

Two new species of Arginae (Hymenoptera: Argidae) from China

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Abstract: Two new species of Argidae are described from China: *Spinarge xanthofemorata* Wei **sp. nov.** and *Pseudosinarge nigrocosta* Wei **sp. nov.** The morphological differences between these new species and their nearest relatives are briefly discussed. *Pseudosinarge* Saini, Thind & Kaur, 1998 is recorded for the first time in China, which is endemic to South China and North India.

Key words: Tenthredinomorpha; *Spinarge*; *Pseudosinarge*; sawflies; taxonomy

中国三节叶蜂亚科二新种（膜翅目：三节叶蜂科）

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摘要：记述中国三节叶蜂科2新种：黄股刺背三节叶蜂 *Spinarge xanthofemorata* Wei **sp. nov.** 和黑缘拱鞘三节叶蜂 *Pseudosinarge nigrocosta* Wei **sp. nov.**。拱鞘三节叶蜂属 *Pseudosinarge* 是中国新记录属，该属仅分布于中国南部和印度北部。

关键词：叶蜂亚目；刺背三节叶蜂属；拱鞘三节叶蜂属；叶蜂；分类

Introduction

Argidae is the second largest family of the basal lineages of Hymenoptera with about 970 species known up until the end of September 2024 (Wan *et al.* 2022; Vasilenko 2022; Tang *et al.* 2023; Wei 2024).

Spinarge Wei, 1998 is a small genus in the family Argidae (Wei & Nie 1998a). The diagnostic character of this genus is the male fifth tergite with a large and bent middle hook. *Spinarge* occurs in Asia and Europe, but mainly in the eastern Asian region, and a total of 14 species have been recorded worldwide (Liu *et al.* 2021; Vasilenko 2022; Tang *et al.* 2023). In China, there are 8 recorded *Spinarge* species (Wei & Nie 1998a, b; Liu *et al.* 2021; Tang *et al.* 2023).

Pseudosinarge Saini, Thind & Kaur, 1998 is a monotypic genus recorded from North India (Saini *et al.* 1998). The main diagnostic characters of this genus are the hind tibia without preapical spur and the apical spur of hind tibia slender with acute apex, and the sheath strongly bent in lateral view.

This paper reports two additional species of Argidae from China, one *Spinarge* species and one *Pseudosinarge* species.

Material and methods

Specimens were examined with a Motic-SMZ-171 stereomicroscope. Images of adults were taken with a Nikon D700 digital camera and a Leica Z16APO microscope. Images were focus-stacked using Helicon Focus (HeliconSoft, Kharkiv, Ukraine) and further processed with Adobe Photoshop CS 23. The terminology of genitalia follows Ross (1945) and that of wing venation follows Niu and Wei (2010) except for m-cu being replaced by 1m-cu, and stigma by pterostigma. The type specimens of these new species are deposited in the Asian Sawfly Museum, Nanchang, China (ASMN).

Taxonomy

1. *Spinarge xanthofemorata* Wei sp. nov. (Figs 1A–F)

Female. Length 10 mm (Fig. 1A). Body black with distinct coppery tinge; antenna, labrum, mandible largely, palpi, each femur, tibia and tarsus, seventh sternite largely, basal large macula and most of apical part of sheath yellow brown, body hairs pale brown; wings subhyaline, extreme base of fore wing and costal region yellowish tinged, vein C, Sc and A yellow brown, pterostigma except apical margin, a short and bent stripe below pterostigma and other veins brownish black.

Clypeus with distinct but small punctures mixed with microsculptures, face sparsely punctured, dorsum of head with sparse and minute punctures; thorax and abdomen strongly smooth and shiny. Clypeus flat, anterior margin triangularly incised to a depth of one third length of clypeus; supraclypeal area roof-like elevated with obtuse but recognizable middle carina, lateral slope not convex; distance between lower corners of eyes longer than longest axis of eye, malar space 1.2 times diameter of middle ocellus; middle fovea broad and open upward, bottom flat; lateral carinae sharp and connected with frontal ridges, distinctly convergent downwards; postocellar area weakly elevated and about 3 times as broad as long, clearly oblique backward, postocellar furrow distinct, weakly bent forward at middle; temple slightly shorter than eye, weakly and roundly narrowed behind eyes in dorsal view; antenna slender, flagellum 1.3 times as long as head breadth and distinctly enlarged toward apex. Mesoscutellum flat, posterior margin round; lower half of mesepisternum largely naked; middle and hind tibiae each with one preapical spur; metabasitarsus distinctly stouter than other tarsomeres and as long as following three tarsomeres together; spines on fore wing erect and sparse, marginal cilia absent; vein R+M punctiform, Sc not quite close to base of R+M, cu-a meeting cell 1M slightly basad middle, cell 2Rs much longer than 1Rs with anterior

margin clearly longer than posterior margin, 3r-m bent outward at upper third, basal anal cell close; anal cell in hind wing 1.2 times as long as anal petiole, cu-a straight. Posterior margin of seventh sternite roundly and distinctly extending backward at middle; ovipositor sheath shorter than hind femur, subbasal part clearly concave in lateral view, apex broad and roundish (Fig. 1B); each lobe of sheath in dorsal view about as long as broad, outer margins roundly convex (Fig. 1C); lancet broad, basal serrulae convex, apical serrulae flat and contiguous, 7th to 9th serrulae slightly convex and shortly separated by a small incision, subbasal teeth minute and indistinct (Fig. 1E).

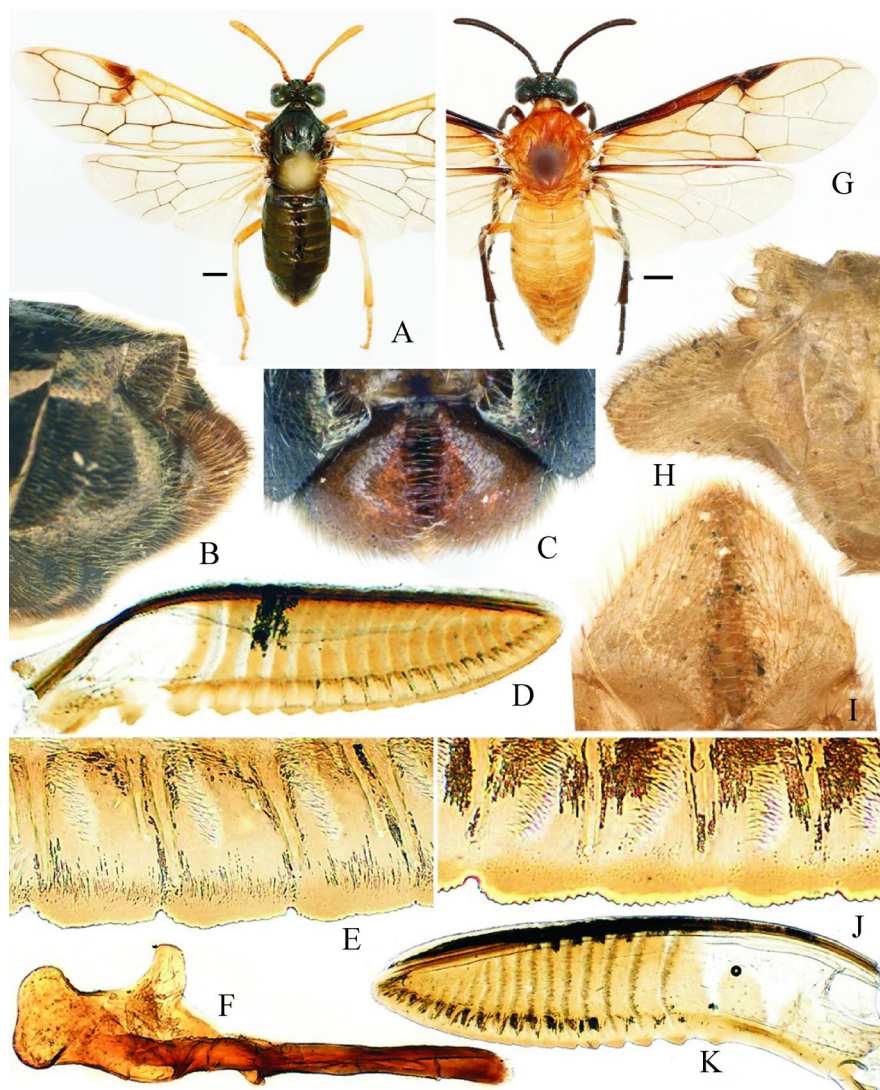


Figure 1. *Spinarge xanthofemorata* Wei **sp. nov.** and *Pseudosinarge nigrocosta* Wei **sp. nov.** A–F. *Spinarge xanthofemorata*, holotype; G–K. *Pseudosinarge nigrocosta*, paratype; A, G. Female, dorsal views; B, H. Ovipositor sheath, lateral views; C, I. Ovipositor sheath, dorsal views; D, K. Lancet; E, J. The 7th–9th serrulae; F. Penis valve. Scale bars = 1 mm.

Male. Length 7 mm; color and structure similar to female except for followings: fore wing with a complete infusate band below pterostigma, apex of each coxa, trochanters entirely, apical half of subgenital plate and harpe entirely yellow brown; temple short and distinctly narrowed behind eyes in dorsal view; lateral carinae between toruli closer to each other; antennal flagellum compressed with erect blackish hairs; fifth abdominal tergite with a strong middle spur; subgenital plate strongly narrowed toward apex; penis valve not oblique, apical margin subtruncate and without ventral apical process, caudal lobe narrow (Fig. 1F).

Holotype. ♀, **China**, Shaanxi, Mt. Taibai, 117°53'40"E, 34°3'15"N, alt. 1,060 m, 31-V-2018, Meicai WEI & Lin LIU legs. **Paratype.** 1♂, **China**, Gansu, Lixian County, Taoping Forest Plantation, 27-VI-2007, Mingjun TANG leg.

Etymology. This new species is named after the type locality.

Remarks. This new species is a member of the *Spinarge metallica* group and is similar to *S. metallica* (Kulg, 1824). It differs from *S. metallica* by the antenna, labrum, femur and sheath largely yellow brown; each lobe of sheath broad and short, apex round; the valviceps weakly narrowed at middle.

2. *Pseudosinarge nigrocosta* Wei sp. nov. (Figs 1G–K)

Female. Length 10.2 mm (Fig. 1G). Head and antenna black, palpi yellow brown, hairs on dorsum of head black brown, hairs on thorax and abdomen including sheath yellow; coxae and trochanters entirely, hind femur except for apex yellow brown, other parts of legs black; fore wing pale brownish tinged, cell C and Sc, vein C and Sc+R, pterostigma and a small roundish macula below pterostigma black, other veins pale brown.

Head with minute and sparse punctures, thorax and abdomen smooth and shiny. Hairs on dorsum of head shorter than diameter of median ocellus. Clypeus flat, anterior margin broadly and shallowly incised; inner margins of eyes slightly convergent downwards, shortest distance between eyes slightly longer than height of eye, malar space 0.8 times diameter of median ocellus; lateral carinae between toruli low and weakly convergent downwards, not meeting together; postocellar furrow shallow, distinctly bent forward at middle; postocellar area 2.5 times as broad as long; temple as long as eye in dorsal view, laterally hardly narrowed behind eyes; antenna slender, distinctly bent, slightly shorter than head and thorax together, flagellum 1.5 times as long as head breadth. Fore wing with vein R+M slightly shorter than free abscissa of vein Sc, cu-a meeting cell 1M slightly basad middle, upper margin of cell 2Rs as long as 1Rs and much longer than lower margin of 2Rs, vein 3r-m strongly bent at upper third, basal anal cell close; anal petiole of hind wing as long as anal cell; apical spurs of hind tibia thin and subequal in length; middle process of seventh sternite small; sheath in lateral view shorter than hind femur, dorsal side weakly convex and ventral side strongly concave (Fig. 1H); each lobe of sheath triangular, much longer than its basal breadth, tapering toward apex, inner and outer sides straight (Fig. 1I); lancet broad, basal serrulae convex, apical serrulae flat and contiguous, 7th to 9th serrulae slightly convex with minute but distinct fine teeth (Fig. 1J).

Male. Unknown.

Holotype. ♀, **China**, Hubei, Yichang, Mt. Shennongjia, Qianjiaping, 110°24'08"E, 31°25'22"N, 1,530 m, 22–23-V-2011, Zejian LI leg. **Paratype.** 1♀, **China**, Guizhou, Zunyi, Dashahe, alt. 1,300 m, 26-V-2004, Yang LIN leg.

Etymology. This new specific epithet is named after the black costal area in fore wing.

Remarks. *Pseudosinarge* is recorded for the first time from China. This new species from China differs from the type of the genus by the antenna entirely black; fore wing without smoky band below pterostigma, costal and subcostal area black; middle and hind femora largely yellow brown, and thorax and abdomen entirely yellow brown. The color pattern of fore wing of this new species is also similar to species of the *Arge ochropus* group from Europe, but the body color, the structure of hind tibia and sheath are much different.

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