

of two to six individuals feeding communally on the fallen fruits of Cardón Cacti (*Pachycereus pringlei*) is a common occurrence. This is most obvious where the cacti occur in stands. I once found a carcass of an individual with an intestinal tract filled to capacity with Cardón Cactus seeds. The seeds were mixed with several small rocks of the same approximate size. These appeared to be chipping away at the seeds' hard outer covering, serving much the same function as pebbles stored in the gizzards of seed-eating birds or the much larger gastroliths that have been found with fossilized remains of herbivorous dinosaurs. In the large intestine, essentially only the shells were left, as the fleshy pulps had been digested. I also have seen iguanas as high as one meter above the ground in Pitahaya Ágria (*Stenocercus gummosus*) feeding on ripened fruits.

Dipsosaurus catalinensis serves as a good example of how insular situations can produce sometimes substantive changes in organisms over even relatively short periods of time. Faced with unique selection pressures, different suites of predators and competitors, and reduced genetic variation, populations will do

whatever they are genetically capable of doing to continue the lineage. In the case of *Dipsosaurus*, nature has taken a common, docile species and sculpted its descendants into wary and aggressive lizards. What selective forces were responsible for this change? Are they still operative today? Are similar pressures molding populations of other insular lizards? If so, are they eliciting results comparable to those observed in the Santa Catalina Desert Iguana or are they having profoundly different effects on populations of lizards with different genetic compositions and lifestyles? These are some of the interesting questions that evolutionary biologists could be asking about *D. catalinensis*. A modicum of fieldwork leading to even tentative answers might teach us a great deal about the evolution of insular systems in general.

Reference

- Grismer, L.L. 2002. *Amphibians and Reptiles of Baja California, including its Pacific Islands and the Islands in the Sea of Cortés*. University of California Press, Berkeley.

SPECIES PROFILE

Banded Sand Snakes (*Chilomeniscus stramineus*)

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Sand Snakes in the genus *Chilomeniscus* have a circum-Gulf of California distribution very similar to that of Desert Iguanas (*Dipsosaurus*). Similar also is the association with sandy areas in open deserts, washes, and arroyos. Two species of Sand Snakes occur in the region: *C. stramineus* is most widely distributed and occurs on most of the Baja California Peninsula, in desert regions to the north and east of the Gulf, and on several Gulf Islands, whereas *C. savagei* occurs only on Isla Cerralvo.

Considerable confusion has clouded taxonomic relationships within the genus, most caused by the extremely variable patterns that range from distinctly banded to totally unicolored. Not until studies demonstrated that pattern variants coexisted at many localities was the clarification of relationships within the genus possible.

Sand Snakes are common in areas of loose soil and are an important component of many dune ecosystems. They are specialized for burrowing. A countersunk lower jaw and valved nostrils exclude small particles as these snakes "swim" through sand. Very smooth scales reduce friction both above and below the surface. Sand Snakes are nocturnal, but their abundance is obvious in some areas as a consequence of numerous tracks left in the sand by snakes that were actively foraging during the previous night. Sand Snakes apparently feed exclusively on small arthropods.

References

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- Grismer, L.L., H. Wong, and P. Galina-Tessaro. 2002. Geographic variation and taxonomy in the Sand Snakes, *Chilomeniscus* (Squamata: Colubridae). *Herpetologica* 58:18–31.



Chilomeniscus stramineus from near Loreto, Baja California Sur, México. Photograph by Robert Powell.