



Fig. 12. Map of Costa Rica, showing localities appearing in text. Dotted line is approximate divide between Atlantic and Pacific drainages. Atlantic lowlands and southern Pacific lowlands are evergreen wet habitats with dominant South American affinities; northern Pacific lowlands are seasonal dry habitats, with dominant Mesoamerican affinities. C = Carara. P = Palmar Norte on the Río Grande de Térraba. S = Santiago de Puriscal. Buenos Aires is in the Valle del General. Bar below Monteverde is location of elevational transect.

hood that queen morphology would closely track geographic variation in selection regime. Selection gradients can produce discontinuous character variation such as that seen below Monteverde (Endler 1977). There may be a selective trade-off affecting queen size. Smaller queens would be less costly in terms of resources and could disperse farther. Larger queens with greater muscle mass in the head would have larger and more powerful mandibles for chewing into *C. alliodora*

nodes. Montane plants subject to cool, windy conditions often have thick, gnarled stems, reflecting a greater investment in structure (Lawton 1984). *Cordia alliodora* at higher elevations may thus have relatively thicker-walled nodes than at lower elevations, which would tip the selection balance in favor of relatively larger queens.

An alternative explanation is secondary contact and intergradation of previously isolated forms. Rapidly changing land use