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### FIRST RECORD OF THE GENUS *HERSILIA* AUDOUIN, 1826 AND FAMILY HERSILIIDAE (ARANEAE) FROM VIETNAM

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**Summary.** Spider family Hersiliidae and genus *Hersilia* are recorded from Vietnam for the first time. New synonymy is proposed: *Hersilia sumatrana* (Thorel, 1890) = *Hersilia pectinata* Thorell, 1895, **syn. n.** The species-group formerly known as *Hersilia pectinata* is renamed *Hersilia sumatrana* species-group. Furthermore, the detailed description, photographs of copulatory organs, and somatic features of *H. sumatrana* are also provided.

**Key words:** spiders, new synonymy, fauna, distribution, new records, South-East Asia.

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**Резюме.** Из Вьетнама впервые приводятся семейство пауков Hersiliidae и род *Hersilia*. Предлагается новая синонимия: *Hersilia sumatrana* (Thorel, 1890) = *Hersilia pectinata* Thorell, 1895, **syn. n.** Группа видов, ранее известная как *Hersilia pectinata*, переименована в видовую группу *Hersilia sumatrana*. Кроме того, приведены подробное описание, фотографии копулятивных органов и соматические особенности *H. sumatrana*.

#### INTRODUCTION

Hersiliidae is a small spider family within the order Araneae, accounting for 188 species of 16 genera (World Spider Catalog, 2024), and widely distributed. Although the family has been recorded in neighbouring countries of Vietnam such as Laos and China (Baehr & Baehr, 1993; Jäger, 2007; Lin & Li, 2022), it has never been recorded in Vietnam, so far.

The genus *Hersilia* Audouin, 1826 is the most speciose genus of the family, comprising 81 described species distributed across tropical and subtropical regions of Africa, Asia, and Australia. Among these, *H. pectinata* Thorell, 1895 is known solely from males, while *H. sumatrana* (Thorell, 1890) is known exclusively from females, both belonging to the *H. pectinata* species-group (Baehr & Baehr, 1993). Consequently, there are significant doubts regarding their conspecificity (Baehr & Baehr, 1993).

Recently, two males identified as *Hersilia pectinata* and two females identified as *H. sumatrana* were collected together in Vietnam. This confirmation establishes them as conspecific,

thereby designating *H. sumatrana* as a senior synonym of *H. pectinata*, herein. Accordingly, the name of *H. pectinata* species-group is changed to *H. sumatrana* species-group, now comprising a total of eight species. Additionally, family Hersiliidae is new for the fauna of Vietnam.

## MATERIAL AND METHODS

Specimens were collected by hand, and examined with a Zeiss Stemi 508 stereo microscope (up to 100X magnification). Photos were taken using Jenoptik ProgRes CF Scan 12.5MP camera and Jenoptik ProgRes Capture Pro 2.10.0.1 software. The male palp and the female epigyne were examined and illustrated after dissection. The epigyne was cleared in a 10% KOH solution at room temperature for about 12 hours. Photos were stacked using the Helicon focus 7.0.2 Pro software and then modified using Adobe Photoshop CS2 9.0. All measurements are given in millimeters (mm). Leg segment lengths are given as follows: total length (femur, patella, tibia, metatarsus I + metatarsus II, tarsus). The terminology used in the text and figures follows Baehr & Baehr (1993), and Lin & Li (2022). The studied specimens have been deposited in the Vietnam National Museum of Nature (VNMN), Hanoi, Vietnam.

Abbreviations are as follows: ALE, anterior lateral eye; AME, anterior median eye; PLE, posterior lateral eye; PME, posterior median eye.

## TAXONOMY

### Family Hersiliidae Thorell, 1869

### Genus *Hersilia* Audouin, 1826

### *Hersilia sumatrana* species-group

**DIAGNOSIS.** The *Hersilia sumatrana* species-group can be distinguished from other congeners by the presence of a pronounced angular projection accompanied by 4–7 strong spines dorsally on the male palpal tibia; the lamellar modifications on the bulbus and crenulae on a complex median apophysis is present (up to 8 crenulae) or absent in some species (including: *H. orvakalensis*, *H. sumatrana* and *H. thailandica*), along with a long, ridged embolus. Female is distinguished by presented a median epigynal plate with basal rippled pads, and a longitudinal rippled pad, medially. For more detail diagnostic characters, refer to Baehr & Baehr (1993) and Javed *et al.* (2010).

**SPECIES INCLUDED.** *Hersilia hildebrandti* Karsch, 1878, *H. incompta* Benoit, 1971, *H. orvakalensis* Javed, Foord et Tampal, 2010, *H. scrupulosa* Foord et Dippenaar-Schoeman, 2006, *H. sumatrana* (Thorell, 1890), *H. thailandica* Dankittipakul et Singtripop, 2011, *H. tibialis* M. Baehr et B. Baehr, 1993, and *H. wraniki* Rheims, Brescovit et van Harten, 2004.

**DISTRIBUTION.** Vietnam (new record), Tanzania, Ivory Coast, India, Kenya, China, Malaysia, Indonesia, Thailand, Sri Lanka, and Yemen.

### *Hersilia sumatrana* (Thorell, 1890)

Figs 1–13

*Chalinura sumatrana* Thorell, 1890: 319 (female).

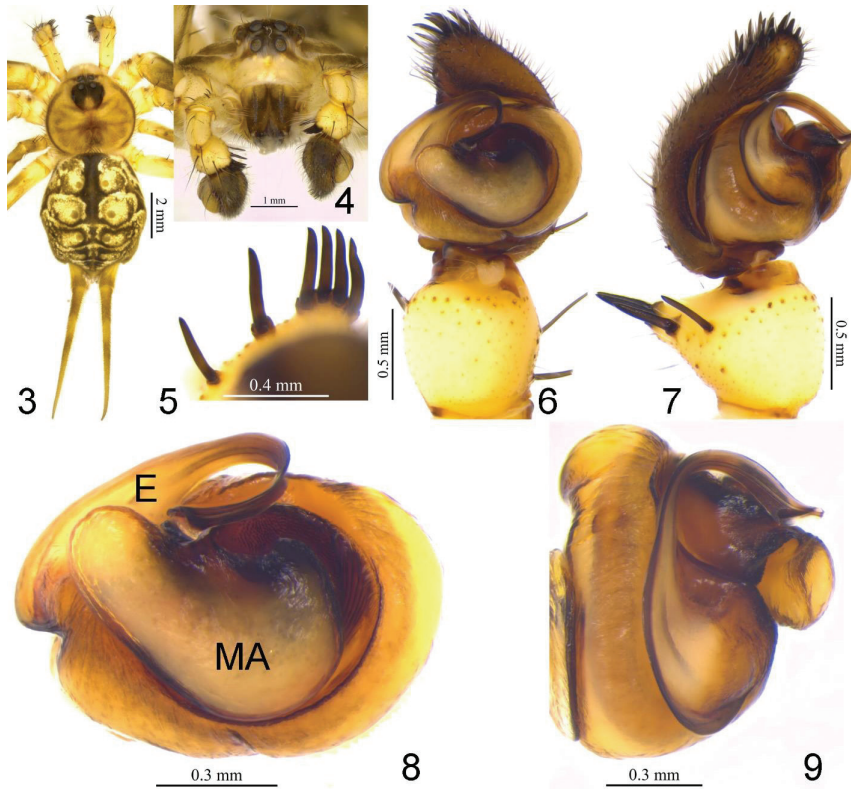
*Hersilia sumatrana* Thorell, 1890: 8 (female); Baehr & Baehr, 1993: 50 (female).

*Hersilia pectinata* Thorell, 1895: 58 (male); Pocock, 1990: 241; Baehr & Baehr, 1993: 48 (male); **syn. n.**

**REMARK.** For a complete list of references see World Spider Catalog (2024).



Figs 1–2. *Hersilia sumatrana* (Thorell, 1890). 1 – male; 2 – female.



Figs 3–9. Male of *Hersilia sumatrana* (Thorell, 1890). 3 – habitus, dorsal view; 4 – carapace, frontal view; 5 – spines on tibia, frontal view; 6 – palp, ventral view; 7 – same, prolateral view; 8 – bulbus, ventral view; 9 – same, prolateral view. Abbreviations: E, embolus; MA, median apophysis. Scale bars: = 2 mm (3), 1 mm (4), 0.4 mm (5), 0.5 mm (6–7), 0.3 mm (8–9).

**MATERIAL EXAMINED.** **Vietnam:** Dak Lak Prov., Buon Ma Thuot City, 12.7206°N, 108.08487°E, 531 m, 10.XI 2021, 2♂ (VNMN-ARA-HER-001 and 002), 2♀ (VNMN-ARA-HER-003 and 004), leg. H.Q. Duy.

**DIAGNOSIS.** Male of the species *Hersilia sumatrana* can be distinguished from other members of the group by following characteristics: tibia with an angulated projection dorsally with a group of 4 strong spines and 2 separated spines (Figs 5, 7 and Fig. 32d in Baehr & Baehr, 1993), cymbium with ca. 12 (Baehr & Baehr, 1993) or 15 apical spines (Figs 6–7) (below 8 spines in others), and median apophysis without any crenulae on the retrolateral border (Figs 6, 8). The female is mostly similar to those of the species *H. tibialis*, however, differs by epigyne with convex posterior border (Fig. 12) vs. triangular in *H. tibialis* (Baehr & Baehr, 1993: fig. 34e); basal rippled pad wider and circular (Figs 12–13) (narrow and almost triangular in *H. tibialis*, Baehr & Baehr, 1993: fig. 34e).

**REDESCRIPTION.** Male. Carapace length 3.31, width 3.77; Abdomen length 5.56, width 4.54. Clypeus height 0.64. Carapace rounded, yellowish brown with sparsely dark brown hairs, and margin dark brown. Eye area dark brown (Fig. 3). Clypeus yellow (Fig. 4) accompanied by white setae. Chelicerae dark brown, promargin with three teeth, retromargin with teen denticles. Abdomen: yellowish brown with dark brown pattern, four pairs of oval muscle impressions accompanied four pairs of sigilla each (Fig. 3). Spinnerets yellowish brown, posterior lateral spinnerets length 7.95 with blur dark annulate (Fig. 3). Legs yellowish brown, with blur dark annulate. Eye sizes and interdistances: AME 0.37, ALE 0.14, PME 0.33, PLE 0.34, AME–AME 0.22, AME–ALE 0.32, PME–PME 0.21, PME–PLE 0.30, AME–PME 0.14, ALE–PLE 0.15. Leg measurements: leg I: 42.35 (11.37; 1.80; 12.01, 11.84 + 4.39; 0.94), leg II: 38.61 (10.58; 1.63; 10.95; 10.80 + 3.64; 1.08), leg III: 9.59 (2.68; 0.75; 2.35; 2.97; 0.84), leg IV: 33.07 (8.81; 1.42; 8.36; 10.30 + 3.17; 1.01). Leg formula: I, II, IV, III.

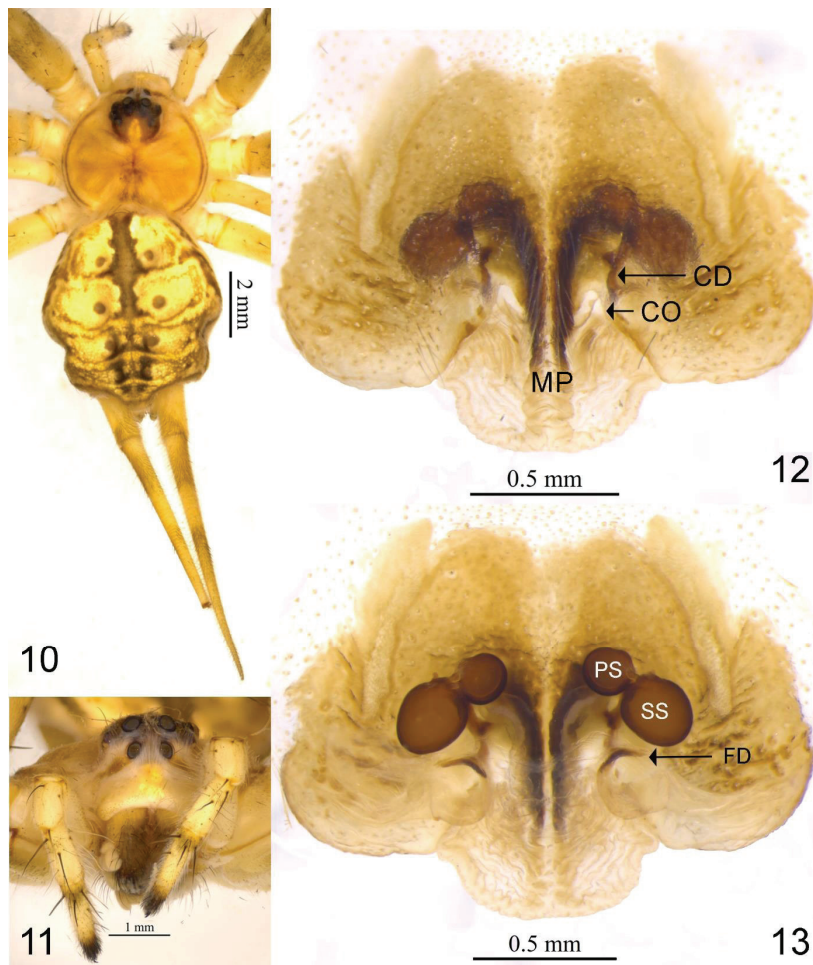
Palp (Figs 6–9): tibia about half the cymbium length, with an angulated projection dorsally and presence of a group of 4 strong spines close together and 2 strong separate spines (Figs 5, 7). Cymbium short, bearing 15 strong spines at the top (Figs 6–7). Median apophysis large, arising from the base, directed prolaterally without any crenulae (Figs 6, 8), beneath median apophysis with countless short thorns-like on the surface of tegulum. Embolus thin, curved, and slightly bevelled with lamella-like at the end (Figs 6–9).

Female (Figs 10–13) almost similar to that of the male. Carapace length 3.58, width 4.41; Abdomen length 6.16, width 5.28. Clypeus height 0.81. Posterior lateral spinnerets length 9.02. Eye sizes and interdistances: AME 0.31, ALE 0.12, PME 0.33, PLE 0.35, AME–AME 0.25, AME–ALE 0.40, PME–PME 0.22, PME–PLE 0.33, AME–PME 0.16, ALE–PLE 0.20. Leg measurements: leg I: 33.50 (10.07; 1.83; 8.79; 7.70 + 3.76; 1.35), leg II: 32.38 (9.66; 1.87; 8.71; 8.06 + 3.17; 0.91), leg III: 9.92 (3.11; 1.06; 2.33; 2.53; 0.89), leg IV: 28.39 (7.40; 1.53; 7.09; 8.34 + 2.89; 1.14). Leg formula: I, II, IV, III.

Epigyne (Figs 12–13): large, sclerotized and presence of a median plate (Fig. 12); basal median plate strongly rippled; copulatory opening located posteriorly; primary spermathecae ovoid, separated and larger than secondary spermathecae; copulatory ducts mostly straight and partially obscured; fertilization ducts very long (Fig. 13).

**DISTRIBUTION.** Myanmar, Brunei, Philippines, China, Malaysia, Indonesia (Baehr & Baehr, 1993; Lin & Li, 2022), and Vietnam (new record).

**NOTES.** Until now, the species *Hersilia pectinata* and *H. sumatrana* were only known from opposite sexes. However, they share the same distribution areas in the Oriental region. Moreover, they were collected together in Vietnam within a rubber plantation (Figs 1–2), and exhibit similar general habitus in both sexes. Therefore, we consider them to be conspecific.



Figs 10–13. Female of *Hersilia sumatrana* (Thorell, 1890). 10 – habitus, dorsal view; 11 – carapace, frontal view; 12 – epigyne, ventral view; 13 – vulva, dorsal view. Abbreviations: CD – copulatory duct; CO – copulatory opening; FD – fertilization duct; MP – median plate; PS – primary spermathecae; SS – secondary spermathecae. Scale bars: = 2 mm (10), 1 mm (11), 0.5 mm (12–13).

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