

# Prevalence and Risk Factors of Ophthalmic Disease in Leopard Geckos

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Medical records of leopard geckos presented to the University of California at Davis, Veterinary Teaching Hospital during the time period from 1985-2013 were searched for ophthalmic disease, signalment, terrarium volume, substrate, temperature, humidity, presence of UVB light and nutritional variables including prey offered, calcium supplementation and dietary vitamin A. Logistic regression was used to model the association of these factors with ophthalmic disease occurrence. Of 112 leopard geckos, 47% were diagnosed with ophthalmic disease, including 21% with keratitis. A significantly increased risk of ophthalmic disease was detected in males ( $P = 0.02$ ), older geckos ( $P = 0.02$ ), geckos housed on paper towel substrate ( $P = 0.002$ ), without dietary vitamin A ( $P = 0.005$ ) and without heating source ( $P = 0.03$ ). Among cases, 60% had dry ocular discharge, which was manually removed. Histologic sections of globes from necropsy specimens were available for 3 healthy geckos and 9 diseased geckos, 4 of which showed conjunctival squamous metaplasia. None of the geckos diagnosed with squamous metaplasia received vitamin A supplementation. Hypovitaminosis A has been shown to cause squamous metaplasia in terrapins,<sup>1</sup> box turtles,<sup>2,3</sup> chameleons,<sup>4</sup> anoles,<sup>5</sup> and crocodiles.<sup>6,7</sup> Ophthalmic disease is likely multifactorial in leopard geckos, and experimental studies are needed to investigate potential effects of vitamin A deficiency in leopard geckos.

## References

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