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The ants of Fiji: systematics, biogeography and ecology of an island arc fauna

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Since the time of Darwin, biologists have sought to document and understand the unique evolution and ecology of island biotas. Oceanic archipelagos are often adorned with spectacular evolutionary radiations and unique ecosystems. These distinctive faunas, however, are highly vulnerable to human activities, climate change, and introduction of exotic species. Among island ant faunas, perhaps nowhere are these themes on display as prominently as in the Fijian archipelago. The Fijian terrestrial biota was assembled during approximately 20 million years of over-water colonization, in situ evolution and speciation, and more recently through the arrival of species as stowaways on canoes, galleys, and battleships. Today's Fijian ant fauna is characterized by extreme geographic isolation from source areas, differentiation and pattern formation among islands, and contemporary invasions. The ant fauna of Fiji, clustered together on an oceanic archipelago abutting the eastern extent of Old World ants' native range, is a diverse assemblage of endemic radiations, pan-Pacific species, and exotics introduced from around the world. Here we provide a taxonomic synopsis of the entire Fijian ant fauna by incorporating previously published information with the results of a recently completed, archipelago-wide biodiversity inventory. This synopsis updates the first and only other treatment of the fauna, W. M. Mann's 1921 monograph, *The Ants of the Fiji Islands*. A total of 187 ant species representing 43 genera are recognized here. Of these species, 70% are endemic to Fiji, 18% are native to the Pacific region, and 12% are introduced into the Pacific region. The monograph has established the ants of Fiji as a model system for testing ideas about eco-evolutionary community assembly and biological invasion, and will serve as a foundation for future work on Pacific island insects.