

International Zoo Yearbook, 6: 278
Published by the Zoological Society of London
 1966

TREATMENT OF PSEUDOMONAS
 INFECTIONS IN THE SNAKE
 AND LIZARD COLLECTION AT
 WASHINGTON ZOO

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THE two major causes of death in the National
 Zoological Park reptile collection are necrotic

stomatitis or gingivitis and necrotic enteritis. Personal communications have indicated that these conditions are widespread throughout zoo and private collections of reptiles in the United States.

Necrotic stomatitis is quite readily corrected by swabbing or removing the necrotic mass from the gums with cotton swabs and then spraying the area involved with an aerosol merthiolate solution. This must be done very carefully in order to permit the normal regeneration of the buccal tissue. The infection easily spreads from the mouth throughout the gut by swallowing. The resultant intestinal mucosal necrosis is generally noted in the posterior one-third of the digestive system.

Fifty bacteriological cultures were made over a six-month period from all of cases of 'mouth rot' and necrotic enteritis. The cultures isolated were tentatively identified as *Pseudomonas aeruginosa* (Chloroform soluble pigment).¹ Susceptibility to chlorotetracycline² was demonstrated in sensitivity tests using the standard disc method and confirmed with Ankh³ plates.

Studies were instituted using 3- to 4-lb Indigo snakes, *Drymarchon* sp, in an effort to determine a safe effective dosage of chlorotetracycline for use as a prophylaxis in the reptile collection. This drug was administered daily over a two-week period and the safe endpoint was determined to be 100 mg per lb of body weight.

A schedule was established in which 0.5 g of chlorotetracycline bisulphate dissolved in 1 gallon of water was supplied as the only drinking water to all of the snakes and lizards in the collection for a period of five days. They received untreated drinking water for nine days. This two-week schedule was repeated and has continued up to the present time.

The effectiveness of this prophylactic system has been demonstrated since no deaths from either necrotic gingivitis or necrotic enteritis have occurred since January 1965 (date of initiation) up to the present time (June 1965).

¹Bergey's *Manual of Determinative Bacteriology*, Seventh Edition 1957, Williams and Wilkins, Co.

²Aureomycin is a trade name for chlorotetracycline bisulphate soluble powder made by the Agricultural Division, American Cyanamid Company, Princeton, NJ, USA.

³Ankh is a trademark for plates manufactured by Ankh Laboratories Inc, Box 547, Fairborn, Ohio, USA.