

Three New Spiders of the Families Clubionidae, Liocranidae and Gnaphosidae (Arachnida, Araneae) from Vietnam

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Abstract Three new spiders of the families Clubionidae, Liocranidae and Gnaphosidae (Arachnida, Araneae) obtained from Bach Ma National Park in Thua Thien Hue Province and from Phu Quoc Island, central and southern Vietnam, are described under the names, *Clubiona bachmaensis* sp. nov. (Clubionidae), *Teutamus christae* sp. nov. (Liocranidae) and *Allomicythus kamurai* sp. nov. (Gnaphosidae). A new genus, *Allomicythus*, is established in the genus group of *Echemus* designated by Murphy (2007) for the last new species. The new genus seems to be related to *Micythus* Thorell, 1897, and *Echemus* Simon, 1878, both known from Southeast Asia. A poorly known liocranid genus, *Teutamus* Thorell, 1890, was discovered in Vietnam for the first time.

Key words: Taxonomy, Araneae, Clubionidae, Liocranidae, Gnaphosidae, Vietnam

Introduction

Three spiders of the families Clubionidae, Liocranidae and Gnaphosidae (Arachnida, Araneae) from Bach Ma National Park in Thua Thien Hue Province and from Phu Quoc Island near Cambodia, central and southern Vietnam are taxonomically studied and described herein as new species.

The material used for the study was selected from the Arachnid Collection in the Department of Zoology, National Museum of Nature and Science (formerly National Science Museum), Tokyo (NSMT). The collection covers many specimens of spiders collected in Vietnam through field researches made by the National Museum of Japan in partnership with the Institute of Ecology and Biological Resources (IEBR), Vietnamese Academy of Science and Technology, Hanoi.

The major part of the Vietnamese spider collection was made during entomological expeditions in Vietnam (1995–2003) supported by the Grant-in-aid for Field Research of the Monbukagakusho International Research Programs (No. 13575015) and the other part was mainly made under the running research project “Biodiversity

Inventory in the Western Pacific Region” conducted by the National Museum of Japan.

On the basis of the same collection, some spiders of the families Liphistiidae and Zodariidae were hitherto published (Ono, 1999, 2002, 2003, 2004a,b). Although the present paper shows only a part of ‘iceberg’ including clubionids, liocranids, gnaphosids and other groups in Dionycha from Asia, it should open further discussion in the study of those spiders.

The abbreviations of morphological terms used in the present paper are as follows: ALE, anterior lateral eye; AME, anterior median eye; PLE, posterior lateral eye; PME, posterior median eye. Type specimens of the new species described herein are for the moment preserved in the collection of the Department of Zoology, National Museum of Nature and Science, Tokyo.

Before going further, the present author wishes to express his hearty thanks to Dr. Ta Huy Think, Mr. Hoang Vu Tru and Mr. Pham Dinh Sac, Hanoi (IEBR), and Ms. Yoshimi Watanabe and Dr. Mamoru Owada, Tokyo (NSMT), for their various help in field researches and in preparing the manuscript of this paper.

Descriptions of new species

Family Clubionidae

Genus *Clubiona* Latreille, 1804, *sensu lato*

Clubiona bachmaensis sp. nov.

(Figs. 1–5)

Diagnosis. This new spider is very unique in having wide head, long opisthosoma and long legs without special hair tuft on tarsus of leg II, especially in the structure of male palpal organ. The tibia of male palp is long and simple with a retrolateral apophysis digitiform, the cymbium is relatively long and the tegulum is also long and simple with a short and spiniform embolus and membranous conductor. This structure closely allied to that in the species of the genus *Pteroneta* established by Deeleman-Reinhold (2001) on the basis of some species recorded from the Ryukyu Islands, Japan, Sulawesi and Lesser Sunda Islands, Indonesia, Borneo, Malaysia and Brunei, and Singapore. However, these *Pteroneta* species have somewhat small and short body, short legs, robust chelicerae with developed teeth, and special hair tuft on tarsus of leg II, all of which are different in the new spider. Therefore, the present author put it in the genus *Clubiona* in a wide sense. The general appearance of the new spider resembles species of *Clubiona hystrix* group defined by Deeleman-Reinhold (2001).

Type specimen. Holotype: male from Bach Ma National Park, 1225 m in elevation, Thua Thien Hue Province, Central Vietnam, 7–VI–2002, by sweeping method, H. Ono leg. (NSMT–Ar 8352).

Description (holotype). Measurement: Body length 5.45 mm; prosoma length 2.21 mm, width 1.48 mm; opisthosoma length 3.25 mm, width 1.03 mm; lengths of legs [total length (femur + patella + tibia + metatarsus + tarsus)]: I 7.73 mm (2.06 + 0.75 + 2.48 + 1.69 + 0.75), II 7.62 mm (2.06 + 0.79 + 2.43 + 1.63 + 0.71), III 5.51 mm (1.54 + 0.56 + 1.46 + 1.39 + 0.56), IV 8.72 mm (2.34 + 0.79 + 2.25 + 2.63 + 0.71).

Prosoma (Fig. 1): Carapace longer than wide (length/width 1.49), head wide and three-fifth the

width of carapace, median furrow long. Eyes: the anterior eye row slightly recurved and the posterior row straight in dorsal view, all eyes almost same in size, lateral eyes slightly larger than the median eyes, AME–AME=AME–ALE, PME–PME>PME–PLE (2:1), clypeus narrow and same as the anterior width of median ocular area, median ocular area wider than long (length/width 0.64), wider behind than in front (anterior width/posterior width 0.30). Labium much longer than wide (length/width 1.50), sternum longer than wide (length/width 1.14). Chelicera furnished with one large and two smaller teeth on promargin of fang furrow, and three teeth on retromargin (Fig. 2).

Legs: Spiniformation: Femora I–IV dorsally 0–1–1–1, prolaterally I–II 0–0–1–1, III–IV 0–0–1; patellae I–IV dorsally 1–0–1 (apical), III–IV retrolaterally 1; tibiae I–II dorsally 1–0–0–0, ventrally 2–0–2, III–IV dorsally 1–0–1, prolaterally 1–1, retrolaterally 1–0–1, ventrally 1–0–1–0; metatarsi I–II none, III–IV prolaterally 1–1–1 or 1–1–1–1, retrolaterally 1–0–1 (apical) (III) or 1–1–2 (apical) (IV), ventrally 2–0–1 (apical) (III) or 2–0–1–2 (apical) (IV). Leg formula: IV–I–II–III.

Male palp (Figs. 3–5): Slender and simple; retrolateral apophysis of tibia digitiform; embolus spiniform and short, with indistinct membranous conductor.

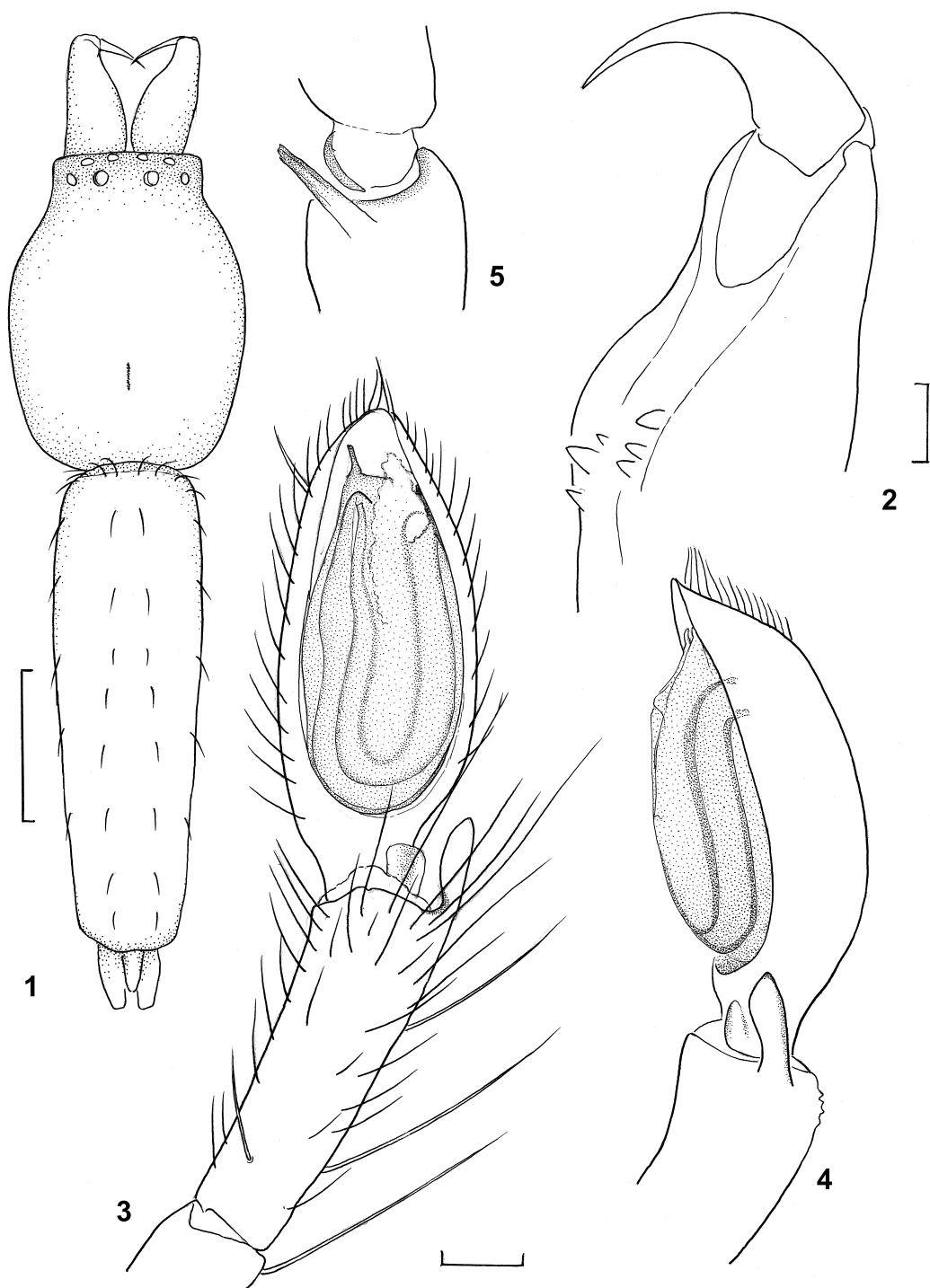
Opisthosoma (Fig. 1): Cylindrical, relatively long (length/width 3.15), with some pairs of long hairs.

Coloration and markings: Carapace lemon yellow, chelicerae, maxillae and labium light yellowish brown, sternum white, palps and legs yellowish white. Opisthosoma yellowish white without markings dorsally, pale yellowish white ventrally.

Distribution. Central Vietnam (at present known only from the type locality).

Etymology. The name of the new species is derived from the type locality.

Remark. Female unknown.



Figs. 1–5. *Clubiona bachmaensis* sp. nov., male holotype (NSMT–Ar 8352). — 1, Pro- and opisthosomata, dorsal view; 2, chelicera, ventral view; 3, palpal tibia and tarsus, ventral view; 4, same, retrolateral view; 5, apical part of palpal tibia, dorsal view. Scales: 1 mm (Fig. 1); 0.1 mm (Figs. 2–5).

Family Liocranidae

Genus *Teutamus* Thorell, 1890*Teutamus christae* sp. nov.

(Figs. 6–10)

Diagnosis. Within the seven species of this poorly known genera recorded from Thailand (northern Malay Peninsula), Malaysia (Malay peninsula and Borneo) and Indonesia (Sumatra and Java), this new species resembles *Teutamus vittatus* Deeleman-Reinhold, 2001, described from Mount Kinabaru National Park, at 1550 m in elevation, North Borneo, Sabah, Malaysia, but can be distinguished from the Bornean spider by the details of male palp, especially by the shape of the tibial apophysis and the conductor. This is the new record of the genus in Vietnam.

Type specimen. Holotype: male from Bach Ma National Park, ca. 1200 m in elevation, Thua Thien Hue Province, Central Vietnam, 5–V–2003, by sifting method in broad-leaved forest, H. Ono leg. (NSMT–Ar 8350).

Description (holotype). Measurement: Body length 5.25 mm; prosoma length 2.70 mm, width 1.99 mm; opisthosoma length 2.54 mm, width 1.50 mm; lengths of legs [total length (femur + patella + tibia + metatarsus + tarsus)]: I 7.25 mm (2.02 + 0.81 + 1.88 + 1.60 + 0.94), II 6.33 mm (1.83 + 0.71 + 1.50 + 1.35 + 0.94), III 5.51 mm (1.54 + 0.75 + 1.13 + 1.28 + 0.81), IV 8.14 mm (2.22 + 0.79 + 1.84 + 2.16 + 1.13).

Prosoma (Fig. 6): Carapace longer than wide (length/width 1.36), tubercular, with a median furrow distinct and rounded, anterior margin strongly sclerotized and expanded at the middle between proximal part of both the chelicera. Eyes: anterior eye row recurved and posterior eye row straight in dorsal view, all eyes almost same in size, but AME the largest and PME the smallest, PMA somewhat modified, AME–AME = AME–ALE, PME–PME = PME–PLE, clypeus much shorter than the anterior width of median ocular area (4:7), median ocular area just a square. Labium rectangular, slightly longer than wide (length/width 1.25), its posterior margin

forming a sclerotized edge with a notch at the middle, sternum longer than wide (length/width 1.25), its margin also forming edge strongly sclerotized. Chelicera furnished with three teeth on promargin of fang furrow and two small teeth on retromargin (Fig. 7).

Legs: relatively short and thick, with spines on following segments. Femora: I prolaterally 0–0–0–0–1–1, IV dorsally 1–0, tibiae: I ventrally 2–2–2–2–2–2, II ventrally 2–2–2–2–2, III ventrally 1–2–1 (apical), IV pro- and retrolaterally 0–1, ventrally 1–1–2 (apical), metatarsi: I–II ventrally 2–2–2–2, III–IV pro- and retrolaterally each 1, III ventrally 2–0–0, IV ventrally 1–2. All femora furnished with many fine and long hairs on the dorsal surface. Coxae of legs relatively long and its apical part visible in dorsal view. Leg formula: IV–I–II–III.

Male palp (Figs. 8–10): Patella simple, retrolateral apophysis of tibia spatulate and wide at the base, cymbium dorso-apically with hair tuft, tegulum large, apically with a digitiform conductor, embolus not visible in ventral view.

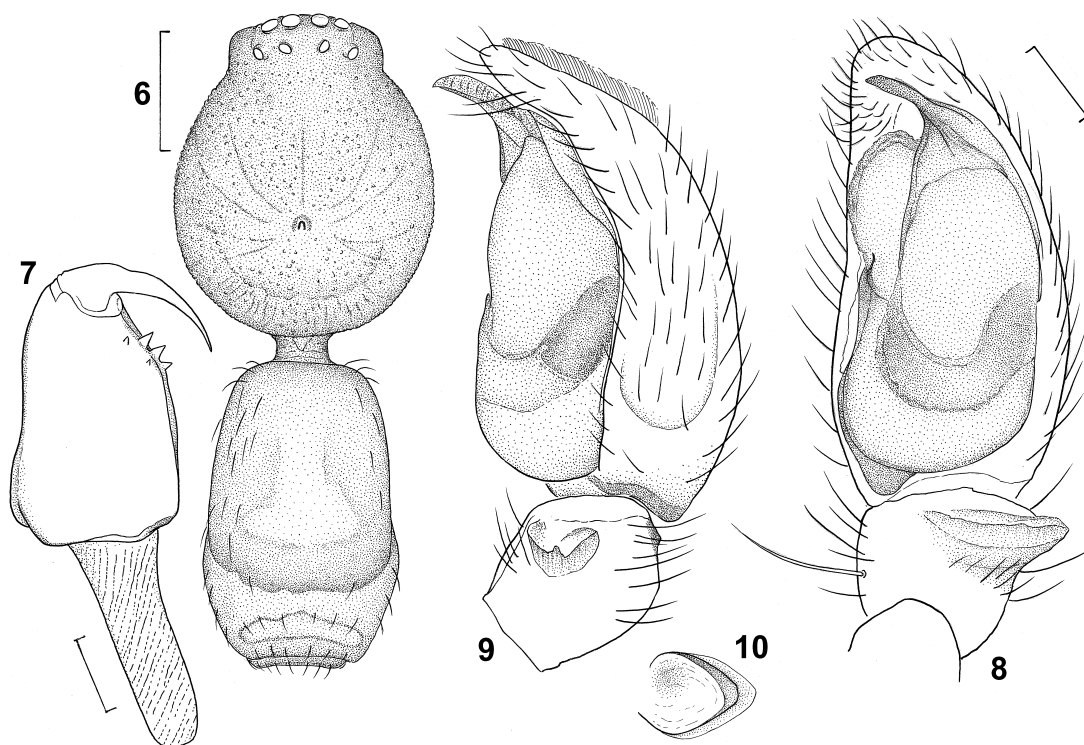
Opisthosoma (Fig. 6): cylindrical, much longer than wide (length/width female 1.69), with a dorsal scutum very wide and extending to the ventral side. Anterior spinnerets cylindrical and much thicker than the posterior spinnerets, median spinnerets small, colulus present but indistinct.

Coloration and markings: Carapace red-blackish brown, chelicerae, maxillae, labium and sternum chestnut brown, legs brown, lighter in distal segments; opisthosoma with a dorsal scutum brown and the posterior part grey with white spots, ventrally white with four stripes made by brown spots, spinnerets light yellowish brown.

Distribution. Central Vietnam (at present known only from the type locality).

Etymology. The new species is dedicated to Dr. Christa Deeleman-Reinhold, Ossendrecht, The Netherlands, who made efforts in forest spiders of Southeast Asia.

Remark. Female unknown.



Figs. 6–10. *Teutamus christae* sp. nov., male holotype (NSMT–Ar 8350). — 6, Pro- and opisthosomata, dorsal view; 7, chelicera with venom gland, ventral view; 8, palpal tibia and tarsus, ventral view; 9, same, retrolateral view; 10, tibial apophysis from another angle. Scales: 1 mm (Fig. 6); 0.2 mm (Figs. 7–10).

Family Gnaphosidae

Genus *Allomicythus* nov.

Type species. *Allomicythus kamurai* sp. nov., by monotypy.

Diagnosis. Belonging to the genus group of *Echemus* Simon, 1878, (=Echeminae) performed by Murphy (2007), the new genus seems to be close to the genera *Micythus* Thorell, 1897, and *Echemus* Simon, 1878, known from Southeast Asia, but is separated from these and defined as an independent genus with the following character combination: the anterior eye row procurved, AME and ALE close to each other, posterior eye row strongly procurved, ALE and PLE also closely standing, PME oval and not much modified: the posterior margin of cheliceral fang furrow toothless and without a keel or a sclerotized ridge; labium marginated widely; the anterior lateral spinneret furnished with a large pyriform

spigot and some long cylindrical spigots, the median spinneret with five large spigots dorsally; epigynum with a pair of lateral furrow, spermathecae separated in two parts connected by a short tube.

Etymology. The generic name is formed by a combination of a Greek prefix allo- meaning ‘different from’ and the name of the existent genus *Micythus* derived from Greek proper noun Mikythos.

Remark. The arrangement of eyes of this new genus resembles those of some Australian and American genera as *Australoechemus* and *Zimromus*. In the condition of spigots on spinnerets, the new genus allies to those of the African genus *Xerophaeus*. However, the genus in all should be related to the Asian genera above mentioned. *Micythus* species from Sabah, Borneo, illustrated in Murphy (2007), especially resembles the type species of the new genus, and

may be actually a member of the new genus. According to the illustration of male palp of that undescribed species, some difference in details could be recognized between the Sabah species and the type species of the genus in question, *Micythus pictus* Thorell, 1897, from Rangoon, Myanmar, which was redescribed by Deeleman-Reinhold (2001). Although the male of the type species of *Allomicythus* is unknown, it could be fairly separated from all the known genera by its unique structure of female genitalia. Because gnaphosid spiders of Indochina Region are totally unknown, this record may awake future interest.

Allomicythus kamurai sp. nov.

(Figs. 11–19)

Diagnosis. See the above generic diagnosis.

Type specimen. Holotype: female from Duong Dong, ca. 40 m in elevation, Phu Quoc Island, southern Vietnam, 19–III–2008, H. Ono leg. (NSMT–Ar 8351).

Description (holotype). Measurement: Body length 5.39 mm; prosoma length 1.85 mm, width 1.52 mm; opisthosoma length 3.39 mm, width 2.03 mm; lengths of legs [total length (femur + patella + tibia + metatarsus + tarsus)]: I 4.64 mm (1.40 + 0.78 + 0.96 + 0.90 + 0.60), II 4.56 mm (1.35 + 0.75 + 0.90 + 0.93 + 0.63), III 4.09 mm (1.16 + 0.60 + 0.8 + 0.93 + 0.59), IV 5.75 mm (1.52 + 0.78 + 1.26 + 1.44 + 0.75).

Prosoma (Fig. 11): Carapace longer than wide (length/width 1.22), flat and smooth with several strong hairs on both the sides behind eye area, median furrow distinct and long. Eyes (Fig. 12): relatively large and compactly set, anterior eye row procurved and posterior eye row strongly procurved, all eyes almost same in size, but PME the smallest, PMA oval and not much modified, AME–AME < PME–PLE (17:11), AME and ALE close to each other, PME–PME > PME–PLE (17:9), clypeus much shorter than the anterior width of median ocular area (5:12), median ocular area longer than wide (length/width 1.15), wider behind than in front (anterior width/poste-

rior width 0.92). Labium rectangular, slightly longer than wide (length/width 1.05), and widely marginated (Fig. 13), sternum oval, much longer than wide (length/width 1.41). Chelicera not developed, furnished with three teeth on promargin of fang furrow and but no tooth on retromargin (Fig. 14). Palp furnished with long spines on tibia and tarsus, scopula present on tarsus (Fig. 15).

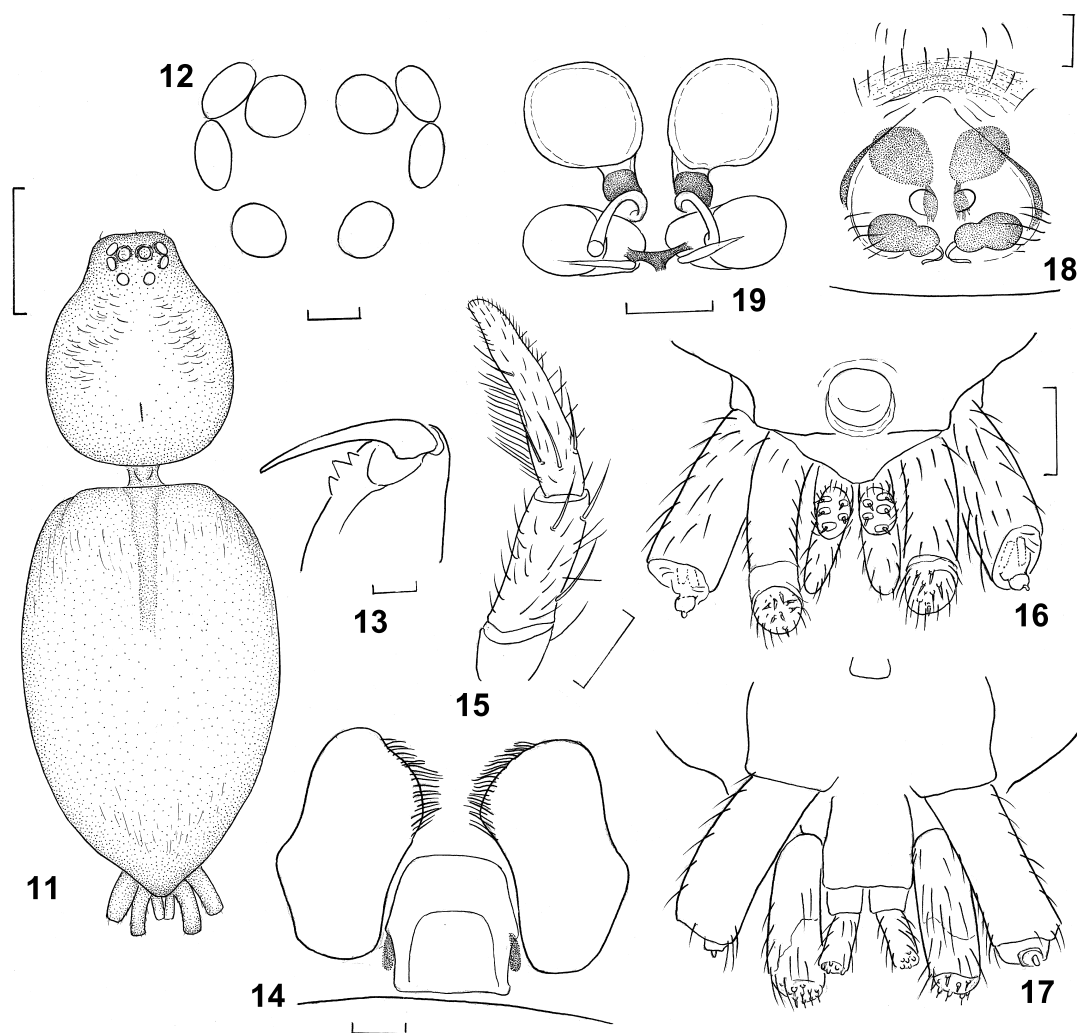
Legs: short and thick. Spination: Femora: I–IV dorsally 1–1–1, I–II prolaterally 0–0–1, III–IV pro- and retrolaterally 0–1–1; patellae: III–IV retrolaterally 1; tibiae: I–II ventrally 1–0–1, III–IV pro- and retrolaterally 1–1– or 0–1–1, ventrally 1–2–2 (apical); metatarsi: I–II spineless, III–IV prolaterally 0–1–1 (apical), retrolaterally 1–1–0–1 (apical), III ventrally 2–0–2 (apical), IV ventrally 1–2–2 (apical). Both the sides of tibiae and metatarsi of legs I–II furnished with scopula. Leg formula: IV–I–II–III.

Opisthosoma (Fig. 11): large and relatively soft, longer than wide (length/width female 1.67), without dorsal scutum. Spinnerets (Figs. 16–17): Anterior and posterior spinnerets cylindrical, hairs not modified, both the anterior spinnerets widely separated, thicker than the posterior ones, with a large pyriform spigot and two or more cylindrical spigots retracted, posterior spinnerets with some spiniform spigots, median spinnerets modified with five large spigots on proximal part of dorsal side.

Female genitalia (Figs. 18–19): Epigynum with a pair of lateral furrows convergent in anterior part, genital openings situated in the middle, inner organ visible through integument; spermathecae in two parts connected by a short tube, the anterior ones globular and the posterior ones pyriform.

Coloration and markings: Carapace light yellowish brown, chelicerae and clypeus darker, maxillae, labium, sternum, palps and legs light yellowish brown; opisthosoma dorsally light grey without any markings, ventrally white, spinnerets light yellowish brown.

Distribution. Southern Vietnam (at present known only from the type locality).



Figs. 11–19. *Allomicythus kamurai* sp. nov, female holotype (NSMT–Ar 8351). — 11, Pro- and opisthosomata, dorsal view; 12, eyes, dorsal view; 13, chelicera, ventral view; 14, maxillae and labium, ventral view; 15, palp, retrolateral view; 16, spinnerets, dorsal view; 17, same, ventral view; 17, epigynum, ventral view; 18, internal genitalia, dorsal view. Scales: 1 mm (Fig. 11); 0.1 mm (Figs. 12–15, 18–19); 0.2 mm (Figs. 16–17).

Etymology. The new species is dedicated to Dr. Takahide Kamura, Osaka, Japan, who made efforts on gnaphosid spiders.

Remark. Male unknown.

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