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On the identity of *Orientopsaltria montivaga* (Distant, 1889)
and *Orientopsaltria agatha* (Moulton, 1911) comb. nov.
(Homoptera - Cicadidae)

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ABSTRACT

Cosmopsaltria agatha Moulton is removed from the synonymy of *Orientopsaltria montivaga* (Distant) and reallocated in *Orientopsaltria*. The drawings of the male genitalia facilitate the distinction of both species.

Recently, in connection with the description of a new species (Duffels, 1965), I discussed the taxonomy of the genus *Cosmopsaltria* Stål, 1866. On account of the examination of the male genitalia of a number of species of the genus, it became necessary to divide *Cosmopsaltria* into two species groups, which are Papuan and Indo-Malayan in distribution, respectively.

The Papuan species grouped around the type-species of the genus bear a close resemblance to *Diceropyga* Stål, 1870, *Sawda* Distant, 1905, and *Fatima* Distant, 1905, particularly because of the presence of spine-like projections on both sides of the pygofer of the male genitalia. On the other hand, the rounded pygofer lobes, as found in the other, Indo-Malayan, species of *Cosmopsaltria*, point to a relationship with *Orientopsaltria* Kato, 1944, and *Dundubia* Amyot & Serville, 1843.

The importance of the male genitalia for arriving at a more natural definition of these genera, was already recognized by Kato (1944a) when he created *Orientopsaltria* for two species of *Cosmopsaltria* with rounded pygofer lobes, *C. duarum* (Walker, 1857), and *C. jacoona* Distant, 1888. In a subsequent publication Kato (1944b) included also *C. montivaga* Distant, 1889, in this new genus.

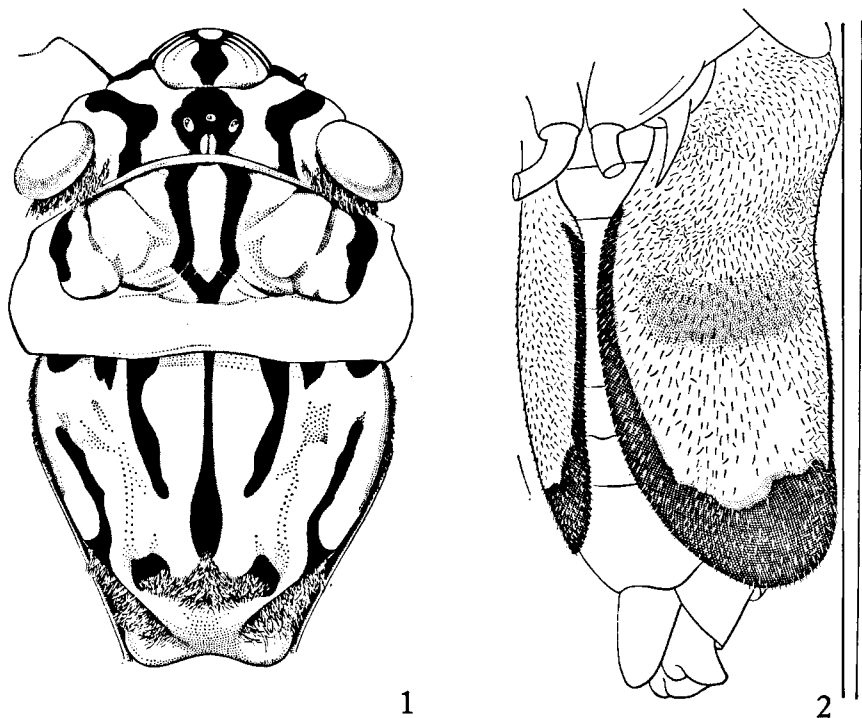
In the present study an other species, removed from the synonymy of

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Orientopsaltria montivaga, will be added to *Orientopsaltria*. In the material at my disposal this species, *Cosmopsaltria agatha* Moulton, 1911, could rather easily be separated from the closely related *O. montivaga* on account of the characters compiled by Moulton (1911, 1923). Therefore, it was surprising to find that *agatha* was synonymized with *montivaga* in Metcalf's "General Catalogue of the Homoptera" (1963). For this synonymy Metcalf based himself on Singh-Pruthi's paper "The morphology of the male genitalia in Rhynchota" (1925), in which the distinction of the species, genera and groups of higher rank is discussed only on the strength of differences in the male genitalia. In the case of *C. agatha*, Singh-Pruthi confines himself to the following comment: "The genitalia are identical with those in *C. montivaga*; both seem to be the same species."

Through a study of a rather long series of both species in the collections of the Rijksmuseum van Natuurlijke Historie at Leiden (RML) and the Zoölogisch Museum at Amsterdam (ZMA), and a re-examination of the type-specimens in the British Museum (Natural History) at London (BM), I came to the diametrically opposite conclusion, that *montivaga* and *agatha* are easily distinguishable species, well characterized by the quite different uncus in the male genitalia. Moreover, the examination of the male sexual organs proved



FIGS. 1—2. *Orientopsaltria montivaga* (Distant). 1, male from Sumatra, Fort de Kock, 920 m, 1926; head and thorax; 2, male from Sumatra, Medan; abdomen with opercula. Del. B. Weyde.

that *C. agatha* should be reallocated in the genus *Orientopsaltria* on account of the rounded pygofer lobes.

Besides, it may be remarked here that the structure of the uncus in my specimens of *montivaga* differs notably from that in Singh-Pruthi's figure (Pl. XIX fig. 142). Whereas the present material has one pair of uncus lobes, the uncus figured by Singh-Pruthi has two pairs. It is most probable, that Singh-Pruthi mistook the lateral sides of the pygofer for another pair of uncus lobes. His figure does not agree with the structure of the uncus in any other related species, and confusion with an other species is not plausible.

As Distant (1889, 1890) gave only a differential diagnosis of *montivaga* and compared it with *C. duarum*, I give an extensive description of this species with figures of the male operculum and the characteristic markings on head and thorax. Moreover, the figures of the male genitalia of *O. montivaga* and *O. agatha* will facilitate the identification. The females of both species are still unknown.

Orientopsaltria montivaga (Distant, 1889). Figs. 1—3

Cosmopsaltria montivaga Distant, 1889 : 421; Distant, 1890 : 49; Distant, 1892 : pl. XII figs. 12, a, b; Moulton, 1911 : 188—190; Moulton, 1923 : 88, 95—96; Singh-Pruthi, 1925 : 191, pl. XIX fig. 142.

Orientopsaltria montivaga; Kato, 1944b: 10.

Material examined. — North Borneo: Kina Balu Mountain, 1 ♂ type, BM. Sumatra: Deli (L. P. de Bussy) ex alcohol, 19 ♂, ZMA; Fort de Kock, XII.1913 (E. Jacobson) 1 ♂, RML; Fort de Kock, 920 m, VIII.1921 (E. Jacobson) 1 ♂, RML; Fort de Kock, 920 m, 1926 (E. Jacobson) 1 ♂, ZMA; Fort de Kock, 1000 m, XII.1930 (J. Kool) 1 ♂, ZMA; Laut Tador, 90 m, 20.III.1951 (R. Straatman) 1 ♂, RML; Laut Tador, 90 m, 11.IV.1951 (R. Straatman) 1 ♂, RML; Medan, 1909 (Van Loghem) 1 ♂, ZMA, 1 ♂, RML; Medan (L. P. de Bussy) 1 ♂, ZMA; Pager Alang (J. J. de Vos tot Nederveen Cappel) 1 ♂, RML; Solok, 1911 (P. O. Stolz) 1 ♂, RML; Solok, acq. 27.II.1911 (P. O. Stolz) 1 ♂, RML; Solok, Padang (P. O. Stolz) 1 ♂, RML; Solok, 16.VII.1912 (P. O. Stolz) 1 ♂, RML.

DESCRIPTION OF THE MALE

Head. — Ochraceous to brownish. Anterior margin of the postclypeus with a median ochraceous spot enclosed on each side by a series of black transverse furrows, that pass laterally into one single black fascia running along the margin of the vertex lobe, continuing from the antenna to the eye on the underside of the vertex. A black median fascia on the upperside of the postclypeus connects the median ochraceous spot with a large black spot enclosing the ocelli. On both sides of the head a black curved fascia runs from the anterior margin of the vertex lobe to the base of the head near the eye. Anteclypeus and rostrum ochraceous. Apex of rostrum black, reaching the posterior coxae.

Thorax. — Pronotum ochraceous to brownish, sometimes, especially the pronotum collar, tinged with olivaceous. The percurrent paramedian black fasciae converge in the middle of the anterior margin of the pronotum collar

and enclose the more ochraceous central part of the pronotum. An elongate black spot is situated behind the eye.

Mesonotum brownish to red-brown, cruciform elevation ochraceous to brownish. The five longitudinal black fasciae, a single median and two pairs of lateral fasciae, are much narrower than the intermediate space between the fasciae. The narrow median fascia, percurrent from front margin of the mesonotum to cruciform elevation, widens somewhat in the posterior half. The innermost lateral fasciae reach from front margin of the mesonotum to two thirds of the mesonotum length and are succeeded posteriorly by a black spot just before the anterior angles of the cruciform elevation. The outermost lateral fasciae consist of a black spot at the front margin of the mesonotum and a fascia on the posterior two thirds of the mesonotum. At the front margin of the mesonotum a small triangular spot is situated on each side between the two lateral fasciae.

Legs. — Ochraceous. Apical parts of the femora of the fore legs black. Tibiae of the fore legs with a black line along its whole length, tibiae of middle and hind legs black at base and apex. Tarsi of fore and middle legs black.

Opercula (fig. 2). — Rather broad, reaching the eighth abdominal segment. The rather convex medial margins of the opercula are either contiguous or distinctly separated. Lateral margin concavely sinuate at one third from the

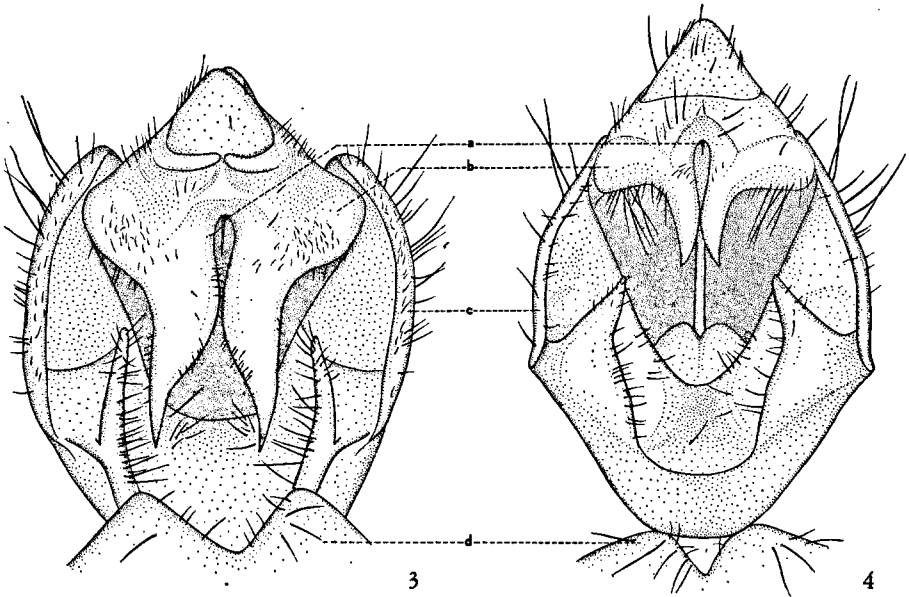


FIG. 3. *Orientopsaltria montivaga* (Distant), male from Sumatra, Medan. Genitalia. a, apex of aedeagus; b, uncus; c, pygofer; d, sternite VIII.

FIG. 4. *Orientopsaltria agatha* (Moulton), male from Borneo, Kedurong Lighthouse, I.1912. Genitalia. Lettering as in fig. 3.

base. Ground-colour ochraceous to olive-green with a castaneous transverse bar across the middle of the operculum. Medial margin narrowly and apex broadly black.

Tegmina and wings. — Hyaline. Venation brownish. Basal veins of second and third apical areas of the tegmina infuscated.

Abdomen. — Red-brown to dark castaneous and somewhat greyishly pilose above. Timbal coverings and hind margins of the tergites ochraceous to olive-green. Abdomen beneath ochraceous, apex of abdomen, excepting the pygofer, black.

Genitalia (fig. 3). — Lateral sides of the pygofer rounded. Uncus lobes rather broad at base tapering to a sharply pointed apex.

Measurements. — Length of the body: 35—40 mm; length of head from apex of postclypeus to pronotum: 4.5—5 mm; length of pronotum: 6—7 mm; length of mesonotum including cruciform elevation: 9—10 mm; width of head including eyes: 12.5—13 mm; width of pronotum: 13—14 mm; width of mesonotum: 11—12.5 mm; length of tegmina: 49—57 mm.

Distribution. — Borneo, Sumatra and Malay Peninsula (Moulton, 1923).

***Orientopsaltria agatha* (Moulton, 1911). Fig. 4**

Cosmopsaltria agatha Moulton, 1911 : 187—190; Moulton, 1923 : 88, 95, pl. II figs. 1, a, b; Singh-Pruthi, 1925 : 191.

Cosmopsaltria montivaga var. *agatha*; Distant, 1912 : 14.

Material examined. — Borneo: Kedurong Lighthouse, 1910, 1 ♂ type, BM; Kedurong Lighthouse, I.1912, 2 ♂, BM; Kedurong, Sarawak, II.1911 (J. C. Moulton) 1 ♂, BM; Kedurong, Sarawak, III.1911 (J. C. Moulton) 1 ♂, BM; Sarawak, Bau, VI.1911 (J. M. Bryan) 1 ♂, BM; Sarawak, Bau, IX.1911, 1 ♂, BM; Sintang (E. Wilmar) 1 ♂, RML; Without locality 1 ♂, RML.

This species suggests *O. montivaga* in general appearance, colour and size. More specially the presence of a transverse bar across the opercula and the infuscations at the base of the second and third apical areas of the tegmina indicate the very close relationship of *montivaga* and *agatha*. Nevertheless *agatha* is easily distinguished from *montivaga* by the width of the black fasciae on the mesonotum. In *agatha* these fasciae are about as broad as the intermediate space, whereas the fasciae in *montivaga* are much narrower. Other features of distinction are the presence of a black spot at the base of the postclypeus near the anteclypeus in *agatha*, absent in *montivaga*, and the ground-colour of the mesonotum, ochraceous in *agatha* and brownish to red-brown in *montivaga*. Moreover the medial margin of the operculum in *agatha* is more convex than in *montivaga*. In case the identification on account of these characters remains dubious, the differences in the male genitalia are decisive.

The type of the genus, *O. duarum*, can easily be distinguished from *montivaga* and *agatha* by the absence of a transverse bar on the opercula. *O. jacoona* differs by the unicoloured opercula and unspotted tegmina.

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