

The Ant Genus *Vombisidris* Bolton, 1991 (Hymenoptera: Formicidae) in Thailand, with a Description of a New Species

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ABSTRACT.— *Vombisidris* Bolton, 1991, a small ant genus comprising 20 extant species (including the new species), is distributed in India, China, various countries in Southeast Asia, New Guinea, and Queensland of Australia. Two species of the genus, *V. satunensis* Jeenthong, Jaitrong & Tasen, 2023 and *V. sirindhornae* Jeenthong, Samung & Jaitrong, sp. nov. are known in Thailand. *Vombisidris satunensis* inhabits lowland habitats (ca. 100–200 m a.s.l.), while *V. sirindhornae* is found in highland habitats (1,000 m a.s.l.). Both species were found nesting in dead twigs on trees at forest edges.

KEYWORDS: distribution, identification key, new species, Southeast Asia, taxonomy

INTRODUCTION

Vombisidris Bolton, 1991, a small ant genus comprising 19 extant species, is distributed in India, China, various countries in Southeast Asia, New Guinea, and Queensland of Australia (Bolton, 1991, 2025; Huang and Zhou, 2006; Zettel and Sorger, 2010; Xu and Yu, 2012; General, 2020; Jeenthong et al., 2023; AntWeb, 2025). The genus occupies a wide range of habitats, from the leaf litter and low vegetation to tree trunks and the canopy, and inhabits both lowland and montane forests (Bolton, 1991; Zacharias and Rajan, 2004; General, 2020; Jeenthong et al., 2023). General (2020) collected specimens by beating low vegetation at night. Jeenthong et al. (2023) collected colonies of a *Vombisidris* species from dead twigs hanging on a shrub at the forest edge. Fifteen species of the genus *Vombisidris* have recently been reported from Asia, with 11 of these species from Southeast Asia (Bolton, 2025). Jeenthong et al. (2023) described a new *Vombisidris* species, *V. satunensis* Jeenthong, Jaitrong & Tasen, 2023 from southern Thailand and provided a key to the world species of the genus.

Recently, we have examined *Vombisidris* specimens deposited in the ant collection at the Natural History Museum of the National Science Museum, Thailand. We found an unidentified species that is closely related to *V. tibeta* Xu & Yu, 2012 and *V. umrabdomina* Huang & Zhou, 2006. In the present paper we describe this species based on the worker and dealate queen. An updated key to known species of *Vombisidris* of the world based on the worker caste is provided.

MATERIALS AND METHODS

We examined specimens deposited in the Natural History Museum of the National Science Museum, Thailand (THNHM). The holotype and paratypes of *Vombisidris sirindhornae* sp. nov. were pinned and compared with high-resolution images of the holotypes, paratypes, and syntypes of the closely related species (*V. tibeta* Xu & Yu, 2012 and *V. umrabdomina* Huang & Zhou, 2006) available on AntWeb (2025). Most morphological observations were made with a ZEISS Stemi 305 stereoscope. The holotype and paratypes of *V. satunensis* housed in THNHM were examined. The holotype, paratypes, and non-types of the new species are deposited in THNHM.

Multi-focused montage images were produced using NIS-Elements-D from a series of source images taken by a Nikon Digital Sight-R1 camera attached to a Nikon AZ100M stereoscope. The holotype and 20 paratypes were measured for the following parts using a micrometer (accurate to 0.01 mm).

The abbreviations used for the measurements and indices are as follows:

- TL** Total Length. Roughly measured from anterior margin of head (including mandible) to tip of metasoma in stretched specimens, excluding sting.
- HL** Head Length. Length of head proper in full-face view, excluding mandibles, measured in straight line from anterior clypeal margin to mid-point of posterior margin.

- HW** Head Width. Maximum width of head capsule measured in full-face view, excluding compound eyes (hereafter simply eyes).
- ED** Eye Diameter. Maximum diameter of eye with head positioned in profile view such that anterior and posterior eye margins are in same plane of focus.
- SL** The maximum straight-line length of the antennal scape excluding the basal constriction or neck close to the condylar bulb.
- ML** Mesosomal Length. Diagonal length of mesosoma in profile, from the point at which pronotum meets cervical shield to posterior margin of metapleuron.
- CI** Cephalic Index. $HW \times 100/HL$
- SI** Scape Index. $SL \times 100/HW$

RESULTS

Taxonomy

Subfamily Myrmicinae Lepeletier de Saint-Fargeau, 1835

Genus *Vombisidris* Bolton, 1991

Vombisidris satunensis Jeenthong, Jaitrong & Tasen, 2023 (Figs 1, 5J, 6G, 7A)

Vombisidris satunensis Jeenthong et al., 2023: 106, figs 1, 2, 4c, 4e.

Types.— The holotype worker (THNHM-I-00000246), 13 paratype workers (THNHM-I-00000247 to THNHM-I-00000259), 1 paratype dealate queen (THNHM-I-00000260), and 5 paratype alate queens (THNHM-I-00000261 to THNHM-I-00000265) (THNHM, examined), Thailand, Satun Province, La-ngu District, Kamphaeng Subdistrict, Urai Thong Cave, 7°10'40"N, 99°49'25"E, 21 May 2022, W. Jaitrong leg., TH22-WJT-188; 12 paratype workers and 5 paratype alate queens (THNHM, examined), S Thai-land, Satun Province, La-ngu District, Khlong Huai Ba near Khao Kluai Mountain, 6°58'29"N, 99°46'22"E, 22 May 2022, W. Jaitrong leg., TH22-WJT-214.

Non-type material examined.— Five workers (THNHM-I-00030151, THNHM-I-00030174 to THNHM-I-0030177) and 1 dealate queen (THNHM-I-00030178), central Thailand, Nakhon Nayok Province, Mueang Nakhon Nayok District, Ban Hin Tang, Wangtakrai Park, 16 November 2023, W. Jaitrong leg., WJT161123-01; 16 workers (THNHM-I-00030152 to THNHM-I-000301

67), 1 dealate queen (THNHM-I-00030171), 3 alate queens (THNHM-I-00030168 to THNHM-I-00030170), and 2 males (THNHM-I-00030172 to THNHM-I-00030173), central Thailand, Nakhon Nayok Province, Mueang Nakhon Nayok District, Ban Hin Tang, Wangtakrai Park, 14 March 2024, W. Jaitrong leg., WJT140324-01.

Worker diagnosis (Fig. 1A–C).

Measurements (in mm) and indices.— Holotype and paratype workers ($n = 12$): TL 2.64–3.07, HL 0.66–0.76, HW 0.56–0.63, ED 0.17–0.20, SL 0.43–0.53, ML 0.79–0.86, CI 81–86, SI 76–88.

Subocular groove entirely present, running from mandibular insertion to anteroventral margin of eye, then continuing along lateral face of head to postero-lateral corner of head (partly touching anteroventral margin of eye); in profile view, metanotal groove entirely absent; petiolar node dome-like, dorsal corner indistinct; in profile view, petiole peduncle as long as or shorter than petiolar node; in profile view, propodeal spine short and straight. Head, mesosoma, petiole and postpetiole reticulate, the reticulation on petiole and postpetiole finer than that on head; gaster smooth and shiny; mandible, antennal scape, legs smooth and shiny. Entire dorsum of body with dense erect hairs; scape covered with dense suberect hairs, sparsely with long erect hairs; flagellum of antenna with dense suberect hairs; anterior clypeal margin with 4–5 long erect hairs; mandible with sparse decumbent hairs; legs with sparser suberect hairs. Head, mesosoma, petiole, and postpetiole yellowish-brown; gaster darker than elsewhere; legs paler than mesosoma.

Queen diagnosis (Fig. 1D, F).

Measurements (in mm) and indices.— Paratype queens ($n = 5$): TL 2.90–3.30, HL 0.69–0.79, HW 0.56–0.63, ED 0.17–0.20, SL 0.46–0.50, ML 0.92–0.99, CI 77–81, SI 79–83.

Queen is similar to worker in structure, sculpture, coloration, and pilosity, with the following conditions that should be noted: body slightly larger; eye larger, 0.17–0.20 mm, with 11–12 ommatidia in longest diameter; ocelli present, located on vertex, in dorsal view pronotum distinctly shorter than broad, its posterior margin strongly concave; subocular groove entirely present, almost straight; in dorsal view mesoscutum as broad as pronotum, almost as long as broad, anterior margin distinctly convex, while posterior margin weakly convex; scutellum slightly shorter than broad; propodeal dorsum almost as long as scutellar dorsum; propodeal spine relatively shorter than in worker; in dorsal view propodeal spine clearly shorter than propodeal width. Dorsum of head, area between frontal

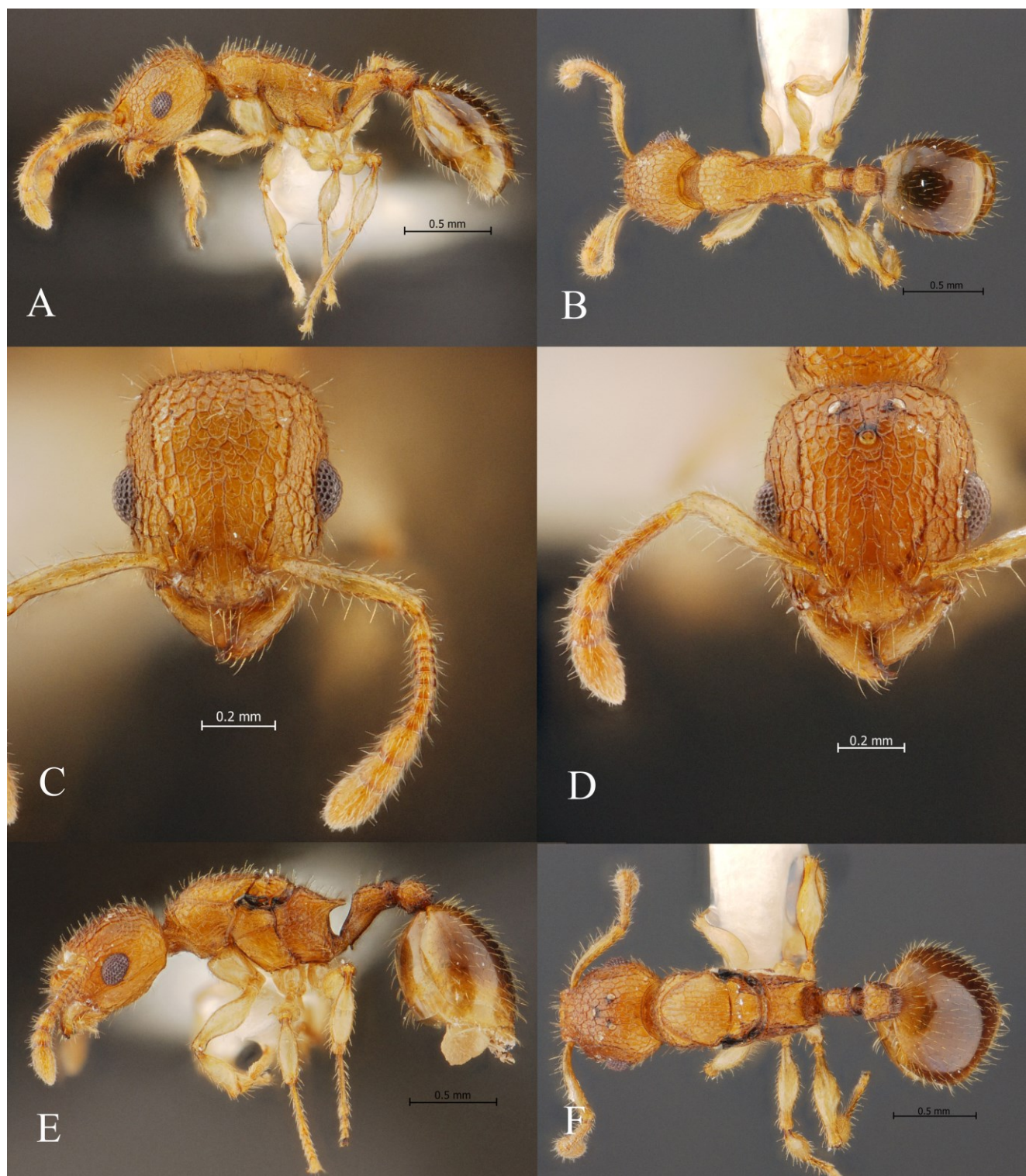


FIGURE 1. *Vombisidris satunensis*. **A–C.** Worker (holotype, THNHM-I-00000246); **D–F.** dealate queen (paratype, THNHM-I-00000260). **A, E.** Body in profile view; **B, F.** body in dorsal view; **C, D.** head in full-face view.

lobes irregularly striate without reticulation as in worker; mesoscutum with longitudinal striation; scutellum and dorsum of propodeum reticulate; upper portion of katepisternum smooth and shiny.

Habitat.— This species nested in dead twigs hanging

on shrub trees at the forest edge. Alate queens were found in three colonies (TH22-WJT-188, TH22-WJT-214, and WJT140324-01) collected in May 2022 and March 2024, thus mating season of the species might be in the dry season. All colonies were found in lowland (ca. 100–200 m a.s.l.) at the forest edges.



FIGURE 2. *Vombisidris sirindhornae* new species, worker (holotype, THNHM-I-00030214). **A.** Body in profile view; **B.** head in full-face view; **C.** head in profile view; **D.** body in dorsal view; **E.** propodeal declivity.



FIGURE 3. *Vombisidris sirindhornae*, new species, dealate queen (paratype, THNHM-I-00030230). **A.** Body in profile view; **B.** head in full-face view; **C.** body in dorsal view.

Comparative notes.— *Vombisidris satunensis* is most similar to *V. harpeza* Bolton, 1991 in having yellow body and weakly convex mesosomal outline but it can be separated from *V. harpeza* by 1) hairs on head relatively long, simple, sharp at tip (short and blunt at tip in *V. harpeza*); 2) frontal carina well-defined (indistinct in *V. harpeza*); 3) in dorsal view, metanotal groove indistinct (broad and shallow groove in *V. harpeza*); 4) propodeal spine short and straight (relatively long and downcurved in *V. harpeza*); 5) ratio of petiolar length and height greater (1.94 in *V. satunensis*; 1.5 in *V. harpeza*); 6) smaller species (TL 2.64–3.07, HW 0.56–0.63 in *V. satunensis*; TL 3.50, HW 0.75 in *V. harpeza*). *Vombisidris satunensis* is quite similar to *Vombisidris nahet* Bolton, 1991 and *Vombisidris renateae* (Taylor, 1989) in having the long petiole and the yellow body but *V. satunensis* species is

distinguished from the latter by short and straight propodeal spine (long and distinctly downcurved in the latter two) and clearly smaller body in average (TL 2.64–3.07 mm, HW 0.56–0.63 mm in *V. satunensis*; TL 3.4–4.1 mm, HW 0.63–0.71 mm in the latter two). *Vombisidris satunensis* is also similar to *Vombisidris dryas* Bolton, 1991 in having slightly straight propodeal spines. However, *V. satunensis* is separated from *V. dryas* by the following characteristics: 1) metanotal groove indistinct (broad and shallow groove in *V. dryas*); 2) part of subocular groove touching antero-ventral margin of eye (not touching in *V. dryas*); and 3) frontal carina long and well defined (short and indistinct in *V. dryas*). *Vombisidris satunensis* is closely related to *Vombisidris xylochos* Bolton, 1991 in having the yellow body and the straight propodeal spine. This species can be easily separated from *V.*

xylochos by 1) in profile, petiolar node dome-like or roughly triangular, dorsum roundly convex, without distinctly differentiated dorsal face (petiolar node roughly trapezoidal, with distinctly differentiated dorsal face in *V. xylochos*); 2) propodeal spine relatively short, about 2 times as long as its width at base (long, 4 times as long as its width at base in *V. xylochos*); metanotal groove absent (present in *V. xylochos*).

Distribution.— Thailand (Nakhon Nayok and Satun Provinces, Fig. 4).

***Vombisidris sirindhornae* Jeenthong, Samung & Jaitrong, sp. nov.**

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(Figs 2, 3, 6C)

Types.— Holotype: Worker (THNHM-I-00030214), central Thailand, Kamphaeng Phet Province, Khlong Lan District., Mae Wong National Park, Chong Yen Campground, 11 September 2024, N. Phosrithong leg., NP110924-07. Paratypes: Fifteen workers (THNHM-I-00030215 to THNHM-I-30229) and 1 dealate queen (THNHM-I-00030230) same data as holotype.

Non-type material examined.— Eleven workers (THNHM-I-00030235 to THNHM-I-00030245) and 1 dealate queen (THNHM-I-00030234), central Thailand, Kamphaeng Phet Province, Khlong Lan District., Mae Wong National Park, Chong Yen Campground, 11 September 2024, N. Phosrithong leg., NP110924-08; 3 workers (THNHM-I-00030231 to THNHM-I-00030233), and 2 males (THNHM-I-00030172 to THNHM-I-00030173), central Thailand, Kamphaeng Phet Province, Khlong Lan District, Mae Wong National Park, Chong Yen Campground, 11 September 2024, N. Phosrithong leg., NP110924-01.

Worker description (holotype and paratypes, Figs 2, 6C).

Measurements (in mm).— Holotype TL 3.80, HW 0.70, HL 0.85, ED 0.20, SL 0.65, ML 1.10, CI 82, SI 93. Paratypes (n = 5) – TL 3.65–3.95, HW 0.70–0.75, HL 0.80–0.85, ED 0.20, SL 0.65–0.70, ML 1.05–1.15, CI 82–88, SI 87–93.

Head in full-face view oval, distinctly longer than broad, weakly convex sided, posterior margin weakly concave medially. Mandible subtriangular, masticatory margin with large apical tooth followed by two smaller teeth (third smaller than second), long diastema, and two small teeth; basal margin of mandible straight, lacking denticles. Clypeus in full-face view subtrapezoidal, its anterior margin broadly convex; in profile clypeus with distinctly convex median portion. Eye

relatively large, convex, with 10–11 ommatidia in longest diameter, located laterally at middle length of head. Antenna 12-segmented with a strongly antennal clubs 3-segmented; antennal scape slender, down-curved, apex of scape just reached to posterolateral corner of head. Frontal lobe narrow, each lobe distinctly narrower than posterior portion of clypeus which is inserted between them. Torulus concealed by frontal lobe in full face view. Frontal carina present, extending beyond posterior margin of eye. In profile view, subocular groove complete, running from mandibular insertion to anteroventral margin of eye, then continuing along lateral face of head to posterolateral corner of head (partly touching anteroventral margin of eye).

In profile, mesosoma weakly convex in dorsal outline; in dorsal view pronotum slightly shorter than broad, and broader than mesonotum and propodeum; promesonotal suture absent; metanotal groove indistinct, almost absent; with mesosoma in profile mesopleuron broad and clearly demarcated from metapleuron by shallow suture; metapleuron not demarcated from lateral face of propodeum. Propodeal dorsum weakly convex and slope down backward, declivity weakly concave. Propodeal spine long, straight, pointed backward, and about two times as long as its width at base; indorsal view propodeal spine distinct longer than propodeum width. Legs relatively long, femora and tibiae swollen medially.

Petiole in profile view pedunculate, moderately developed, clearly longer than high; petiolar node elongate and dome-like, dorsal corner indistinct; ventral outline of petiole feebly concave; anteroventral corner acutely one toothed. Postpetiole globular, about 0.5 times as long as petiole. First gastral tergite largest and extensively overlapping sternite.

Dorsa of head, mesosoma, petiole and postpetiole striated-reticulate, reticulation on petiole and postpetiole weaker than on head and mesosoma; lateral face of pronotum longitudinally striate; mesopleuron, metapleuron, and lateral face of propodeum irregularly reticulate; propodeal declivity finely punctate. Mandible, antennal scape, legs and gaster smooth and shiny.

Body with sparse long erect hairs mixed with sparse shorter hairs; scape and flagellum of antenna covered with dense short erect hairs; clypeus with sparse long hairs mixed with dense shorter hairs; mandible with sparse suberect hairs; legs with dense short suberect hairs. Posterior half of head dorsum, area between frontal carinae dark reddish brown; area between torulus and eye also dark reddish brown; remaining parts of head yellow; dorsa of mesosoma, petiole, and postpetiole entirely yellow; but mesopleuron, metapleuron, lateral face of propodeum, and lateral face of petiole

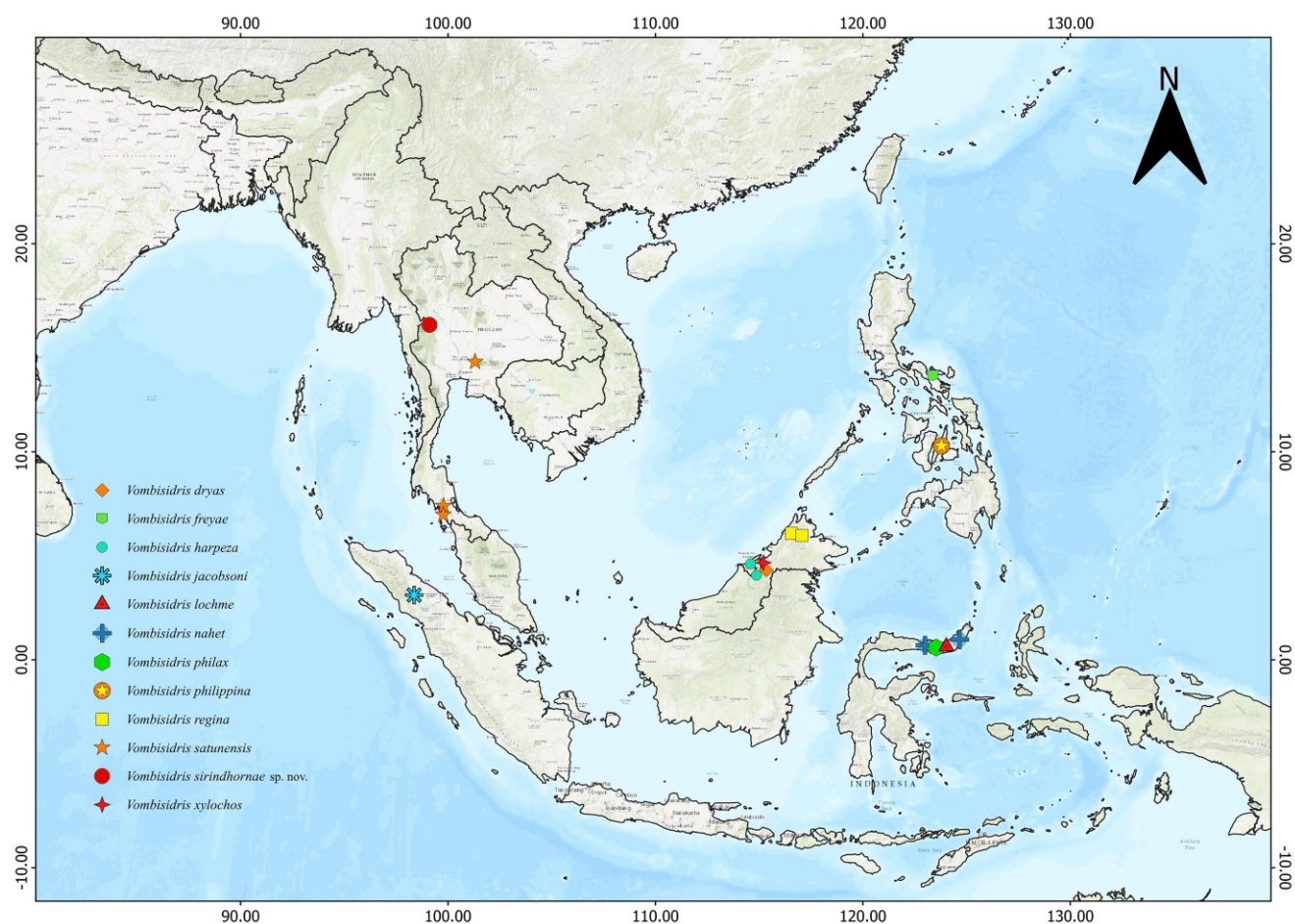


FIGURE 4. Distribution map of *Vombisidris* spp. in Southeast Asia.

darker than dorsum of mesosoma; first gaster (tergite and sternite) mostly black or dark reddish brown; remaining segments of gaster yellow.

Dealate queen description (paratype, Fig. 3)

Measurements (in mm).— Paratype—TL 4.60, HW 0.80, HL 0.95, ED 0.25, SL 0.70, ML 1.35, CI 84, SI 88.

Queen is similar to worker in structure, sculpture, coloration, and pilosity, with the following conditions that should be noted: body slightly larger (HW 0.80 in queen; 0.56–0.63 in worker); eye larger (ED 0.25 in queen; 0.20 in worker), with 13–15 ommatidia in longest diameter; ocelli present, located on vertex, distance between median ocellus and lateral ocellus shorter than distance between lateral ocelli; subocular groove entirely present, curved down; in dorsal view pronotum distinctly shorter than broad, its posterior margin strongly concave; in dorsal view mesoscutum broader than pronotum, almost as long as broad, anterior margin distinctly convex, while posterior margin weakly convex; parapsidal lines invisible; scutellum slightly shorter than broad; metanotum very short; metanotal-

propodeal sulcus deeply impressed; in profile lateral face of pronotum large, much broader than dorsal median portion; mesopleuron broad, anepisternum small and clearly demarcated from katepisternum by distinct groove; metapleuron clearly demarcated from mesopleuron but not demarcated from lateral face of propodeum; propodeal dorsum almost as long as scutellar dorsum; propodeal spine relatively shorter than in worker; in dorsal view propodeal spine as long as propodeal width. Dorsum of head, area between frontal lobes irregularly striate without reticulation as in worker; mesoscutum with longitudinal striation; scutellum and dorsum of propodeum reticulate; upper portion of katepisternum smooth and shiny.

Habitat.— *Vombisidris sirindhornae* sp. nov. was found in a disturbed area within a highland habitat (1,000 m a.s.l.). This species constructs nests in dead twigs hanging on shrubs along forest edges. Colonies are characterized by their small size, typically containing a single queen and 11–15 workers.

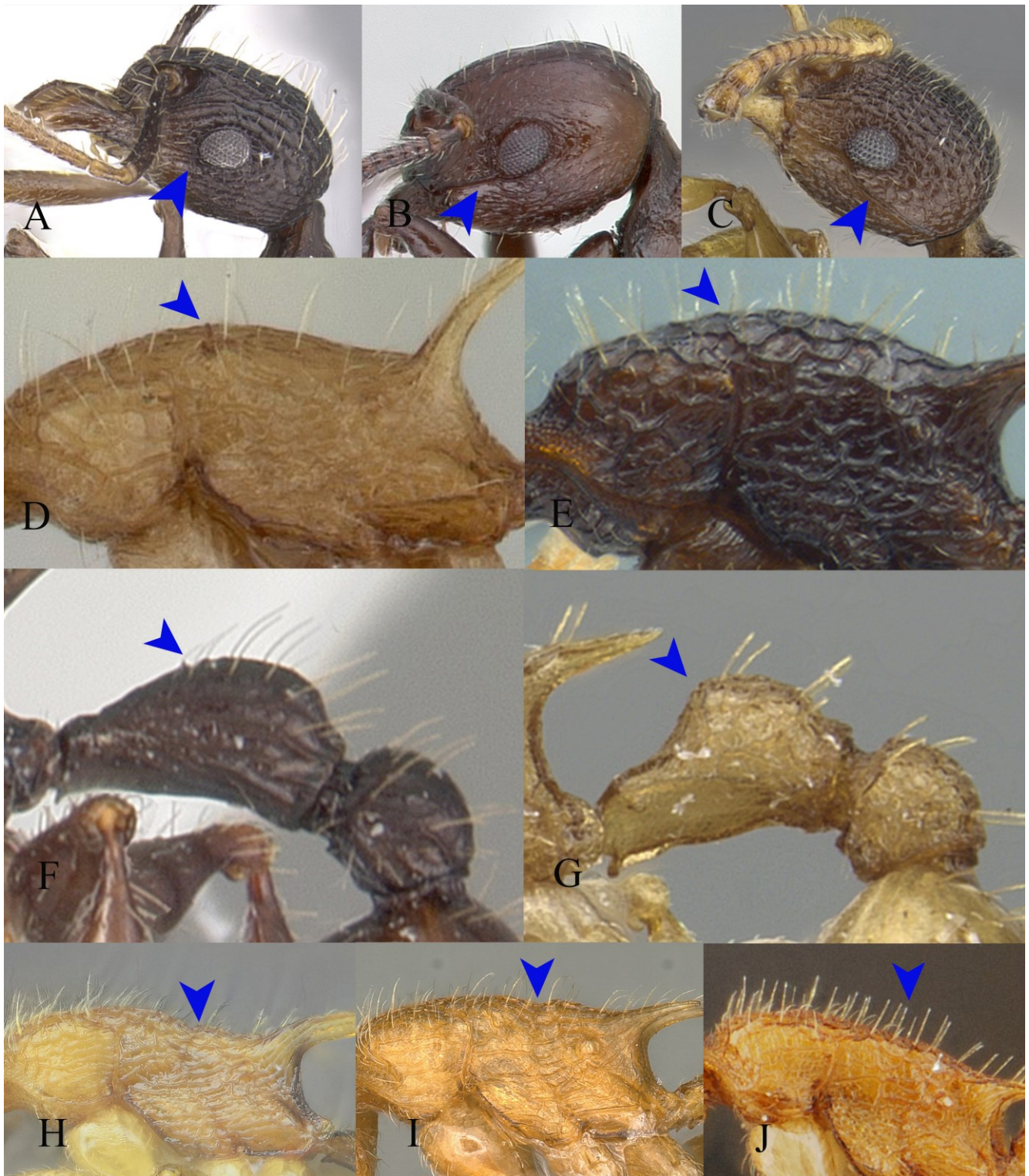


FIGURE 5. *Vombisidris* spp. **A.** *V. bilongrudi* (CASENT0901985, paratype worker); **B.** *V. acherdos* (CASENT0178734, paratype worker); **C.** *V. occidua* (CASENT0901990, holotype worker); **D.** *V. philax* (ASENT0178736, paratype worker); **E.** *V. philippina* (CASENT0919713, paratype worker); **F.** *V. regina* (CASENT0102595, paratype worker); **G.** *V. lochme* (CASENT0901987, holotype worker); **H.** *V. tibeta* (photo by Zheng-Hui Xu, holotype worker); **I.** *V. umbrabdomina* (photo by Zhilin Chen GXNU, holotype worker); **J.** *V. satunensis* (THNHM-I-00000246, holotype worker,).

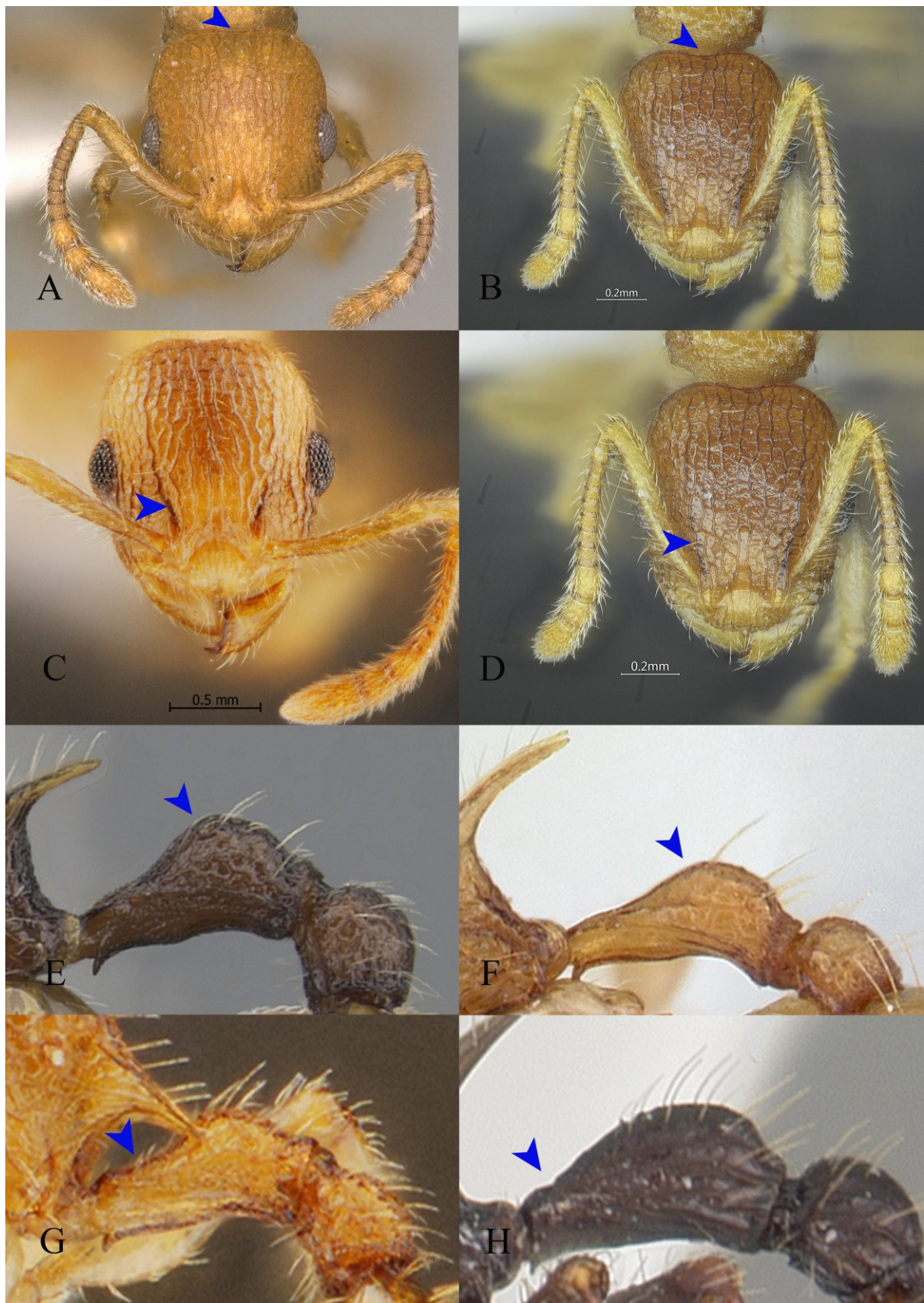


FIGURE 6. *Vombisidris* spp. **A.** *V. umbrabdomina* (photo by Zhilin Chen GXNU, holotype worker); **B, D.** *V. tibeta* (photo by Zheng-Hui Xu, holotype worker); **C.** *V. sirindhornae* (THNHM-I-00030214, holotype worker); **E.** *V. occidua*, (CASENT0901990, holotype worker); **F.** *V. nahet*, (CASENT0178735, paratype worker); **G.** *V. satunensis* (THNHM-I-00000246, holotype worker); **H.** *V. regina* (CASENT0102595, holotype worker).

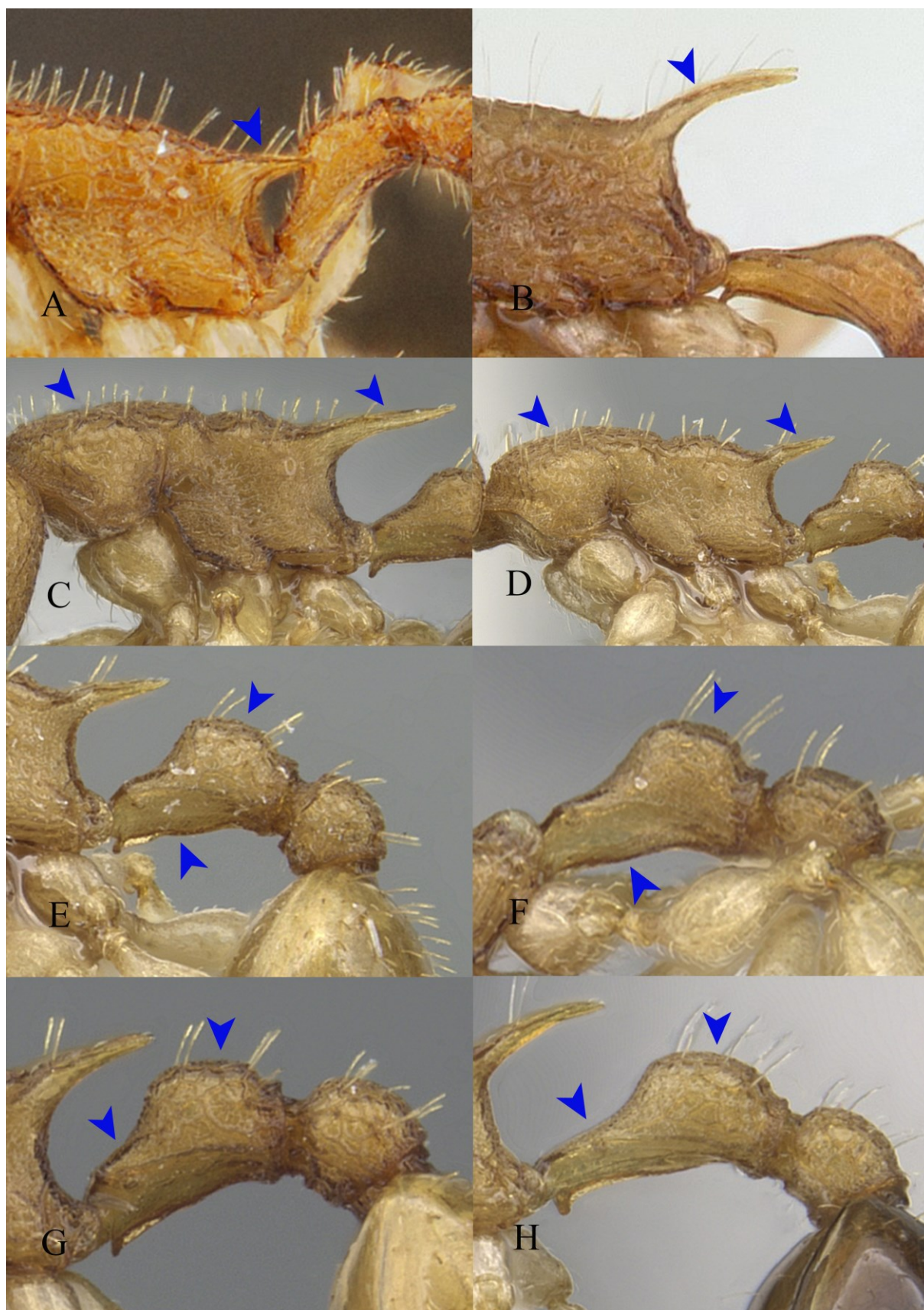


FIGURE 7. *Vombisidris* spp. **A.** *V. satunensis* (THNHM-I-00000246, holotype worker); **B.** *V. nahet*, (CASENT0178735, paratype worker); **C.** *V. xylochos* (CASENT0901986, holotype worker); **D.** *V. lochme* (CASENT0901987, holotype worker); **E.** *V. lochme* (CASENT0901987, holotype worker); **F.** *V. dryas* (CASENT0901988, holotype worker); **G.** *V. harpeza* (CASENT0901989, holotype worker); **H.** *V. renateae* (CASENT0901993, paratype worker).

Comparative notes.— *Vombisidris sirindhornae* sp. nov. is most similar to *V. tibeta* Xu & Yu, 2012 and *V. umrabdomina* Huang & Zhou, 2006 from China in having long propodeal spine and general appearances. However, *V. sirindhornae* can be distinguished from *V. tibeta* by the following characteristics: 1) area between frontal lobes without reticulation (reticulate in *V. tibeta*); 2) metanotal groove very shallow (distinct in *V. tibeta*, see Figures 2A and 5H for comparison); 3) metapleuron and lateral face of propodeum without longitudinal striation (with striation in *V. tibeta*); 4) propodeal spine straight (curved down in *V. tibeta*); 5) propodeal declivity finely punctate (longitudinally straight and densely finely punctate). The new species is separated from *V. umrabdomina* by 1) posterior margin of head feebly concave medially (roundly convex in *V. umrabdomina*); 2) area between frontal lobes without reticulation (reticulate in *V. umrabdomina*); 3) metanotal groove very shallow (distinct in *V. umrabdomina*, see Figures 2A and 5I for comparison); 3) first gastral tergite black or dark reddish brown (paler in *V. umrabdomina*); 4) frontal carina present, extending beyond posterior margin of eye (absent in *V. umrabdomina*).

The new species is easily separated from *V. satunensis* by 1) body size is clearly larger (HW 0.70–0.75 mm in *V. sirindhornae*; HW 0.56–0.63 mm in *V. satunensis*); 2) posterior margin of head feebly concave medially (roundly convex in *V. satunensis*); 3) metanotal groove very shallow (absent in *V. satunensis*, see Figures 2A and 5J for comparison); 4) in dorsal view propodeal spine longer than propodeum width (shorter in *V. satunensis*); 5) subocular groove curved down (almost straight in *V. satunensis*).

Etymology.— The specific name is dedicated to Her Royal Highness Princess Maha Chakri Sirindhorn of the Kingdom of Thailand.

Distribution.— Kamphaeng Phet Province, Thailand (Fig. 4).

Key to known species of *Vombisidris* of the world based on the worker caste (updated from Xu and Yu, 2012 and Jeenthong et al., 2023)

- 1 Subocular groove entirely absent (Fig. 5A, Papua New Guinea). *V. bilongrudi* (Taylor, 1989)
- Subocular groove at least present from mandibular insertion to eye (Fig. 5B, C). 2
- 2 Subocular groove incomplete, running from mandibular insertion to anteroventral margin of eye, never

- beyond eye (Fig. 5B, Papua New Guinea). *V. acherdos* Bolton, 1991
- Subocular groove complete, running from mandibular insertion to anteroventral margin of eye, then passing through a shallow angle and continuing along the side to lateroccipital margin (Fig. 5C). 3
- 3 In profile view, dorsum of mesonotum with a pair of short vertical sharp teeth at each side (Fig. 5D); anterior 2/3 of first gastral tergite longitudinally rugulose (Indonesia). *V. philax* Bolton, 1991
- In profile view, dorsum of mesonotum without a pair of vertical sharp teeth, at most with a pair of blunt prominence (Fig. 5E); first gastral tergite entirely smooth. 4
- 4 In profile view, petiolar node dome-like or roughly triangular, dorsum roundly convex, without distinctly differentiated dorsal face (Fig. 5F). 5
- In profile view, petiolar node roughly trapezoidal, with distinctly differentiated dorsal face, antero-dorsal and posterodorsal corners more or less distinct (Fig. 5G). 13
- 5 In profile view, metanotal groove shallow but obviously depressed (Fig. 5H). 6
- In profile view, metanotal groove entirely absent (Fig. 5I). 8
- 6 In full-face view, posterior margin of head weakly convex (Fig. 6A) (China: Hunan). *V. umrabdomina* Huang & Zhou, 2006
- In full-face view, posterior margin of head weakly concave medially (Fig. 6B). 7
7. Area between frontal lobes without reticulation (Fig. 6C); metapleuron and lateral face of propodeum without longitudinal striation; propodeal spine straight; propodeal declivity finely punctate without striation. (Thailand). *V. sirindhornae* sp. nov.
- Area between frontal lobes with reticulation (Fig. 6D); metapleuron and lateral face of propodeum with longitudinal striation; propodeal spine curved down; propodeal declivity longitudinally straight and densely finely punctate. (China: Tibet). *V. tibeta* Xu & Yu, 2012
- 8 In profile view, petiolar node roughly triangular, dorsal corner distinct (Fig. 6E). 9
- In profile view, petiolar node dome-like, dorsal corner indistinct (Fig. 6F). 10

- 9 In profile view, propodeal spines about as long as propodeal declivity; postpetiolar node evenly convex; in dorsal view, lateral sides of petiolar node convex; head and mesosoma blackish brown, gaster lighter brown (India). *V. occidua* Bolton, 1991
- In profile view, propodeal spines distinctly longer than propodeal declivity; postpetiolar node strongly convex; in dorsal view, lateral sides of petiolar node almost straight; head and mesosoma yellowish brown, gaster blackish brown (India). *V. humboldticola* Zacharias & Rajan, 2004
- 10 In profile view, petiole peduncle longer than petiolar node (Fig. 6G). 11
- In profile view, petiole peduncle as long as or shorter than petiolar node (Fig. 6H). 12
- 11 In profile view, propodeal spine short and straight; smaller species (HW 0.56–0.63) (Fig. 7A, Thailand). ... *V. satunensis* Jeenthong, Jaitrong & Tasen, 2023
- In profile view, propodeal spine long and distinctly downcurved; larger species (HW 0.63–0.71 mm) (Fig. 7B, Indonesia). *V. nahet* Bolton, 1991
- 12 Entire body black to dark brown; larger species (HW 0.88–0.96 mm) (Malaysia). *V. regina* Bolton, 1991
- Entire body yellow; smaller species (HW 0.56–0.63 mm) (Philippines). *V. freyae* General, 2020
- 13 In profile view, metanotal groove strongly depressed and trenchlike. 14
- In profile view, metanotal groove vestigial to absent, without a trench-like notch. 15
- 14 In profile view, promesonotum nearly straight, anterodorsal corner angled; propodeal spine about two times as long as propodeal dorsum (Fig. 7C, Brunei). *V. xylochos* Bolton, 1991
- In profile view, promesonotum weakly convex, anterodorsal corner rounded; propodeal spine about as long as propodeal dorsum (Fig. 7D). 16
- 15 In full-face view, lateral sides of head divergent behind eyes; in profile view, anterior peduncle shorter than dorsal face of petiolar node; first gastral tergite finely superficially reticulate (Fig. 7E, Indonesia). *V. lochme* Bolton, 1991
- In full-face view, lateral sides of head nearly parallel behind eyes; in profile view, anterior peduncle about as long as the dorsal face of petiolar node; first gastral tergite almost completely smooth (Fig. 7F, Malaysia). *V. dryas* Bolton, 1991
- 16 In profile view, petiole peduncle relatively short, shorter than dorsal face of petiolar node, the dorsal face nearly straight (Fig. 7G, Malaysia). *V. harpeza* Bolton, 1991
- In profile view, petiole peduncle relatively long, about as long as the dorsal face of petiolar node, the dorsal face weakly convex (Fig. 7H). 17
- 17 In profile view, anterodorsal corner of petiolar node bluntly angled, higher than posterodorsal corner, the latter rounded. 18
- In profile view, both anterodorsal and posterodorsal corners of petiolar node bluntly prominent, at the same level. 19
- 18 In full-face view, posterior margin of head straight; in profile view, propodeal spines relatively short, shorter than or about as long as propodeal declivity; ventral face of petiole nearly straight; dorsal surface of mesosoma with short blunt hairs (Australia). ... *V. australis* (Wheeler, 1934)
- In full-face view, posterior margin of head evenly convex; in profile view, propodeal spines relatively long, longer than propodeal declivity; ventral face of petiole concave; dorsal surface of mesosoma with moderate long tapered hairs (Australia). *V. renateae* (Taylor, 1989)
- 19 In full-face view, posterior margin of head nearly straight; anterior clypeal margin weakly convex; dorsal surface of mesosoma with short blunt hairs; color yellow to lighter brown (Indonesia). *V. jacobsoni* (Forel, 1915)
- In full-face view, posterior margin of head weakly convex; anterior clypeal margin strongly convex; dorsal surface of mesosoma with moderate long tapered hairs; color blackish brown (Philippines). *V. philippina* Zettel & Sorger, 2010

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