

Dilobopyga janstocki n. sp., a new cicada endemic to Sulawesi (Homoptera, Cicadidae)

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Abstract

Dilobopyga janstocki n. sp. is described from North Sulawesi, Indonesia, and placed in the *Dilobopyga opercularis* group.

Résumé

Dilobopyga janstocki n. sp. est décrite de Sulawesi du Nord, Indonésie et placée dans le groupe *Dilobopyga opercularis*.

Introduction

Project Wallace, a research programme conducted in the Dumoga-Bone National Park and elsewhere in North Sulawesi, has greatly stimulated the study of the insects of this biogeographically highly interesting island. The cicadas collected during the Project Wallace, as well as some other recent collections, provide the opportunity to continue studies on the taxonomy and biogeography of Sulawesi cicadas (Duffels, 1977; in press).

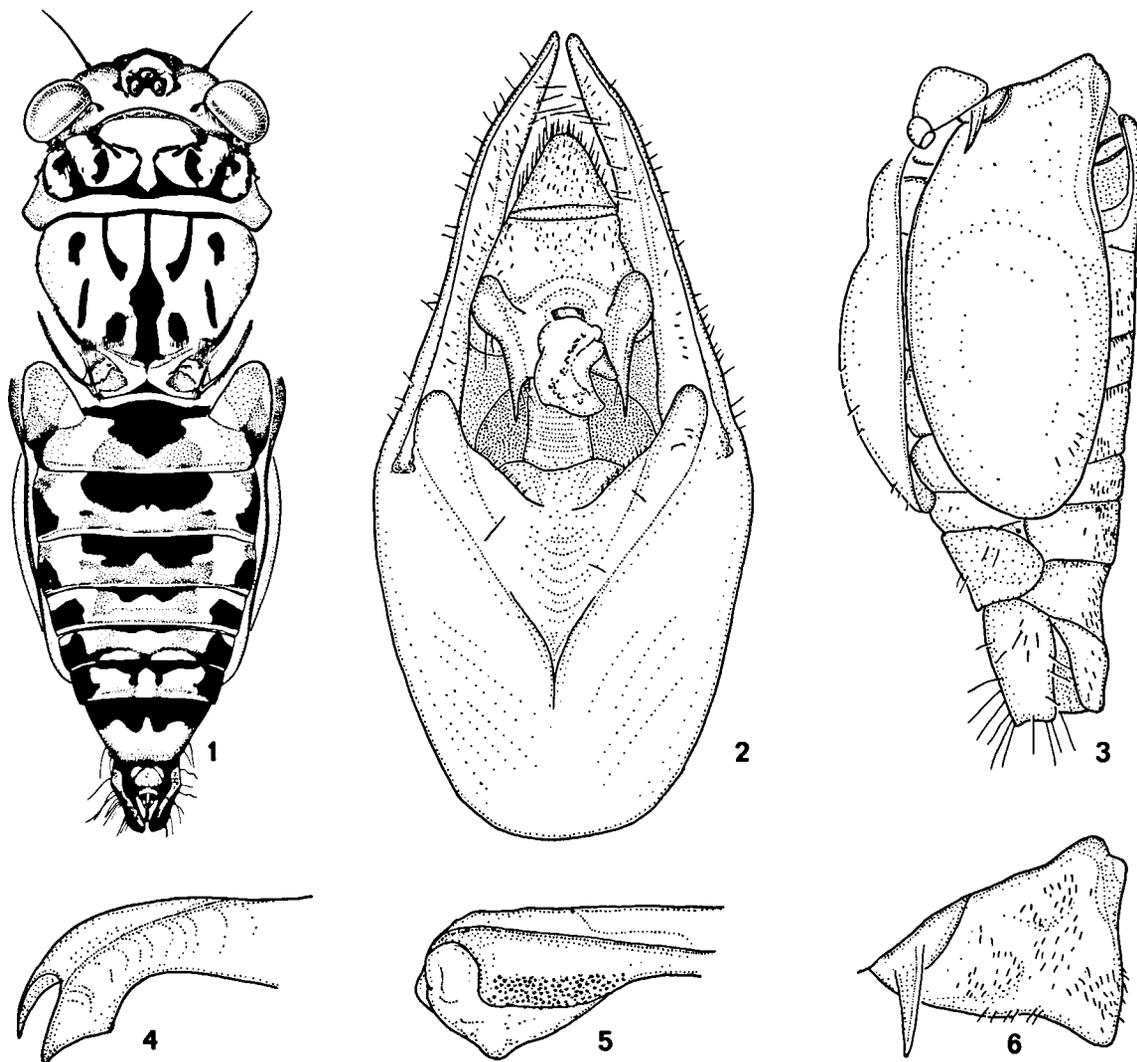
It has already become clear that the cicada fauna of Sulawesi shows high numbers of endemic species: 73 out of the 77 species recognized in our material are restricted to the island. In *Dilobopyga* Duffels, 1977, 30 species are endemic to Sulawesi, including Buton and Muna, and the other six species are found in the nearby islands: Sangihe isl., Selayar isl., Banggai archipelago, Sula isl., and South Maluku. The preliminary taxon-area cladogram presented for this genus (Duffels, in press) in-

cludes quite a number (26) of undescribed species. *Dilobopyga janstocki*, described here, belongs to a monophyletic subgroup of the *Dilobopyga opercularis* group; the subgroup is mainly characterized by the convexity of the apical two-thirds of the male operculum. The species of this subgroup have a fairly restricted distribution: in North Sulawesi there are 6, in North and central Sulawesi 2, in East Sulawesi 1, and in Sangihe isl., north of Sulawesi, there is 1 species (Duffels, in press).

Dilobopyga janstocki n. sp. (Figs. 1–6)

Distinction. – This new species is distinguished at first sight from the described species of *Dilobopyga* by the short central pronotal fasciae and the unmarked triangle at the anterior pronotal margin. It was collected near Danau Moaat, East of Kotamobagu, in North Sulawesi.

Material examined. – Holotype ♂: "Indonesia / Sulawesi Utara / Project Wallace", "Danau Moaat / E of Kotamobagu / 1100 m / 16–17.ii.1985 / J. P. Duffels", "Stat. 20 / Coffee-plantation", Instituut voor Taxonomische Zoölogie (Zoölogisch Museum, Amsterdam) (= ZMA). Paratypes: North Sulawesi: same data as holotype, 9 ♂♂, ZMA, 4 ♂♂, Museum Zoologicum Bogoriense, Bogor; same data but 1100–1350 m, 18.ii.1985, stat. 21, lowland rainforest, 1 ♀ ZMA; Kotamobagu E. of, Danau Moaat, 1080 m, 0°44'N 124°27'E, 20.iv.1985, F. G. Rozendaal, 2 ♂♂, Rijksmuseum van Natuurlijke Historie, Leiden; Danau Moaat, E. of Kotamobagu, 1080 m, 20–22.x.1985, gardens PPA resthouse, at light, G. Robinson, 3 ♂♂, 1 ♀, British Museum (Natural History), London, 2 ♂♂, 1 ♀, ZMA; same locality,



Figs. 1–6. *Dilobopyga janstocki*: 1, male body in dorsal view, paratype; 2, pygofer in ventral view, holotype; 3, male abdomen with opercula in ventrolateral view, holotype; 4, clasper in ventrolateral view, holotype; 5, apex of aedeagus in lateral view, holotype; 6, female operculum in ventral view, paratype.

4–6.x.1985, M.R. de Jong, coffee-plantation near PPA rest-house, 2 ♂♂, ZMA; same locality, 28.x.1985, stat. 059, R. Bosmans & J. van Stalle, I.G. no. 26.977, 4 ♂♂, Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels.

Description. – Ground colour of living male specimens green, but head yellowish green, area between central pronotal fasciae yellow, and basal part of operculum ochraceous with a green tinge; dead specimens more ochraceous, though most retain

shades of green. Females with ground colour of head and thorax ochraceous and that of abdomen brown.

Head: Vertex with trefoil-shaped black mark enclosing ocelli and not reaching frontoclypeal suture; some paratypes have a pair of narrow and short, black lines running from lower part of anterior lobe of this mark towards antennae. Further dorsal marking consists of: two pairs of small, black spots, placed one after the other, laterally of me-

dian black mark; a pair of rather large, black-brown spots on sutures between vertex and supra-antennal plates; and a pair of small oval spots attached to lower parts of eye inner margins. Gena with either a black spot below base of antenna, or a short black fascia extending from postclypeus to half-way along distance between postclypeus and eye. Margins of mandibular plate black with exception of anterior margin. Anterior part of postclypeus on each side with four, sometimes five, transverse, black lines; medial ends of these lines connected by a black arcuate line. Lower two-thirds of underside of postclypeus with median line, which varies from short, faint and light brownish to long, distinct and black. Black apex of rostrum extending far beyond hind coxae.

Thorax: Pronotum with short, black central fasciae, which reach from the widened halfmoon-shaped posterior ends in front of pronotum collar along half or two-thirds of pronotum length. A pair of black lines above the anterior oblique fissures is connected with central fasciae. Posterior oblique fissures and lateral parts of ambient fissure with irregular, strongly developed, black marking. A pair of fairly large, irregular, black spots is situated at half the height of the pronotum between anterior and posterior oblique fissures; these spots are often connected with a somewhat smaller, irregular, black spot against distal parts of anterior oblique fissures. Anterior margin of pronotum and posterior margin of pronotum collar black.

Mesonotum with percurrent median fascia, which widens usually to 3–6 times its anterior width at three-fifths of its length, and narrows again to about half its maximum width at cruciform elevation. The fascia continues sometimes as a very narrow line on cruciform elevation; posterior margin of cruciform elevation with very low, black triangle. Slightly converging paramedian fasciae reach from anterior margin of mesonotum to half the length of mesonotum disk; fasciae slightly widened toward their apices. Black, round spots in front of anterior angles of cruciform elevation; these spots and median fascia are fused in one paratype. Remnants of lateral fasciae are a pair of black spots at one third of mesonotum length and a pair of distinct, black lines on posterior one-third of mesonotum.

Legs: Fore femur with two fairly large, black, erect spines and a very small, black spine, which is placed most distally; the spines are connected by a black line. Inner and outer sides of fore femur with a distal, brownish spot, upper side with a broad, brownish line. Middle femur with a brown spot at base of inner side. Fore tibia brownish to the apex; middle tibia apically brown. Claws and apical segments of tarsi of fore and middle legs for the greater part black-brown.

Male: Operculum (Fig. 3). Reaching to at least half-way along abdominal segment 6, but sometimes as far as half-way along segment 7. Basal one-third of operculum weakly convex, apical part strongly convex. Lateral margin sinuate in basal one-third and fairly convex in apical two-thirds. Apex of operculum broadly rounded. Medial margin weakly convex. Abdomen. Posterior margin of segment 1 black. Segment 2 with a middorsal, more or less round, black spot, which is anteriorly broadly attached to the segment margin, and extends posteriorly along two-thirds of the segment length. Segments 3 and 4 with middorsal marks, which are half to two-thirds as wide as the segments and reach from anterior segment margins along one- to two-thirds of the segment length. Segments 5 and 6 have a very low, bicuspidate black mark along anterior segment margins. Segments 7 and 8 usually have much more conspicuous, bicuspidate, middorsal marks reaching in segment 7 from anterior segment margin along at least one third of its length but often to its posterior margin, and in segment 8 along about half its length. Lateral corners of tergite of segment 2 brown-black. Segments 3–8 have fairly large, lateral, black spots. Lateral and medial marks on segment 8 may be fused. In one specimen a large black mark is formed by the fused middorsal marks of segments 2–4. Ventral side of abdomen with a large marking covering anterior three-fifths to nearly whole surface of sternite 7; this marking is bilobate posteriorly. Genitalia. Lateral lobes of pygofer (Fig. 2) black and narrowing to their apices. The clasper (Fig. 4) bears a strong lateral spine and a somewhat smaller medial spine. Apex of aedeagus (Fig. 5) with a sclerotized crest with blunt apex; membranous parts without appendages.

Female: Operculum (Fig. 6) with yellowish pilosity. Lateral margin weakly sinuate. The black-brown colouration of the latero-proximal corner narrows along the lateral margin to three-fifths of its length. The sides of the laterodistal corner make an acute angle, but the apex is rounded. Posterior margin weakly undulate. Abdomen. Segment 2 with a middorsal, black-brown spot at anterior margin. Segments 3, 4, 7 and 8 with a faint, mid-dorsal marking. Segments 4–7 have a pair of small, lateral spots. Pairs of transverse marks on segments 5–7 lie very close to the lateral spots. Segment 9 has a pair of large, triangular marks extending from anterior margin along two-thirds of segment length. Ventral side of abdomen with a pair of lateral, brown spots on the 3rd sternite and some dark colouration around the stigmata in between the segments 3–7. Segment 9 with broad and black lines along its lower margins.

Measurements. – Body length ♂ 24.0–27.0 mm, ♀ 20.4–21.2 mm; head width ♂ 7.8–8.2 mm, ♀ 7.8–8.1 mm; pronotum width ♂ 7.5–8.5 mm, ♀ 8.4–8.6 mm; mesonotum width ♂ 6.6–7.8 mm, ♀ 7.5–7.9 mm; tegmen length ♂ 31.5–36.0 mm, ♀ 33.5–36.5 mm.

Distribution. – The species was found in the rain-forest near the PPA resthouse at lake Danau

Moaat, but most specimens were seen on, and collected from, the shadow trees in coffee plantations at the lake.

Derivation of name. – This species is dedicated to Prof. Dr. J.H. Stock, at the occasion of his retirement, in recognition of his personal friendship and stimulating leadership of the research at the institute during a period of many years.

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