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Synonymy in *Sigmasoma* Schmidt, with Notes on the Genus and
Key to the Species (Homoptera: Cercopoidea: Machaerotidae)

AI-PING LIANG

Department of Entomology, Institute of Zoology, Academia Sinica,
19 Zhongguancun Lu, Beijing 100080, People's Republic of China

ABSTRACT: *Neosigmasoma manglunensis* Lu is synonymized with *Sigmasoma chakratongi* Maa, making the monotypic genus *Neosigmasoma* Lu a junior synonym of *Sigmasoma* Schmidt. A diagnosis is given for the genus, and a revised key to its three known species is provided. *Sigmasoma chakratongi* Maa is reported from Laos.

Lu (1982) erected the machaerotid genus *Neosigmasoma* for a new species, *N. manglunensis*, on the basis of a female specimen collected by I. Chou and F. Yuan in southern Yunnan Province, China. The species is still known only from the female holotype. While studying the Chinese Machaerotidae, I was able to compare this female holotype of *N. manglunensis* with the male holotype of *Sigmasoma chakratongi* Maa, which clearly revealed the synonymy of the two species, thus making the monotypic genus *Neosigmasoma* Lu 1982 a junior synonym of *Sigmasoma* Schmidt 1907.

The specimens studied in the course of this work are deposited in the following institutions: Bernice P. Bishop Museum, Honolulu, Hawaii, U.S.A. (BPBM); Entomological Museum, Northwestern Agricultural University, Yangling, Shaanxi Province, China (NWAU); and Institute of Zoology, Academia Sinica, Beijing, China (IZAS).

Genus *Sigmasoma* Schmidt

Sigmasoma Schmidt, 1907:178. Type-species: *S. bifalcatum* Schmidt, 1907, by original designation. *Neosigmasoma* Lu, 1982:273. Type-species: *N. manglunensis* Lu, 1982, by original designation and monotypy. NEW SYNONYMY.

Remarks: *Sigmasoma* clearly belongs within the tribe Machaerotini of the subfamily Machaerotinae as defined by Maa (1963). Important character states exhibited by all members of the tribe include a generally slender body form; inner margins of eyes slightly convergent posteriorly; tylus convex, flattened or vertically produced, rarely with small, shallow, subcircular depression; pronotum weakly humpbacked, usually less than twice as broad as head and lacking distinct lateral lamina; scutellum with submedian carinae; tegmen 3 times or more as long as broad; claval vein 1 weakly curved at

apex, claval vein 2 (when present) apically forming acute interior angle with anal tegminal margin; Cu of (hind) wing always unbranched; hind femur about 3.5 times as long as broad, length of hind tibia equal to or slightly smaller than breadth of head; and abdomen (female) subconical, apically attenuate and slanting dorsocaudad.

The tribe Machaerotini (6 genera, 51 species) occurs primarily in the Oriental Region (37 spp.), with a few species in the Palearctic and ten in the Australian Region. *Sigmasoma* can be distinguished from the other five genera of Machaerotini (i.e., *Machaerota*, *Grypomachaerota*, *Platymachaerota*, *Romachaeta*, and *Tapinacaena*) by the following combination of characters: head vertically produced into a distinct subconical process; discoidal cell of tegmen 4–5 times as long as wide, its length distinctly greater than greatest width of tegmen; veins M and Cu separated basally, joined by a short crossvein forming basal margin of discoidal cell; height of head above eye more than twice depth of eye in profile; and posterolateral angle of pronotum not spine-like.

Sigmasoma chakratongi Maa

Sigmasoma chakratongi Maa, 1963:87, figs. 15F, 17A–E, 28C. Holotype male, THAILAND (BPBM) [examined].

Neosigmasoma manglunensis Lu, 1982:273, figs. I-1, II-1. Holotype female, CHINA (NWAU) [examined]. NEW SYNONYMY.

Type material: The holotype male of *Sigmasoma chakratongi* Maa bears the labels: "THAILAND: NW. Chiangmai Prov., Chiangdao, 450 m, IV-5-11-1958; T. C. Maa Collector, No. 334; *Sigmasoma chakratongi* sp. n., Holotype male, T. Maa' 60." The specimen is in excellent condition. The holotype female of *Neosigmasoma manglunensis* Lu bears the labels: "CHINA: Yunnan Province, Manglun, 21-IV-1974, I. Chou & F. Yuan Collectors; Holotype; *Neosigmasoma manglunensis* Lu sp. n." This specimen is also intact.

A male specimen has also been examined from Laos: Sayaboury Province, Sayaboury, 8.v.1965 (native collector) (IZAS). This is the first report of *S. chakratongi* in Laos.

The following key, adapted from Maa (1963), will identify the three described species of *Sigmasoma*.

Key to the Species of *Sigmasoma*

1. Cephalic process distinctly longer than pronotum, without carina on posterior surface; height of scutellum in lateral aspect much less than its length, its hind and inferior margins forming an obtuse angle. Length of tegmen, female, 6.5 mm. Java *bifalcatum* Schmidt.
- Cephalic process shorter than pronotum, with a knife-like carina on posterior surface 2
2. Smaller species, length of female tegmen 4.5 mm; body dominantly stramineous; median carina on anterior surface of cephalic process not reaching summit of process; height of head above eye only 2 times depth of eye; lateral angle of pronotum broadly rounded, not protruding, lacking oblique ental carina. Borneo *borneense* (Baker).
- Relatively large species, length of male tegmen 7.0 mm; body dominantly blackish brown; median carina on anterior surface of cephalic process reaching summit of process; height of head above eye nearly 3 times depth of eye; lateral angle of pronotum strongly produced into angulate, spreading lamina, with oblique ental carina. Thailand (Chiangmai Province), Laos (Sayaboury Province) and China (Yunnan Province) *chakratongi* Maa.

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