MYRMECIA CROSLANDI SP.N., A KARYOLOGICALLY REMARKABLE NEW AUSTRALIAN JACK-JUMPER ANT (HYMENOPTERA: FORMICIDAE: MYRMECIINAE)

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Abstract

Myrmecia croslandi sp.n. from southeastern mainland Australia, formerly referred to as *Myrmecia (pilosula) n = 1*, is one of several sibling species related to *M. pilosula* Fr. Smith. It has the chromosome numbers n = 1 or 2; 2n = 2, 3 or 4.

This note provides a formal scientific name for the Australian ant previously referred to as *Myrmecia (pilosula) n = 1* when its specific status and nomenclature were uncertain. It is one of a complex of sibling species (mostly undescribed) related to the jack-jumper ant *M. pilosula* Fr. Smith, and has the polymorphic chromosome numbers n = 1 or 2; 2n = 2, 3 or 4. The n = 1 karyotype is otherwise unknown in animal phyla higher than the Nematoda. Because of its peculiar chromosomal configuration *M. croslandi* sp.n. already has a substantial and growing bibliography (see Imai and Taylor 1989). It is named here to avoid use of the interim *M. (pilosula) n = 1* epithet in further karyological work nearing completion. Additional taxonomic, distributional and genetical studies of the *pilosula* complex are in preparation. Its species meet the following prescription: supplementary subapical ventral mandibular tooth present, main dentition unreduced; anterior clypeal margin unexceptional; occipital carina lacking; posterior hind tibial spur pectinate; ground colour very dark blackish-brown to black, sometimes with deep blue reflections; mandibles, antennae, fore- and middle-leg tibiae, and all tarsal segments except hind basitarsi, rich golden-yellow; anterior femora, hind tibiae and hind basitarsi generally dark brown, their apices in each case lighter golden-brown.

Myrmecia croslandi sp.n.

Types — NEW SOUTH WALES: *holotype* and 79 *paratypes*, all workers, immediately NE of Corang River Bridge (35°08'S, 150°02'E) on Braidwood-Nowra Road, near Charleyong, from 10 separate nests, with specimen tallies and colony codes as follows: holotype and 15 nidoparatypes, HI89-031; 14 paratypes, HI89-030; 8 paratypes, HI89-032; 6 paratypes each from the following colony samples: HI87-136, HI87-148, HI87-150, HI87-151, HI87-153, HI87-154, HI87-157. Series coded HI87 were collected in December 1987; HI89 in December 1989. Collectors included H. T. Imai, M. Kubota, S. Kuribayashi, T. Matsumoto, K. Ogata, R. W. Taylor and M. Y. Wada (cited as 'H. T. Imai *et al*' on labels). All specimens are currently deposited in the Australian National Insect Collection (ANIC), Canberra (type no. 7924).

Other material examined. M. croslandi is known also from Tidbinbilla, Australian Capital Territory, Canberra, A.C.T. (including a grass lawn skirting a central city parking area and the CSIRO Division of Entomology site) and Warrandyte, Victoria (Imai and Taylor 1989). Types have been selected only from Corang Bridge samples. Unstudied specimens from these series are known to exist, and colony HI87-151 is presently extant in live culture at Mishima, Japan. The only formal paratypes are those studied here. They have blue printed paratype labels dated 28.ii.1991.

Worker

With the characters of the *M. pilosula* complex (see above). Distinguished morphologically from all other known constituent taxa as follows: median longitudinal carina lacking or vestigial between antennal scrobes (seldom much more pronounced than adjacent longitudinal striae); ocelli relatively large, diameter of median facet about 1/3 the minimum width of antennal scape; a distinct triangular tumosity on each side of metanotal groove mesad of spiracular process, and about as large; mesonotum distinctly longitudinally striate, not virtually smooth; petiolar node as broad or a little broader than long, its dorsum sharply and distinctly rugose, not virtually smooth, propodeal dorsum and petiole with distinct erect pilosity; pubescence relatively sparse on frons, not so dense as to cause the unmagnified head to appear yellowish or greenish; ground colour dull, without a deep blue flush.

Remarks

M. croslandi is sympatric at its type locality with 2 other species of the *pilosula* complex; one is apparently undescribed, the other is probably 'true' *M. pilosula*. Karyology of some of the above type samples has been discussed in detail by Imai and Taylor (1989). Named for Michael W. J. Crosland, who first observed the low n = 1, 2n = 2 chromosome number (Crosland and Crozier 1986).

References

CROSLAND, M. W. J. and CROZIER, R. H. (1986)—*Myrmecia pilosula*, an ant with only one pair of chromosomes. *Science* **231**: 1278.

IMAI, H. T. and TAYLOR, R. W. (1989)—Chromosomal polymorphisms involving telomere fusion, centrometric inactivation and centromere shift in the ant *Myrmecia (pilosula)* n = 1. *Chromosoma (Berlin)* **98**: 456-460.

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