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A NEW SPECIES OF BRISTLETAILS OF THE GENUS *SILVESTRICHILIS* WYGODZINSKY, 1950 (ARCHAEOGNATHA: MACHILIDAE) FROM SOUTH CHINA

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Summary. A new bristletail species, *Silvestrichilis chinensis* Kaplin, **sp. n.** is described from South China (Sichuan). New species clearly differs from the other known species of the genus *Silvestrichilis* Wygodzinsky, 1950 by the structure of ovipositor.

Key words: bristletails, Machilidae, taxonomy, new species, Sichuan, China.

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Резюме. Из китайской провинции Сычуань (Китай) описан новый для науки вид щетинохвосток *Silvestrichilis chinensis* Kaplin, **sp. n.** Новый вид отличается от всех известных видов рода *Silvestrichilis* Wygodzinsky, 1950 формой яйцеклада.

INTRODUCTION

The South Palaearctic genus *Silvestrichilis* Wygodzinsky, 1950 (Machilidae: Machilinae) consists of 17 species distributed in the open mountain areas with sparse woody-shrubby and meadow-steppe vegetation in the Western and Eastern Mediterranean, the Caucasus, Iran and Central Asia (Kaplin, 2018). One species, *S. confucius* (Silvestri, 1906), was described from Northwest China (Shaanxi province) (Mendes *et al*., 2000).

MATERIALS AND METHODS

Examination of the bristletails collected by the authors in 75% alcohol in environs of Nignan Xian (China, Sichuan province) has revealed one female of new species of the genus *Silvestrichilis*; it description is given below. Holotype (female) was dissected and mounted on glass microscope slides in the Berlese fluid. Figures were made using microscope and drawing tool. Holotype of the new species is deposited in the collection of the All-Russian Institute of Plant Protection (VIZR), St. Petersburg-Pushkin.

DESCRIPTION OF NEW SPECIES

Genus *Silvestrichilis* Wygodzinsky, 1950

***Silvestrichilis chinensis* Kaplin, sp. n.**
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Figs 1–13

MATERIAL. Holotype – ♀, **China:** Sichuan, W Nignan Xian, 3.3 km WSW Xiaotiancun village, 27°02′13″ N, 102°37′18″ E, h = 1540 m, 27.VI 2018, leg. I. Belousov, I. Kabak [VIZR] (in slides).

DESCRIPTION. FEMALE. Holotype. Body length 10.8 mm; body width 3.1 mm. Total eyes width 1.07 mm; eye length 0.44 mm. Paired ocelli width 0.31 mm; length 0.12 mm. Coxae styli length 0.65–0.70 mm. Ovipositor length 3.8 mm.

General body color whitish, practically without hypodermal pigment. Antennal base, frons, clypeus, galea and lacinia of maxillae, mandibles and coxae of all legs with purple hypodermal pigment of weak or medium intensity. Color of scales on surface of body brownish. Antennae slightly shorter than body. Distal chains of flagellum divided into 11 annuli. Cerci partially broken.

Eyes adjacent, slightly transverse, motley, dark brown, with bluish specks, lighter near the contact line of the eyes (in alcohol). Ratio length to width of compound eye about 0.85; ratio of length of contact line to length of eye about 0.36. Paired ocelli sublateral, oval, light brown with white narrow borders, 2.6 times as wide as long. Distance between inner margins of ocelli about 0.48 and between their outer margins 0.96 total width of compound eyes (Fig 1).

Maxillary palps broken, have only three palpomeres. Second maxillary palpomere 1.1 times as long as 3rd palpomere (Fig. 5). Apices of lacinia 2-toothed (Fig. 4). Apices of mandibles 4-lobed (Fig. 3). Ultimate labial palpomere oval-triangular, 1.3 times as long as wide (Fig. 2).

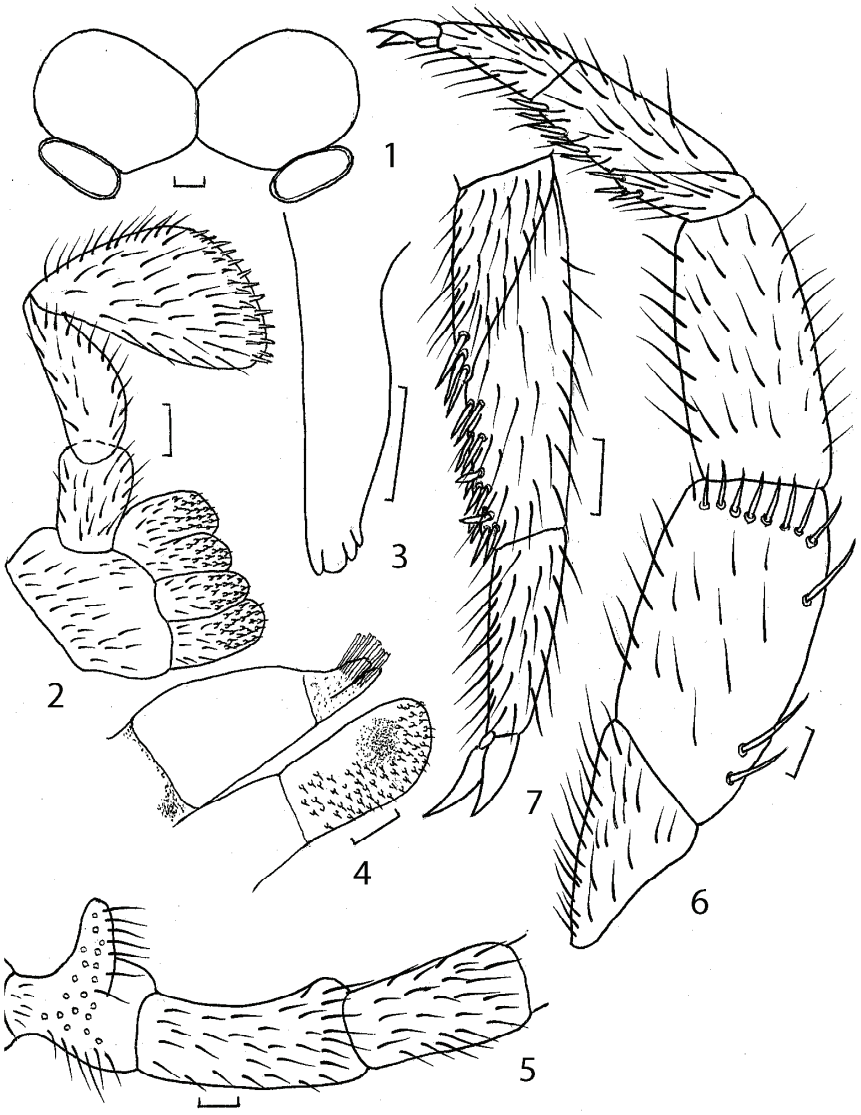
Fore femora, fore and middle tibiae dilated (Fig. 6). Ratios of length to width of femora, tibiae and tarsi given in Table 1. Middle legs shorter than fore ones. Hind legs the longest. Fore tarsi 1.1, hind ones 1.2 times as long as middle tarsi. Fore tibiae 1.1, hind ones 1.4 times as long as middle tibiae. Ratio length of apical hind tarsomere to whole hind tarsus about 0.36 (Fig. 7). Tarsi and tibiae with acicular macrochaetae. First fore, middle and hind tarsomeres with 2–3 acicular macrochaetae, 2nd fore and middle tarsomeres with 5–6, hind ones 7–8; 3rd middle and hind tarsomeres with 1–2 such macrochaetae. Middle tibiae with 1–2, hind ones with 3–4 acicular macrochaetae. Second middle and hind tarsomeres also with thick shortened, vertically erect macrochaetae characteristic of the genus *Silvestrichilis*, their number 2–3 (Fig. 7). Styli present on middle and hind coxae. Ratio of stylus length to coxa width 1.6–1.7.

Table 1. Ratios of length to width of main leg segments of *Silvestrichilis chinensis* sp. n. female.

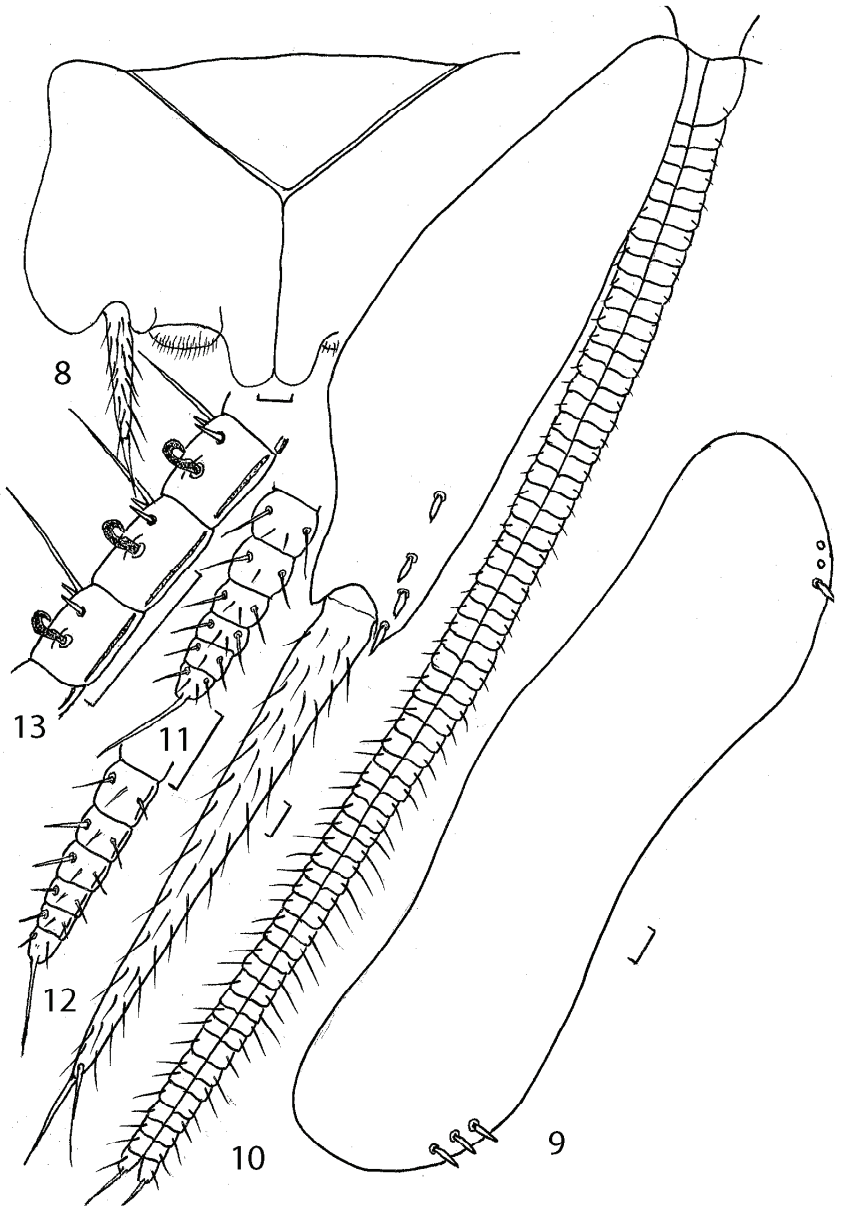
Segments	**Legs**		
	Fore	**Middle**	**Hind**
Femur	2.0	2.17–2.27	2.17–2.26
Tibia	1.95–2.00	2.05–2.10	3.11–3.23
Tarsus	4.64	4.18–4.27	5.50–5.79

Urites I–VII with 1 + 1 eversible vesicles. Posterior angle of urosternites II–V 93–94°, VI – ~96°, VII – ~107°. Urocoxites VII with protruding rounded lobes between eversible vesicles (Fig. 8). Ratio of length to total width of these lobes about 0.50. Ratios of lengths of urosternites, urostylus (without apical spines) and urocoxites given in Table 2.

Thoracic tergites, urotergites I–III, urocoxites I–VIII and urosternites without macrochaetae. Urotergites IV with 1–2 + 1–2, urotergites V–VI with 3 + 3, VII with 3–4 + 3–4, VIII–IX with 4 + 4, X with 3 + 3 sublateral macrochaetae (Fig. 9). Urocoxites IX with 4 + 4 inner lateral macrochaetae (Fig. 10).



Figs 1–7. *Silvestrichilis chinensis* Kaplin, sp. n., holotype ♀: 1 – eyes and paired ocelli; 2 – labial palp; 3 – distal part of mandible; 4 – galea and lacinia of maxilla; 5 – basal part of maxillary palp; 6 – fore leg (part); 7 – hind tarsus. Scale bars = 0.1 mm.



Figs 8–13. *Silvestrichilis chinensis* Kaplin, sp. n., holotype ♀: 8 – urosternite and urocoxite VII; 9 – urotergite X; 10 – anterior gonapophyses with urocoxite IX; 11 – apical part of anterior gonapophyse; 12 – apical part of posterior gonapophyse; 13 – 7–9th divisions (from apex) of posterior gonapophyse. Scale bars = 0.1 mm.

Table 2. Length ratios of urosternites, urocoxites and styli of *Silvestrichilis chinenesis* sp. n. female.

Urite	Urosternite / urocoxite	Stylus (not including apical spines) / urocoxite	Apical spine / stylus
II	0.55	0.53	0.32
III	0.55	0.50	0.35
IV	0.62	0.51	0.35
V	0.62	0.48	0.41
VI	0.60	0.47	0.45
VII	0.52	0.46	0.45
VIII	–	0.87	0.36
IX	–	0.83	0.19

Ovipositor long, segmented, of type I, slightly extending beyond apices of urostyli IX (Fig. 10). Anterior gonapophyses with 64, posterior gonapophyses with 63–65 divisions. All divisions of anterior gonapophyses with setae, 36–38 basal divisions of posterior gonapophyses glabrous. Apical spines of gonapophyses as long as 3–4 apical divisions combined. Apical divisions of anterior gonapophyses with 4–5, posterior gonapophyses with 2–3 setae (not counting sensory setae and apical spines) (Figs 11, 12). 7–24th divisions (from apex) of posterior gonapophyses with 1 lateral outer short and dark hook-shaped seta characteristic of posterior gonaspophyses of females of the genus *Silvestrichilis* (Fig. 13). Total number of hook-shaped setae 18 pairs.

MALE. Unknown.

DIFFERENTIAL DIAGNOSIS. *Silvestrichilis chinensis* sp. n. clearly differs from the other known species of this genus by the structure of ovipositor. Posterior gonapophyses of *S. chinensis* with 18 hook-shaped setae on 7–24th divisions (from apex). Ovipositor of *S. confucius* from China and also *S. tuceti* Janetschek, 1955; *S. molchanovi* Kaplin, 1982; quite possibly *S. heterotarsus* (Silvestri, 1942) and *S. trispina* (Wygodzinsky, 1939) without hook-shaped setae. Posterior gonapophyses of other species of this genus with 6–11 and only *S. zazimkoi* Kaplin, 2007 from Caucasus with 15 hook-shaped setae (Kaplin, 2018). Ovipositor of *S. chinensis* sp. n. with 63–65, *S. confucius* with 53–61, *S. zazimkoi* with 68–70 divisions; posterior angle of urosternites II–V 93–94°, 85–90° and 78–89°, respectively; ratio of length of contact line to length of eye about 0.36, 0.40–0.51 and 0.16–0.18, length to width ratio of apical labial palpomere of female 2.6, 2.3 and 2.3–2.4.

ETYMOLOGY. The new species is named after China, where it was collected.

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