoma is granulated. The first segment bears 10 carinae, the second through fourth segments bear eight carinae, and the fifth segment bears seven carinae, all composed of granules, some of which are pointed. The dorsolateral carinae of the third and fourth segments terminate in a pronounced tooth at the rear. The telson is bulbous and smooth, with minute granules.

Pedipalps: For position and distribution of trichobothria on the chela and patella of pedipalps see Figs 1–6. External trichobothria on the patella number 18 or 19 (5 or 6 eb, 2 esb, 2 em, 4 est, 5 et), 19 in the holotype (Fig. 5) and 18 in the allotype and paratype. Ventral trichobothria on the patella number 10, but the male paratype has 10 on one patella and only nine on the other. The pedipalps are entirely granulated. The femur has six granulose carinae, sometimes not entirely complete, and the patella has five carinae with pronounced internal tubercles. The manus bears fine rounded granules of equal size dorsally, which are more closely spaced and form a longitudinal carina in the central part, elsewhere forming a lattice. The movable fingers bear straight double rows of granules with internal and external granules.

Distribution. Northern Laos. *Euscorpiops kubani* sp.nov. is the first species of the genus recorded from this country.

Differential diagnosis. The features described distinguish *Euscorpiops kubani* sp.nov. from all other species of the genus. They appear in the key below. *Euscorpiops kubani* sp.nov. is closest to *E. longimanus* and *E. problematicus*. Apart from the number and



Figs 1–6. *Euscorpiops kubani* sp.nov., male holotype. 1, chela dorsally; 2, chela externally; 3, manus ventrally; 4, patella dorsally; 5, patella externally; 6, patella ventrally. – Figs 1–3: the first capital letters denote trichobothria on the manus, and the first lower-case letters denote those situated on the fixed finger of the pedipalp. Figs 4–6: the distribution of trichobothria on the patella of the pedipalp. First letters: D, dorsal; E, external; V, ventral. Second or second plus third letters: b, basal; sb, suprabasal; m, medial; st, subterminal; t, terminal; v, ventral. Numerals distinguish individual trichobothria of the same classification. Designation and description of trichobothria after VACHON (1974). Morphological terminology after STAHNKE (1970).

		Male HT	Female AT
Total	length	39	43.6
Carapace	length	6.2	7.4
	width	6.5	8.3
Metasoma			
and telson	length	21.5	21.6
segment I	length	2.1	2.2
	width	2.6	2.7
segment II	length	2.3	2.4
	width	2.3	2.4
segment III	length	2.5	2.6
	width	2.2	2.2
segment IV	length	3.0	3.2
	width	2.0	2.1
segment V	length	5.3	5.4
	width	1.9	2.0
telson	length	6.3	5.8
Pedipalp			
femur	length	5.9	6.6
	width	2.4	2.8
patella	length	5.6	6.5
	width	2.5	2.9
tibia	length	12.1	14.1
	width	3.9	4.4
finger mov.	length	6.4	7.3
Pectinal teeth		8:8	7:7

Tab. 1. Measurements (in millimetres) of type specimens of *Euscorpiops kubani* sp.nov**.**

position of the trichobothria, these three species can also be separated though differences in sexual dimorphism. The fingers of the pedipalp of the male of *E. kubani* sp.nov. are flexed (Fig. 2), whereas they are nearly straight in the female and only slightly undulate. In *E. longimanus* the fingers of pedipalp are straight in both sexes (KOVAŘÍK 2000: 173; 39), and in *E. problematicus* they are flexed in both sexes (KOVAŘÍK 2000: 173; 40). Another species close to *E. kubani* sp.nov. is *E. asthenurus* (Pocock, 1900), which has identical sexual dimorphism but differs in having 8 or 9 ventral trichobothria on the patella, only 5 or 6 pectinal teeth, and it occurs in Bhutan and India (see KOVAŘÍK 2000: 167).

Etymology. Named after Vít Kubáň, who collected the types.

Key to species of *Euscorpiops*

1. External trichobothria on patella number 17. ..... 2.
– External trichobothria on patella number 18–21 (Fig. 5). …..... 3.

2. Ventral trichobothria on patella number 7. .... ***E. bhutanensis*** **(Tikader & Bastawade 1983)**
– Ventral trichobothria on patella number 12–18. .... *…* ***E. montanus*** **(Karsch, 1879)**

3. External trichobothria on patella number 20–21 (5 eb, 2 esb, 2 em, 6 est, 5–6 et). ..... *…* ***E. binghamii*** **(Pocock, 1893)**
– External trichobothria on patella number 18–19. ..... *…* 4.

4. *est* trichobothria on patella number 4 (Fig. 5). ..... 5.
– *est* trichobothria on patella number 5 (Fig. 21 in KOVAŘÍK 2000: 165). ... 8.

5. Tibia length to width ratio 2.75. ..... ***E. sejnai*** **(Kovařík, 2000)**
– Tibia length to width ratio higher than 3. ..... 6.

6. Male pedipalp fingers flexed (Fig. 2.). ..... 7.
– Male pedipalp fingers straight (Fig. 39 in KOVAŘÍK 2000: 173). .... ***E. longimanus*** **(Pocock, 1893)**

7. Ventral trichobothria on patella number 8 or 9. Pectinal teeth number 5 or 6. Bhutan and India. ..... ***E. asthenurus*** **(Pocock, 1900)**
– Ventral trichobothria on patella number 10, rarely 9. Pectinal teeth number 7 or 8. Northern Laos. ..... ***E. kubani*** **sp.nov.**

8. Ventral trichobothria on patella number 13. Tibia length to manus width ratio higher than 4. ..... ***E. kaftani*** **(Kovařík, 1993)**
– Ventral trichobothria on patella number 11. Tibia length to manus width ratio lower than 3.5. ..... ***E. problematicus*** **(Kovařík, 2000)**

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