

seed harvesters. Their potential for moving dead organic material should be investigated.

On the other hand, the Chilean ant fauna is a depauperate derivative of the South American fauna (Snelling & Hunt 1975). Chile can be considered an "island" (Goetsch 1931); species have invaded from Peru and have also dispersed across the Andes. The hyperarid desert appears to be devoid of ants. The arid steppes are characterized by a distinctive, although not abundant fauna. The ubiquitous *Dorymyrmex goetschi* is the dominant ant of CAZ region and can be readily seen foraging in many habitats. Other species are occasionally seen in the CAZ; however, species which are common in more mesic areas are rarely found in the CAZ, except on the edges of relatively mesic habitats.

Large numbers of seed producing plants in the CAZ appear to be exploited by only *Solenopsis gayi*. Although the genus *Pogonomyrmex* is represented in Chile by five species of presumed seed harvesters, they are conspicuously absent in the CAZ. Numerous species of *Pogonomyrmex* are found in the arid zones of Argentina and in the deserts of North America.

Tenebrionid beetles

Tenebrionid beetles comprise an important part of the fauna in the CAZ and the Namib, as they do in many of the world's arid regions (Crawford 1981). Some species exhibit a degree of morphological convergence in both deserts, even though they are of different lineages. Forty one species are known from the central Namib dunefield. Of these, 60% (and 10% of their genera) are endemic to the region (Holm & Scholtz 1980). About half of them are day-active; in the absence of rain, individual abundances of these and night-active species are relatively low (Crawford & Seely 1987). However, after an unusually high rainfall event (118 mm) the detritivore biomass (mainly of tenebrionid beetles) increased by at least an order of magnitude, depending on the dunefield habitat; the increase was distinctly more rapid than that of the carnivore and herbivore biomass (Seely & Louw 1980). Some Namib dunefield tenebrionids (e.g., species of *Lepidochora* and *Onymacris*) are highly specialized for trapping fog water and

for exploiting their dune habitats in unique ways (Seely 1978, 1983). Tenebrionids in the other Namib environments also range greatly in their adaptations to the great variety of habitats (Seely 1987).

Although the taxonomic status of the Tenebrionidae in the CAZ is still incomplete (Peña 1966, 1980), the fauna there is also diverse (Saiz & Vásquez 1980, Cepeda-Pizarro 1989) and comprises a significant portion of the food resources of local carnivores (e.g., ants, lizards, egrets, raptors and foxes). Most species are active in daylight and after high rainfall events. Some of them (e.g., the genera *Gyriosomus*, *Entomochilus* and *Nyctopetus*) are extraordinarily abundant and make up a large fraction of the total biomass of epigeic arthropods. One of the most typical species of arid north-central Chile is *Gyriosomas luczoti*, the density of which is strongly seasonally and rainfall dependent (Cepeda-Pizarro 1989). Studies in progress suggest that tenebrionids are important detritivores in the CAZ.

DISCUSSION

We have shown in this paper that the CAZ and the Namib Desert are roughly similar in geography and climate, yet very dissimilar in age and physiography. These differences, when coupled with tectonic effects that virtually eliminated intercontinental biotic exchanges after the late Mesozoic, appear to have produced strikingly different detritivore faunas in the two arid regions. In particular, earthworms are numerous in at least the more mesic parts of the CAZ but are absent in the Namib, while termites and ants are dominant in much of the Namib but are relatively scarce in the CAZ. Microarthropods (especially prostigmatid and oribatid mites, collembolans and psocoptera) associated with the decomposer food web are comparatively species rich and numerically abundant in the CAZ but, as far as we know, are depauperate in the Namib.

Differences may be less pronounced among the apterygote insects and the less dominant macrodetritivores. For example, lepidomatid thysanurans are well documented detritivores in the Namib and may be fairly widespread in the CAZ. Again, spirostreptid millipedes are locally evident after rains in the Namib; poly-