

Revision of the *Iridomyrmex purpureus* Species-group (Hymenoptera : Formicidae)

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Abstract

The ants of the *purpureus* group of the dolichoderine genus *Iridomyrmex* are revised. The group is defined for the first time and divided into four complexes (*bigi*, *purpureus*, *sanguineus*, *viridiaeneus*). Three of the previously known taxa, *I. purpureus purpureus* (F. Smith), *I. purpureus sanguineus* Forel and *I. purpureus viridiaeneus* Viehmeyer, are redescribed and the last two are raised to full species, while *I. detectus castrae* Viehmeyer is synonymised under *I. purpureus*. Additionally, eight new species (*I. bigi*, *I. galbanus*, *I. greensladei*, *I. lividus*, *I. reburrus*, *I. spadius*, *I. spodipilus*, *I. variscapus*) are described. A key for the separation of workers is presented, and known biologies and distributions are summarised.

Introduction

The dolichoderine ant genus *Iridomyrmex* occurs from India east to China and south to Australia and New Caledonia (Shattuck 1992a). Most species occur in Australia, where they are especially common and ecologically important in arid and semiarid regions. The *I. purpureus* species-group, commonly referred to as the 'meat ants', forms one of the most prominent elements within *Iridomyrmex*. Most species of the group form large nests, often cleared of vegetation and covered with small pebbles, and forage in large numbers over a wide area around the nest. They are generally aggressive when disturbed and their presence in an area is easily detected. Species of the *Iridomyrmex purpureus* group have been found to be ecologically important components of all but the coldest and wettest terrestrial habitats (Greenslade 1976a), being dominant members of the ground foraging community and having a strong influence on the invertebrate community with which they interact.

The abundance of *I. purpureus* group individuals, combined with the group's ecological importance, has led to many biological and ecological studies. In these studies a wide range of topics have been investigated, including analysis of chemical components (Brophy *et al.* 1983; Cavill *et al.* 1984), community structure (Greenslade 1976a, 1987; Greenslade and Greenslade 1973), control (Greaves 1973), foraging behaviour (Doube 1967; Greenaway 1981; McIver 1991; Mobbs *et al.* 1978), genetic relationships (Halliday 1975, 1979, 1981), influence of light and humidity (Ettershank 1978; Nel 1965, 1967), karyotypes (Crozier 1968a, 1968b), nesting biology (Ettershank 1968, 1971), relation to soils (Greenslade 1974b, 1974c, 1976b; Greenslade and Thompson 1981), ritualised fighting (Ettershank and Ettershank 1982), social organisation (Halliday 1983; Hölldobler and Carlin 1985), species distributions (Greaves 1971; Greenslade 1974a, 1974b, 1976b; Greenslade and Halliday 1983), general biology/ecology (Greaves and Hughes 1974; Greenslade 1970, 1975a, 1975b), as well as an overview of the group (Greenslade and Halliday 1982). These studies combine to provide extensive details about most aspects of the biology and ecology of these ants.