

VIRAL DISEASES OF REPTILES

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Thirty years ago, in their classical work "Principal Diseases of Lower Vertebrates", Reichenbach-Klinke and Elkan devoted only two paragraphs to possible viral infections of reptiles.

In the intervening period, interest in the subject has escalated and viruses have now either been isolated or identified from all orders of reptiles except the Rhynchocephalia (tuatara). The subject remains in its infancy, however, in that many of the viruses detected have not yet been investigated in detail and their relevance in terms of health and disease is unknown.

Some of the more important viruses of reptiles i.e. ones that appear to be responsible for disease, are listed below.

Order	Virus/disease	Comments
Chelonia (tortoises, terrapins and turtles)	Green turtle Herpesvirus	Causes "gray-patch disease in young green turtles <i>Chelonia mydas</i>
	Herpesvirus- associated stomatitis	Reported in tortoises from North and South America and Europe
	Herpesvirus- associated hepatic necrosis	Reported in at least three species of North American turtle (terrapin)
	Iridovirus infection of liver and spleen	One case reported in a Hermann's tortoise <i>Testudo hermanni</i>
	Papilloma-like virus	Skin lesions of Bolivian side-neck turtles <i>Platemys platycephala</i>
Crocodylia (crocodiles, alligators, caimans etc)	Caimanpox	Skin lesions in Spectacled Caimans <i>Caiman sclerops</i> and Nile Crocodile <i>Crocodylus niloticus</i>
	Adenovirus infection of Nile Crocodile	Hepatic and intestinal lesions
Squamata <i>Lacerta</i> (lizards)	Poxvirus of flap- necked chameleon	Inclusions in monocytes of <i>Chamaeleo dilepis</i> in Tanzania
	Poxvirus of tegu	Skin lesions in a <i>Tupinambis</i> <i>teguexin</i>

	Papilloma of lacertid lizards	Skin lesions in European Green Lizard <i>Lacerta viridis</i>
	Adenovirus infection of Jackson's chameleon	Respiratory and alimentary inclusion bodies in a <i>Chamaeleo jacksonii</i>
	Adenovirus-associated hepatic necrosis	Hepatic and other inclusion bodies in at least two species
	Erythrocyte virus infection of lizards	Inclusions in erythrocytes of various species
Squamata Ophidia (snakes)	Venom gland Herpesvirus infection	Detected in venom and/or venom gland of Asian snakes
	Herpesvirus infection of Boa Constrictors	Inclusions in liver and elsewhere of young <i>Constrictor constrictor</i>
	Adenovirus-associated hepatic necrosis in a Boa Constrictor	Inclusions in liver, virus isolated
	Paramyxovirus	Associated with respiratory disease and death in many species of snake in Europe and North America
	Inclusion body disease of boid snakes	Associated with neurological signs in various boids including Boa Constrictor

Diagnosis of virus infections of reptiles is based upon one or more of the following:-

1. clinical signs
2. histopathology
3. electron-microscopy
4. virus isolation, using cell lines
5. transmission studies
6. serology

The veterinary surgeon who suspects a viral infection in reptiles should seek advice from colleagues who have appropriate experience and laboratory support. In the meantime, every effort should be made to contain the infection by isolating affected animals and instigating a rigorous program of hygiene and quarantine. Post-mortem material and clinical samples must be carefully stored for subsequent investigation.

Acyclovir has appeared to assist recovery in tortoises with Herpesvirus stomatitis⁴. Vaccines against virus diseases are needed.

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