
CURRENT RESEARCH

Varanid Mortality at the Bronx Zoo and its Implications for Captive Husbandry and Reproductive Management in Zoos

Varanid lizards have been maintained in zoological parks for more than a century, yet few studies to date have attempted to pinpoint significant health issues affecting their management or areas of captive husbandry that are in need of improvement. In an effort to identify and better understand some of the husbandry-related challenges and health issues specifically affecting varanids in zoos, this study examined mortality in 16 species maintained at the Bronx Zoo between 1968 and 2009.

Out of 108 records reviewed, complete necropsy reports were available for 85 individuals. Infection-related processes including bacterial (15.3%), protozoal (12.9%), nematode (9.4%), and fungal (3.5%) infections accounted for the greatest number of deaths (47.1%). Noninfectious diseases including female reproductive disorders (7.1%), neoplasia (7.1%), gout (10.8%), and hemipenal prolapse (1.3%) accounted for 29.4%

of deaths. Multiple disease agents were responsible for 5.9% of deaths, and a cause for death could not be determined for 17.7% of individuals. Reproductive complications accounted for 11.5% of female deaths, but were identified in 23.1% of females. Although not necessarily the cause for death, gout was present in 18.8% of individuals. Differences in mortality between species, genders, and origin (captive-bred vs. wild-caught) were also evaluated.

The results of this study corroborate earlier findings that identify bacterial infections, neoplasia, female reproductive disorders, gout, and endoparasitism as major sources of mortality in captive varanids. In light of these results, we discuss potential etiologies and offer recommendations for improving captive management practices in zoos.

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