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DESCRIPTION OF HAKKA,
A NEW GENUS OF JUMPING SPIDER
(ARANEAE, SALTICIDAE) FROM HAWAII AND EAST ASIA

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ABSTRACT. We describe a new genus for a jumping spider that was originally placed in the large genus Menemerus Simon 1868, from which the new genus is clearly different. They were later reclassified as Icius, then as Pseudicius, and still later as Salticus. These initial classifications were repeated by a number of authors. The distinctive features of the male, and somewhat ambiguous features of the female, do not fit any known genus; and this species is here assigned to the new genus Hakka.

Keywords: Hakka, Salticus, Menemerus, Hawaii, Salticidae

Like many other elements of the Hawaiian Islands, the jumping spiders of the islands are poorly known. Much of the known fauna consists of genera whose origin can be traced from either Asia or North America. This paper discusses a species found in Hawaii that was previously known under several different generic names—from a few specimens only—from China, Korea and Japan. One specimen was recorded in Hawaii in 1923, and we have recently collected two more. It is not known whether they are incidental recent arrivals (although the three specimens were collected over a period of 74 years) or have populations established there.

Hakka new genus

Discussion.—Assigning these salticid spiders to a genus has always created a problem. Although they have never been described as a separate genus, they were originally placed in the large genus Menemerus Simon 1868 (Doenitz & Strand in Bösenberg & Strand 1906), from which they are clearly different. Prószyński (1976) reclassified them first to Icius Simon 1876, subsequently correcting himself and re-interpreting them as Pseudicius (Prószyński 1987). Wesolowska (1981) interpreted the structure of the epigynum as resembling the genus Salticus Latreille 1804 and described the female as Salticus koreanus Wesolowska. These initial classifications were later repeated by a number of authors. The fact is that the distinctive features of the male, and somewhat ambiguous features of the female, do not fit any known genus; and this species deserves delimitation to its own genus Hakka.

Diagnosis.—Hakka is a unidentate salticid with two prolateral cheliceral teeth, without patellar spines, and without lateral spines on metatarsi I and II. These same characters occur in the genera with which it has been confused—Icius, Menemerus, Pseudicius, and Salticus, but they do separate Hakka from many other salticid genera. The absence of stridulatory spines from the carapace and microspines from femur I, and presence of 5–6 ventral spines on tibia I clearly separate Hakka from Pseudicius. The latter has the stridulatory spines and, on tibia I, normally 0–3 spines that are usually much reduced in length and often thickened basally. Pseudicius differs also by having a long, flat, relatively narrow carapace, and large robust first legs with tibia I more-or-less swollen, and with unusually long trichobothria, usually bent at a distinct angle. From Salticus, Hakka is distinguished by the absence of elongate male chelicerae,
the presence of ventral spines on tibiae I and II, the elongate bulb of the male palp overlapping the tibia proximally, and the medium-long sinuous embolus (Figs. 3, 4). The epigynum is less sclerotized than in Salticus; and the epigynal ducts run forward from the copulatory openings, then turn back to the spermathecae (Figs. 6, 7). The typical Salticus color pattern of white lines of scale-like hairs is absent. Icius differs by having a proportionately longer, somewhat oblong carapace (shorter and more ovate in Hakka) and abdomen, the palpal bulb narrowing anteriorly, and a distinct color pattern, consisting in part of scale-like hairs. Menemerus, the genus in which H. himeshimensis was originally placed, has a flatter, broader cephalothorax and abdomen. Also, the male palpal of Menemerus has the tibia and patella short and broad, often as broad as the cymbium, and a broad crescentic femur; the RTA is large, the embolar base wide and separated by a groove from the rest of the bulb: the embolus is accompanied by a membranous conductor-like portion. Epigynal openings lead directly into a bursa connected by a very short thick-walled duct to a second chamber. But in Hakka there is no membranous part in the male palp, and the bulb and epigynal ducts, as described above, differ strikingly.

Distribution.—Previously known from China, Japan, North Korea, and now, Hawaii.

Etymology.—Named for a group of Chinese people, members of which were brought to Hawaii as laborers on sugar cane plantations in the middle of 19th century (described in the book “Hawaii” by James Michener). For nomenclatorial purpose the name is considered to be female.

Type species.—Menemerus himeshimensis (Doenitz & Strand, in Bösenberg & Strand 1906).

Hakka himeshimensis (Doenitz & Strand) (in Bösenberg & Strand 1906) new combination
Figs. 1–7

Note: The type specimens, housed in Stuttgart, were destroyed during World War II.

Menemerus himeshimensis Doenitz & Strand, in Bösenberg & Strand 1906: 395–396, table 8, fig. 116; table 14, fig. 309.

**Figures 1–7.**

- **Male:** Dorso-lateral view of cephalothorax, showing the cephalothorax with a pair of eyes and antennae. The thorax has a characteristic shape with legs attached. The abdomen is visible below the cephalothorax.
- **Female:** General appearance, showing the body structure without the details of the cephalothorax. The abdomen is more elongated compared to the male.

**Remarks:**

- The palpal organ in the male is characterized by a broad anterior part and a posteriorly curved anterior margin, resembling some *Pseudicius* of the *cinctus* group. The embolus is elongate conical with a wavy outline.
- The female resembles the male in appearance and size, with a leg formula (IV-III-II-I) that differentiates it from the male.

**Female:**

- Resembles male in appearance and size (Fig. 5).
- The leg formula (IV-III-II-I) is a secondary sex character, as indicated.
found in many genera of Salticidae. Characterized by epigynum in a form of a concave plate, with slit-like copulatory openings in the middle, located inside indistinct oval depressions, separated by a thin, low ridge (Fig. 6). Internal structures of epigynum consist of a channel running anteriorly, then curving and running back, slightly diagonal and joining the transversely oriented narrow bag-shaped spermathecae, located in the posterior half of epigynum. There is a long chimney-like structure, presumed to be a scent gland pore (see Prószyński 1998, in press), located at the junction of channel and spermatheca. Walls of channels, spermatheca and scent gland sclerotized and of similar thickness. Interior walls of spermathecae with irregular, transverse ridges. Nutritive pores (see Prószyński 1998, in press) minute and indistinct, located near the top of conical distal part of spermatheca, near insertion of fertilization channel (Fig. 7). General plan and appearance of these structures superficially resemble those seen in various species of Salticus.

**Distribution.**—Japan, China and North Korea; this is the first record from Hawaii.


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**LITERATURE CITED**


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