1974 JOURNAL OF HERPETOLOGY 8(4):385-386

PATHOLOGICAL LITHOPHAGY IN *TESTUDO HORSFIELDI*

The existence of lithophagy among tortoises and land-dwelling turtles is becoming an established fact. Observations by Kramer (1973), Skorepa (1966), and Sokol (1971) indicate that turtles do at various times ingest sand and pebbles along with their regular diet. The present note establishes the same habit as occurring pathologically in *Testudo horsfieldi* as well.

A captive female *T. horsfieldi* had been feeding well on lettuce, tomatoes and other greens for a period of 3 months after arrival in the collection. Subsequently, over a period of a month she stopped eating and became lethargic. During this time she was kept in a container with aquarium-type gravel. She continually refused food and water and lost weight rapidly. Then suddenly over a two week period she regained her lost weight but was never observed eating. One week later she died. Upon autopsy major portions of her intestines as well as her whole stomach were packed tightly with a large volume of gravel, the approximate weight of which was 30 grams (corresponding to about 7 per cent of her total body weight), and contained only insignificant amounts of ingested greens. Whether or not this mass of gravel was the cause of death was indeterminable.

This latest record of lithophagy does not seem to support the theory that sand and pebbles are only ingested as an aid in maceration of food. Instead, it suggests a pathological etiology heretofore undescribed. The tempting speculation is raised that this gravel was ingested as a pressure-compensatory device similar to the water-ingestion behavior of some aquatic turtles (Belkin, 1965; Jackson, 1969). When starvation leads to the mobilization of stored fats and subsequent reduction in weight and volume, internal pressure drops due to the rigid box the turtle is enclosed in. The compensatory mechanism is then the ingestion of water until

normal pressure, volume and weight is regained. It is possible that this specimen of *T. horsfieldi* was behaving similarly, substituting the gravel of her natural environment for water. It is, however, equally possible that she ate the gravel out of simple misdirected hunger during the last stages of her disease.

In conclusion, this report supports Sokol's view that lithophagy can have varied etiologies. In this case, however, the underlying mechanisms appear to be pathological.

LITERATURE CITED

Belkin, D. A. 1965. Reduction of metabolic rate in response to starvation in the turtle *Sternotherus minor*. Copeia 1965(3):367-368.

Jackson, D. C. 1969. Buoyancy control in the freshwater turtle, *Pseudemys scripta elegans*. Science 166:1649-1651.

Kramer, D. C. 1973. Geophagy in *Terrepene ornata ornata* Agassiz. J. Herp. 7(2):138-139.

Skorepa, A. C. 1966. The deliberate consumption of stones by the Ornate Box Turtle, *Terrepene o. ornata* Agassiz. J. Ohio Herp. Soc. 5(3):108.

Sokol, O. M. 1971. Lithophagy and geophagy in reptiles. J. Herp. 5(1-2):69-71.

ANDERS G. J. RHODIN, Department of Anatomy, New York Medical College, Valhalla, New York, 10595, USA.