Comments

The form SB (Greenslade and Halliday 1982) is morphologically very similar to *I. viridiaeneus* and is here considered conspecific with it. Form SB was diagnosed as being on average smaller than *I. viridiaeneus*, especially head width in areas of sympatry. More-detailed measurements taken during the present study reveal broad overlap in all characters, and, additionally, all indices are essentially identical and fall on the same regression lines in both forms. Additional collections (including males) combined with behaviour and ecological observations will be required to fully resolve the status of this form.

The distribution of form SB is completely sympatric with *I. viridiaeneus*, although it shows a much more restricted distribution and occupies only a small portion of the entire range of *I. viridiaeneus*. Form SB is limited to two disjunct populations, one in the Alice Springs region and one in extreme north-west New South Wales and south-west Queensland. Both of these regions are near the limits of the range of *I. viridiaeneus* and therefore may represent zones of marginal habitat for the species. The New South Wales/Queensland population of SB, in fact, shows a very similar distributional pattern to the eastern population of *I. spodipilus*. These marginal habitats may explain the unusually large amount of metric variation found in this species and the occurrence of the small individuals found in these areas.

Populations of *I. viridiaeneus* from western Western Australia differ slightly from populations from eastern Western Australia and east thereof. They are much less common than eastern populations, according to collection records (see 'Other material' above and Fig. 19), and differ in colour and morphology. The green iridescence on the dorsum of the head is less well developed, especially in northern areas, and is often nearly replaced with reddish iridescence. Also, the posterior region of the pronotum is more strongly arched than in eastern populations (again, more distinct in northern areas). However, both these characters do occur in eastern populations of *I. viridiaeneus* (although uncommonly) and the conditions found in the western populations are within the range of variation that occurs in eastern populations. Because of this, the western populations are thought to be conspecific with eastern populations and to have differentiated slightly, most likely due to habitat differences between these regions.

Concluding Remarks

The *I. purpureus* group is one of the best known set of species in *Iridomyrmex*. Most species in this group are commonly encountered and are represented in many collections by large amounts of material. However, there are some species that are poorly known, having been collected only a few times. This disparity is caused by several factors, including size of range, geographic distribution, and daily activity patterns.

The extensive collections of most species of the *I. purpureus* group has allowed the detailed taxonomic study of these ants. Unfortunately, the species within this group are morphologically very similar, with colour the best character for taxonomic discrimination found during this and previous studies. Several pairs of taxa are difficult to distinguish even with the detailed morphological methods used here. This morphological similarity is also reflected in other systems, including the isozyme systems so far examined. These taxa would benefit greatly from studies using other character systems, such as different isozyme systems or biochemical characters.

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