

Detritivores of the Chilean arid zone (27-32°S) and the Namib Desert: a preliminary comparison

Detritivores de la zona árida de Chile (27-32°S) y
del desierto de Namibia: una comparación preliminar

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ABSTRACT

In this review, the available literature and the wide field experience of the authors contribute to a comparison of the detritivores of the Chilean arid zone (27-32°S) and the Namib Desert. Both regions, despite being on separate continents, have broad geographic and climatic similarities. They differ greatly, however, in age, physiography and biogeography. Earthworms are abundant in relatively moist parts of the Chilean Arid Zone (CAZ hereafter) that contain silty soil; they are absent in the Namib. Microarthropods associated with the decomposer food web are present in both regions, but may be better represented in the CAZ where mites, collembolans and psocopterans are abundant in soil and litter. Lepismatid thysanurans are very abundant in the Namib, but not so in the CAZ. Termites may be the most important detritivores in the Namib, where potentially detritivorous ants are also common in certain habitats. Neither of these social insects groups is well represented in the CAZ. Both regions are rich in species of tenebrionid beetles. Millipeds and crickets appear to play minor roles in detritus consumption in both regions.

Key words: Coastal deserts, Chilean Desert, Namib Desert, detritivores.

RESUMEN

La literatura disponible y la amplia experiencia de terreno de los autores permite, en esta revisión, comparar los organismos detritívoros de la región árida de Chile (27-32°S) y del desierto de Namibia. Ambas regiones, a pesar de estar en continentes separados, poseen amplias similitudes geográficas y climáticas. Ellas difieren, sin embargo, en edad, fisiografía y biogeografía. Las lombrices de tierra son abundantes en suelos limosos de los sectores relativamente húmedos de la zona árida chilena (ZAC en adelante); pero ausentes en el desierto de Namibia. Microartrópodos asociados a la trama trófica de la descomposición parecen estar mejor representados en la ZAC, donde psocópteros, ácaros y colémbolos son abundantes en el suelo y el mantillo. Tisanuros lepismátidos son muy abundantes en Namibia, pero no lo son tanto en la ZAC. Térmites parecen ser importantes descomponedores en el desierto de Namibia, junto a hormigas en ciertos hábitat. Ninguno de estos grupos de insectos sociales está bien representado en la ZAC. Ambas regiones son ricas en especies de coleópteros tenebriónidos. Miriápodos y grillos no parecen importantes en ambas regiones.

Palabras claves: Desiertos costeros, desierto chileno, desierto de Namibia, detritívoros.

INTRODUCTION

The Chilean arid zone (hereafter referred to as the CAZ) is part of the narrow, coastal Desert found along the coastline of central South America. Its geographical counterpart in the Old World is the Namib Desert of southwestern Africa. Both are cool fog deserts near their respective coasts. Their interiors have great diel and annual temperature fluctuations. Aside from such broad climatic similarities, the CAZ and the Namib exhibit

major differences in age and topography. These differences are reflected in the composition of their biotas.

Arid regions such as the CAZ and the Namib have very low levels of primary production (Rauh 1985, Hadley & Szarek 1981). Their brief and often irregular periods of plant growth are separated by long periods of drought (e.g., Walter 1973), when all ephemerals die (MK Seely, personal communication 1992) and persistent plants either reduce their living tissues or die (Evenari *et al.*