

**FIRST RECORD OF *OMYOMYMAR* (HYMENOPTERA: MYMARIDAE) FROM CHINA, WITH THE DESCRIPTIONS OF THREE NEW SPECIES**

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*Abstract.*—The genus *Omyomymar* Schauff is recorded for the first time in the Old World and three new species, *O. glabrum*, *O. longidigitum*, and *O. breve*, are described from females collected in the Oriental Region at Fujian, China. The male of *O. glabrum* is also described, and a key to females is presented.

*Key Words:* Mymaridae, China, taxonomy, *Omyomymar*

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*Omyomymar* Schauff is a small genus of Mymaridae (Schauff 1983) comprising only four described species from the New World: two described by Ogloblin (1935) and two by Schauff (1983).

A study of material collected from Fujian, China has revealed three new species belonging to this genus. This is the first published record of this genus from Old World.

The descriptions are based on specimens slide-mounted in Canada balsam. All measurements were taken from slide-mounted specimens at 200× and 400× magnification using a compound microscope and eyepiece reticle.

We follow Debauche (1948) and Schauff (1983) in using terms and making measurements. Measurements in parenthesis refer to holotypes. Body length is measured from the anterior of the head to the apex of the metasoma, excluding the exerted part of the ovipositor. The ovipositor is measured basally from the point at which the shaft curves inward to its apex. The abbreviation F stands for antennal funicle segment, OOL for the minimum distance between posterior ocellus and eye margin, and POL for the

distance between posterior ocelli. The key to females of the genus is modified from Schauff (1983), to include the three new species.

The specimens of *Omyomymar* n. spp. studied are deposited in the collections of the following institutions:

- BCRI Biological Control Research Institute, Fujian Agricultural University, Fuzhou, Fujian Province, China;  
IEFA Istituto di Entomologia, Facoltà di Agraria, Piacenza, Italy.

KEY TO FEMALES OF *OMYOMYMAR*

1. F4–F6 taken together clearly longer than club, by at least ½ of the latter (Fig. 1) [the exerted part of ovipositor at least 1.3× metasomal length, (Fig. 7)] . . . . . *glabrum*, new species
- F4–F6 taken together clearly shorter than club . . . . . 2
2. F1 shorter than pedicel by about ½ of the latter (Fig. 2) [the exerted part of ovipositor less than 0.5× metasomal length, (Fig. 8)] . . . . . *breve*, new species
- F1 longer than pedicel . . . . . 3
3. F6 wider than long, F5 quadrate [the exerted part of ovipositor less than 0.25× metasomal length] . . . . . *alar* Schauff
- F6 and F5 longer than wide (Fig. 3) . . . . . 4

4. F1 at most 4× as long as wide . . . . .  
     . . . . . *clavatum* (Ogloblin)
- F1 at least 6× as long as wide (Fig. 3) . . . . . 5
5. F4 as long as F5; club about 2× as long as wide; apical digit as long as wide; the exerted part of ovipositor at least metasomal length . . . . .  
     . . . . . *grisselli* Schauff
- F4 longer than F5; club 3× as long as wide; apical digit 2× as long as wide (Fig. 3); the exerted part of ovipositor less than metasomal length (Fig. 9) . . . . . 6
6. Dorsal margin of F6 straight; the exerted part of ovipositor about 0.7× metasomal length . . . . .  
     . . . . . *silvanum* (Ogloblin)
- Dorsal margin of F6 excised (Fig. 3); the exerted part of ovipositor about 0.85× metasomal length . . . . . *longidigitum*, new species

### Genus *Omyomyr* Schauff

*Omyomyr* Schauff 1983: 543–551;  
 Schauff 1984: 44–45; Yoshimoto, 1990: 48.

The diagnostic characters of the genus reported by Schauff (1983) are: “tarsi 4-segmented, female antenna 10-segmented, funicle 6-segmented, club 2-segmented, the apical segment produced into a digit; male scape with several conical sensilla basiconica; posterior scutellum divided medially by a longitudinal sulcus; propodeum divided medially, phragma projecting to hindcoxae or beyond; gaster broadly attached to thorax, lightly sclerotized anteriorly, darkening posteriorly; ovipositor exerted past tip of abdomen. In a subsequent paper (1984) the same author adds in the diagnostic characters “forewing with two parallel lines of setae on basal half of membrane.” In Yoshimoto (1990), the characters “male flagellum 11-segmented; scutellum broader than long; posterior scutellum subcrescentic” are added.

The Chinese specimens that we have studied fit Schauff’s description of the genus and generally present all the diagnostic characters listed above except for the two longitudinal lines of cilia on basal half of disc past venation, that are not always parallel as Schauff (1984) and Yoshimoto (1990) specify (Fig. 5). Furthermore, in the

holotype of *O. glabrum*, the digit of the club cannot be detected clearly but we think this could be due to the fact that, in this species, it is not very developed and the position of the club already stated masks its presence.

The excision in the dorsal margin of F5 and F6 can be clearly seen in the species *breve* and *longidigitum* whereas in *glabrum* the dorsal margin seems straight. In this case we cannot be sure of the state of this character as this could be due to the position of the antenna on the slide, as we have noted in a *longidigitum* paratype, and we possess only two specimens of this species.

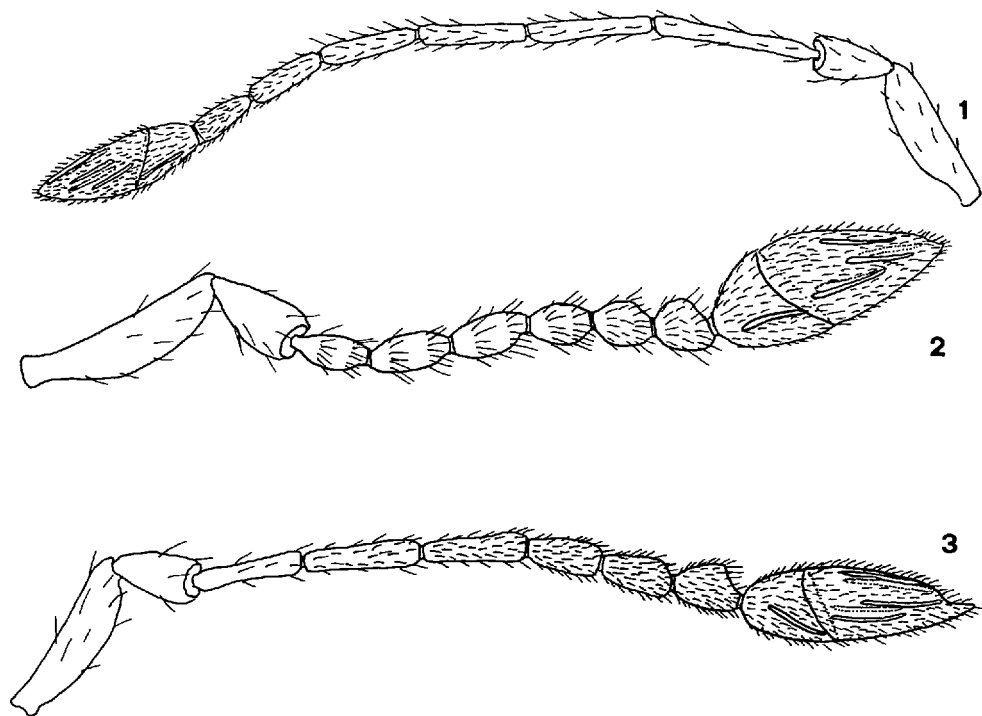
Some other characters, not mentioned by the previous authors, were always present in the Chinese specimens: vertex more or less reticulate; radicle fused with the scape; female scape 4× as long as wide, no sensory ridges on female funicle segments; mesoscutum with two setae near notauli.

We have not studied any New World species and therefore we cannot add diagnostic characters that have not been specified in Schauff (1983). Nevertheless, some of the above listed features, that are present in all Chinese species, seem important to us and could represent diagnostic character, if verified in the American species too.

### *Omyomyr glabrum* Lin and Chiappini, NEW SPECIES (Figs. 1, 4, 7)

*Female:* Length of body 0.75 mm (0.64–0.90). Body yellow, except funicle segments, club, mesopleura, propodeum and distal half (excluding tip) of metasoma, which are brown. Eyes red.

Head. POL 18, OOL 6. Antenna as in Fig. 1 with all funicle segments cylindrical. F5 and F6 more than 2× as long as wide. Club elongate elliptic, more than 3× as long as wide, without a distinct apical digit at the tip or with a very short one; its basal segment shorter than the apical one. Relative lengths of antennal segments from scape to club 40: 20: 40: 35: 29: 25: 22: 15: 45 (club width 13).



Figs. 1-3. Female antenna. 1, *Omyomyar glabrum*. 2, *O. breve*. 3, *O. longidigitum*.

Mesosoma a little shorter than metasoma (56:60). Reticulate sculpture faint on mesoscutum and scutellum, but distinct on postscutellum and propodeum. Forewing (Fig. 4) about  $9\times$  as long as wide (163:18); its longest marginal cilia about  $1.9\times$  its maximum width (34:18). Discal cilia irregularly scattered over apical  $\frac{1}{4}$  wing blade, the anterior longitudinal line of cilia beginning beyond the end of venation. Hind wing almost as long as forewing (160:163), with one and a half lines discal cilia. Legs slender, ratio of femur: tibia: tarsus as follows: foreleg 63: 68: 77; midleg 63: 105: 85; hind leg 77: 142: 90. Fore tarsus with proximal segment as long as following one, distal segment the shortest.

Metasoma. Ovipositor (Fig. 7), longer than body length (165:148), exerted beyond apex of metasoma by  $1.4-1.5\times$  metasoma length (90:60). Ovipositor/foretibia ratio about 4.7 (165:35).

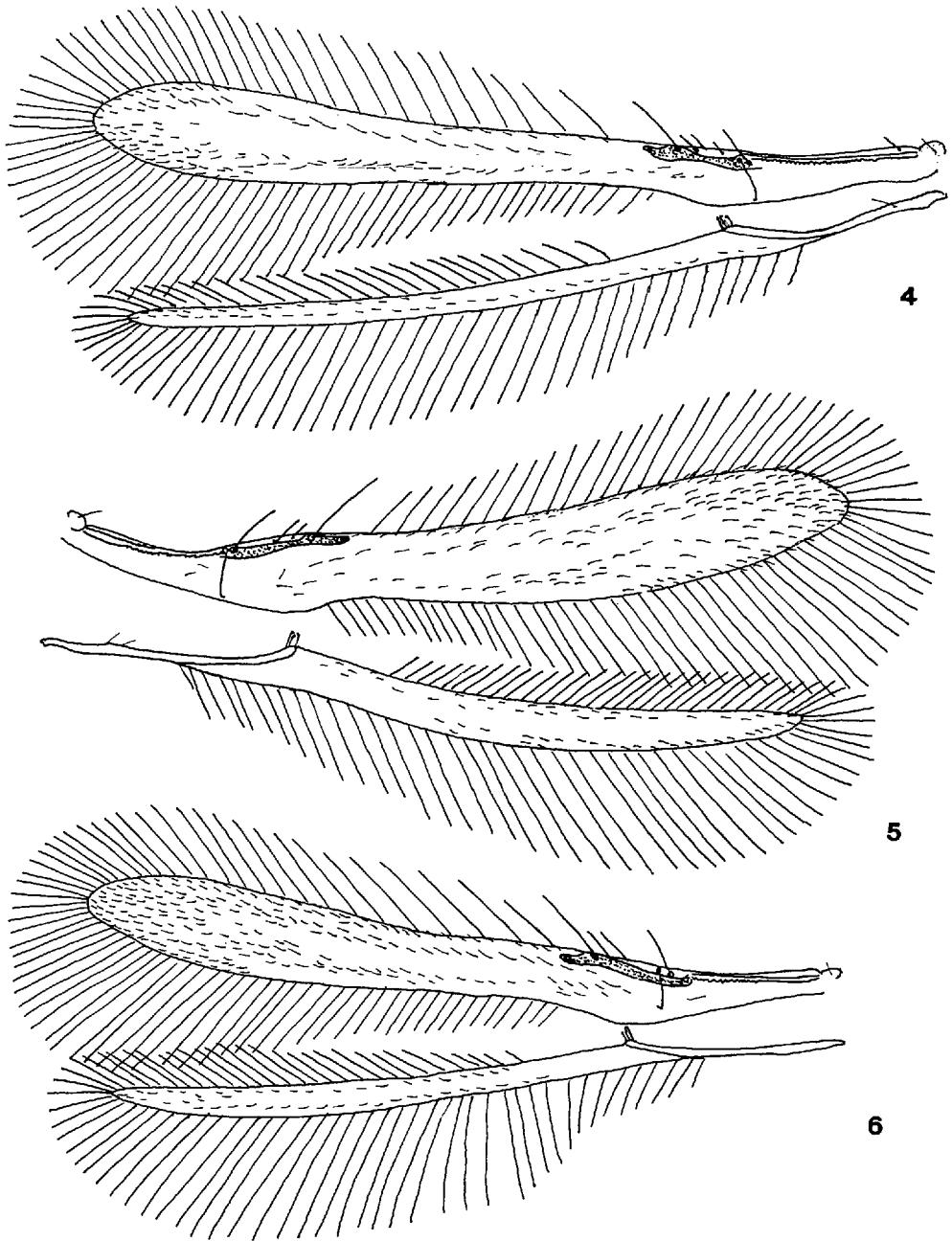
*Male*: Length of body 0.64 mm. Body coloration brown except scape, pedicel, legs

and proximal fourth of metasoma which are yellow-brown.

Relative lengths of antennal segments, beginning with scape 32: 19: 24: 23: 23: 23: 23: 22: 21: 20: 20: 20: 20 (Fig. 11). Each funicle segment with two to five sensory ridges.

Mesosoma. Forewing (Fig. 12) from 7.6 to  $8.4\times$  as long as wide; its longest marginal cilia about  $2\times$  its maximum width. Discal cilia irregularly scattered over apical fourth of wing blade, the anterior longitudinal line of cilia beginning beyond the distal end of venation.

Metasoma. Genitalia as in fig. 10 with "aedeagus encapsulated inside a sac-like phallobase" .. "with parameres and without volsellar digiti" as described by Viggiani (1988) for the Mymarinae in which he included *Omyomyar*. The phallobase has a small median ventral projection; the parameres are elongate, a little longer than foretibia (40:37), and sharp at apex. The aedeagus curves ventrally and its length, in-



Figs. 4–6. Female forewing. 1, *Omyomyia glabrum*. 2, *O. brevis*. 3, *O. longidigitum*.

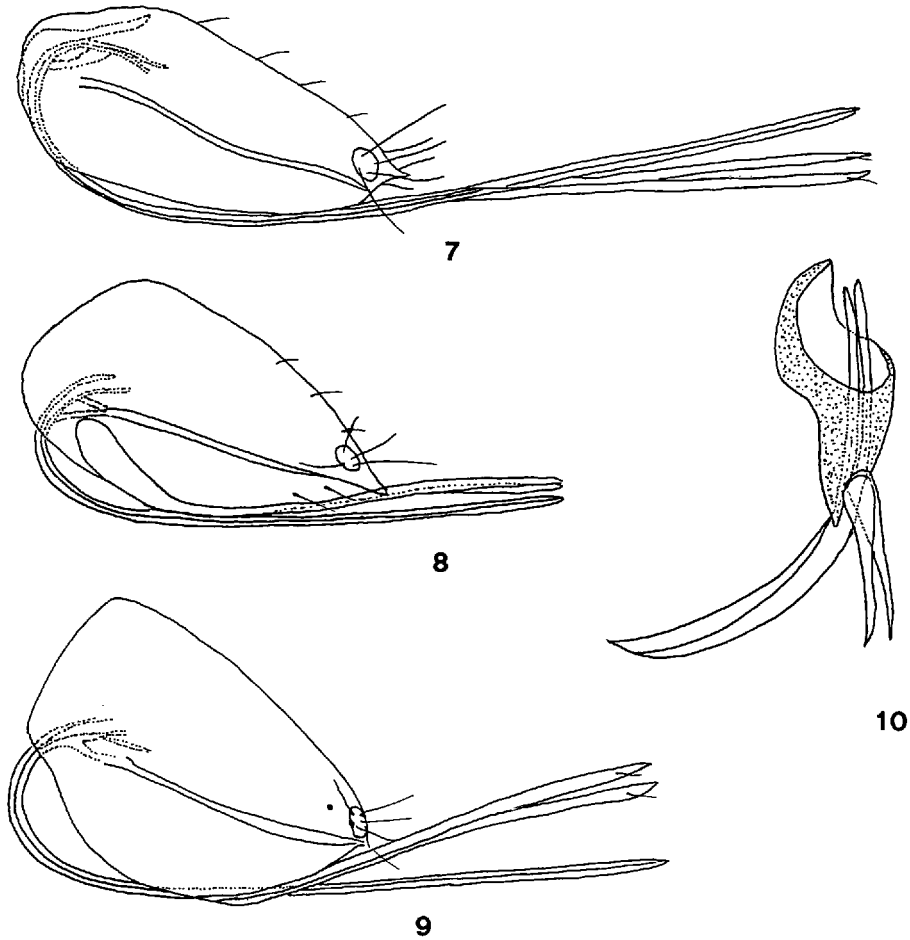
cluding apodemes, is about  $1.5\times$  foretibial length (60:37).

*Host*: Unknown.

*Type material*.—Holotype female: Long-xishan Nature Reserve, Jiangle County, Fu-

jian, China, Oct. 10, 1991, Lin Naiquan, by sweeping. Deposited in BCRI. Paratype, 1 female: same data as holotype. Deposited in IEFA.

*Other material studied*.—2 males, Long-



Figs. 7–10. 7–9, Female metasoma. 7, *Omyomyar glabrum*. 8, *O. breve*. 9, *O. longidigitum*. 10, *O. glabrum*, male aedeagus.

xishan Nature Reserve, Jiangle County, Fujian, China, Oct. 10, 1991, Lin Naiquan collected by sweeping. Deposited in IEFA and BCRI.

Comments.—Males were collected by sweeping in the nature reserve of Longxishan at the same time of females; as the forewing shape and ciliation is almost the same, we think they belong to the same species. Nevertheless, as no biological data are available and we can rely only on morphology to assign males to the new species, we are hesitant to include them in the type series.

Diagnosis.—This is a very peculiar spe-

cies the female being characterized by the short club and long ovipositor.

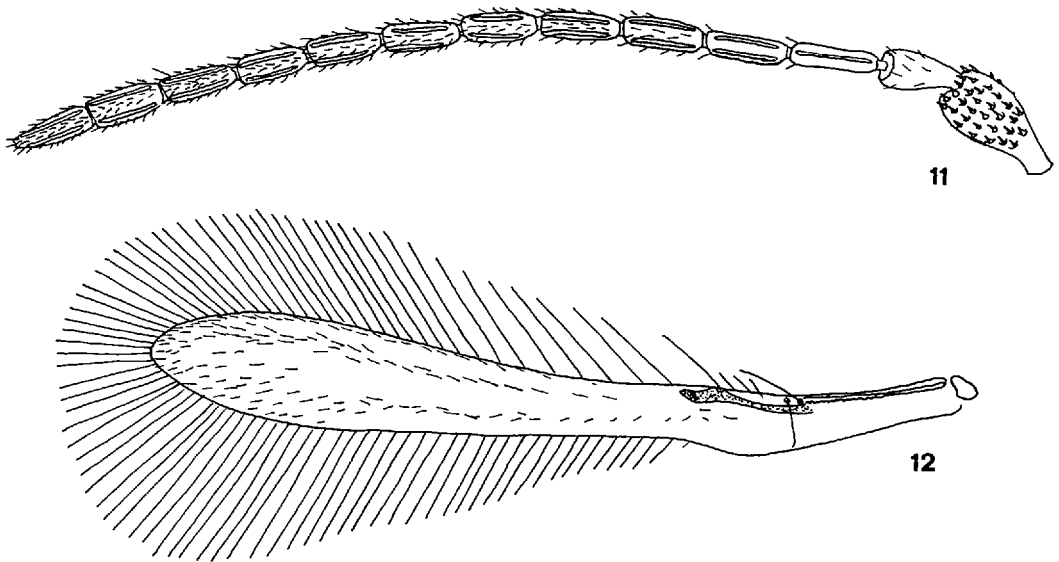
Etymology.—Latin adjective referring the few discal cilia present on the forewing.

***Omyomyar breve* Lin and Chiappini,  
NEW SPECIES**

(Figs. 2, 5, 8)

*Female*: Length of body 0.61 mm. Body yellow-brown, but funicle segments, club, propodeal pleura and distal half of metasoma dark yellow-brown. Legs, except hindcoxae, light yellow-brown. Eyes red.

Head. POL 20, OOL 8. Antenna as in Fig. 2, with funicle segments from F1 to F4



Figs. 11–12. *Omyomyar glabrum*, male. 11, Antenna. 12, Forewing.

subcylindrical, F5 and F6 with dorsal margins excised. F6 almost as long as wide (11:10). Most of the setae arranged in two whorls on funicle segments. Club conical-ovate, with apical digit nearly as long as wide. Basal segment of club about half as long as apical. Relative lengths of antennal segments from scape to club 41: 19: 12: 15: 15: 11: 11: 11: 42 (club width 19).

Mesosoma about  $0.9\times$  length of metasoma (53:60). Forewing (Fig. 5)  $7.8\times$  as long as wide (124:16). Discal cilia randomly arranged on apical half of wing blade and the two longitudinal lines beginning at the end of venation. The longest marginal cilia about  $2.3\times$  wing blade's greatest width (37:16). Hind wing slightly shorter than forewing (118:124), with 3 lines of discal cilia. Legs: ratio of femur: tibia: tarsus as follows: foreleg 46: 47: 35; midleg 50: 68: 46; hindleg 60: 87: 59. Fore tarsus with proximal segment the longest and two distal segments the shortest.

Metasoma: ovipositor (Fig. 8) about  $0.55\times$  as long as length of body (75:135), exerted beyond metasoma apex. The exerted part of ovipositor about  $0.4\times$  as long as metasoma (22:60) and as long as foreti-

bia (22:23). Ovipositor/foretibia ratio about  $3.2$  (75:23).

*Host*: Unknown.

*Type material*.—Holotype female: Tongmu, Wuyishan Nature Reserve, Fujian, China, July 26, 1985; Lin Naiquan, by sweeping. Deposited in BCRI. Paratypes: 1 female: same data as holotype. Deposited in IEFA.

*Diagnosis*.—This species is a very peculiar one, being characterized by F1 clearly shorter than pedicel, flagellar setae mostly arranged in 2 whorls.

*Etymology*.—Latin adjective referring to the short funicular segments.

### *Omyomyar longidigitum* Lin and Chiappini, NEW SPECIES

(Figs. 3, 6, 9)

*Female*: Length of body 0.68 mm (0.62–0.77). Body brown except for scape, pedicel, legs, basal half and tip of metasoma, which are yellow. Eyes red.

*Head*. POL 20, OOL 9. Antenna as in fig. 3, with funicle segments from F1 to F4 cylindrical, more than  $2\times$  as long as wide. F5 and F6 excised dorsally, less than  $1.9\times$  as long as wide. Club about  $3\times$  as long as

wide with apical digit well developed, about 2× as long as wide. Basal segment of club much shorter than apical segment, about ½ length of the latter. Relative lengths of antennal segments from scape to club 40: 20: 27: 24: 21: 16: 15: 14: 50 (club width 17).

Mesosoma a little shorter than metasoma (60:70). Forewing (Fig. 6) about 8.5× as long as wide (144:17); its longest marginal cilia about 2× (32:17) its maximum width. Discal cilia randomly distributed on distal third of wing blade; the anterior line of cilia beginning behind the middle of venation. Hindwing almost as long as forewing (142: 144), with nearly two lines of discal cilia. Legs slender, ratio of femur: tibia: tarsus as follows: foreleg 58: 62: 72; midleg 60: 100: 74; hindleg 72: 120: 80. Fore tarsus with proximal segment almost as long as following one, distal segment the shortest.

Metasoma: ovipositor (Fig. 9) about 0.9× as long as body length (138:150), exerted far beyond metasoma apex. The exerted part of ovipositor just a little shorter than metasoma (60:70). Ovipositor/foretibia ratio about 4.6 (138:30).

*Host*: unknown.

Type material.—Holotype female: Longxishan Nature Reserve, Jiangle County, Fujian, China, Oct. 10, 1991. Lin Naiquan, by sweeping. Deposited in BCRI. Paratypes: 4 females: same data as holotype. Deposited in IEFA (2) and BCRI (2).

Diagnosis.—*Omyomyar longidigitum*

resembles very much *O. silvanum*, but can be distinguished from the latter by the dorsal margin of F5 and F6 that is clearly excised in our species whereas Schauff stated that it is not in Ogloblin's species.

Etymology.—Latin noun referring to the long digit on the club.

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#### LITERATURE CITED

- Debauche, H. R. 1948. Etude sur les Mymarommidae et les Mymaridae de la Belgique. Mémoires du Musée Royal d'Histoire Naturelle de Belgique 108: 1–248.
- Ogloblin, A. A. 1935. Dos especies nuevas del genero *Paranaphoidea* Gir (Hym. Mymaridae). Revista Entomologica (Rio de Janeiro) 5: 149–153.
- Schauff, M. E. 1983. A new genus of Mymaridae (Hymenoptera: Chalcidoidea) from the New World. Proceedings of the Entomological Society of Washington 85(3): 543–551.
- . 1984. The holarctic genera of Mymaridae (Hymenoptera: Chalcidoidea). Memoirs of the Entomological Society of Washington 12: 1–67.
- Viggiani, G. 1988. A preliminary classification of the Mymaridae (Hymenoptera: Chalcidoidea) based on the external male genitalic characters. Bollettino del Laboratorio di Entomologia agraria Filippo Silvestri. 45: 141–148.
- Yoshimoto, C. M. 1990. A review of the genera of the New World Mymaridae (Hymenoptera: Chalcidoidea). Flora and Fauna Handbook no. 7. Sandhill Crane Press, Inc., Gainesville, Florida, 166 pp.