

The higher classification of the ant subfamily Leptanillinae (Hymenoptera: Formicidae)

BARRY BOLTON Department of Entomology, Natural History Museum, London

Abstract. Until now the ant subfamily Leptanillinae has been closely linked with the army ant subfamilies Dorylinae and Ecitoninae, but on relatively tenuous evidence. The current phylogenetic study strongly indicates that this view is incorrect and that the leptanillines really constitute the sister-group of subfamily Ponerinae, and are at a considerably greater taxonomic distance from the Army Ant subfamilies. Three tribes are now recognized within the Leptanillinae (Leptanillini; Anomalomyrmini, new tribe; and Apomyrmini, transferred here from Ponerinae: Amblyoponini), containing a total of eight genera with fewer than fifty species in all. The subfamily and its component tribes are diagnosed and discussed here, and a key to genera provided. New taxa described include *Anomalomyrma* Taylor **gen.n.**, type-species *A.taylori* Bolton **sp.n.** and *Protanilla* Taylor **gen.n.**, type-species *P.rafflesi* Taylor **sp.n.**

Introduction

To the present, the history of the ant subfamily Leptanillinae has consisted almost entirely of the history of the single genus *Leptanilla* Emery. Over the years a few very small or monotypic male-based genera have been described as related to *Leptanilla*, but so little is known of these peripheral forms that they have hardly figured in the literature beyond their original descriptions.

Leptanilla, first described by Emery (1870), was usually treated in the early literature as a member of the subfamily Myrmicinae (e.g. Emery, 1895: 769). In an analysis of the genus and its affinities Emery (1904) changed the situation and linked *Leptanilla* to the Dorylinae, later going so far as to create a tribe Leptanillini (Emery, 1910), within the Dorylinae, to hold this genus. Later authors (Wheeler, 1923;

Wheeler & Wheeler, 1930) elevated the tribe to subfamily status, a rank it has since retained apart from a rather aberrant elevation to family-level by Bernard (1951). A good historical account of the early taxonomic perambulations of *Leptanilla* has been given by Wheeler & Wheeler (1965).

Without doubt *Leptanilla* workers and queens, those few of the latter that are known, do show a number of characters that are also displayed by the dorylines (Wheeler, 1922: 632–633). These features, and the opinions of early authors such as Emery (1904), are no doubt the reason why both Baroni Urbani (1977) and Wheeler & Wheeler (1985) maintain that *Leptanilla* shows an 'indisputable doryline affinity.' I intend here to dispute this indisputability, and to demonstrate that leptanillines, whilst deserving subfamily status, are in truth the sister-group of the subfamily Ponerinae, and are at a considerably greater taxonomic distance from the army ant subfamilies Dorylinae and Ecitoninae. Obviously this implies that those doryline attributes exhibited by *Leptanilla* have been evolved convergently, as a

Correspondence: Mr B. Bolton, Department of Entomology, Natural History Museum, Cromwell Road, London SW7 5BD.