

spicuously abundant and widespread ("ecologically released" species). The following example is unusually clear-cut. Several *Iridomyrmex* species utilize rubiaceous ant-plants of the genera *Myrmecodia* and *Hydnophytum* as their chief nesting sites. On New Guinea these plants are occupied primarily by *I. cordatus* in the marginal habitats and by *I. scrutator* in the inner forest. The ant-plants are saturated by ant colonies and the replacement is therefore virtually absolute. In the Solomon Islands *scrutator* is absent, and *cordatus* is abundant in both marginal habitats and the inner forest. On Fiji *cordatus* is absent, and the ant-plants are occupied by a third species, *nagassau*, which is closely related to *scrutator* and presumably cognate with it.

In summary, expanding (Stage-I) species in Melanesia originate almost entirely from tropical Asia, New Guinea, and Australia. Consequently, these land masses have probably been the ultimate source of all new taxa generated in the Indo-Australian Region and the immediate source of all potent new taxa. The Stage-I species evidently serve an important additional role in displacing, fragmenting, and directing the evolution of older resident species. It can be added that the taxon cycle dates no further back than the early Tertiary, when the radiation of modern ant genera began. Throughout the Cenozoic Melanesia has been broken into numerous islands, at least intermittently (Umbgrove, 1949; Derrick, 1951; Grover, 1955), thus facilitating speciation by multiple invasions. In Miocene times, the Solomon and Fiji Islands were mostly submerged. The evolution of the modern ant fauna of these islands may not date beyond this epoch. The Fijian fauna especially has a modern cast, with no indisputably ancient representatives among its endemic taxa.

A major attribute of evolutionary success in taxa is seen to be the ability to move member species into marginal habitats, at least temporarily. By examining the expanding species we might hope to discover other biological attributes that provide success, in other words, to define new biological rules that apply to the phenomenon of "general adaptation" (Darlington, 1959). Beyond generating marginal-habitat species, however, the expanding taxa appear to be distinguished by only one other common characteristic: great diversity among themselves. In fact, as noted already, ~~of~~ ecologically divergent elements are able to travel through the marginal-habitat channel simultaneously. From this evidence it would seem logical to conclude that general adaptation involves the acquisition of a marked ecological difference. Perhaps the larger this difference the more successful will be the taxon. But of course complete and permanent escape from the faunal equation is impossible and replacement must be inevitable, starting on the smaller islands and in the poorer habitats. Therefore, a second common quality of general adaptation is undoubtedly the ability to replace competitors in the zones of ecological overlap. Perhaps the two qualities are related as follows: the penetration of a new major niche provides the ancestral species with an unmolested population reservoir that allows it, at least for a time, to mount sufficient populations and new adaptations to usurp other niches already occupied by competitor taxa.

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