pattern was normal, with two dorsolateral stripes abruptly terminating in the neck region. Normally coloured female specimens hatched from two other eggs of the same clutch while the remaining egg contained a normally-patterned dead prodichotomic (two-headed) embryo. The specimen with the aberrant pattern is still being kept alive and after 18 months its colouration has become less contrasted, although the pattern itself has not undergone any change.

Stripes are common in snakes´ colour pattern, and they are believed to be related to the avoidance of predators (Shine, 1991). The striped pattern and uniform colouration create the illusion of immobility when the snake is moving forward (Bittner, 2003). Compared to the uniformly coloured snake, this

Figure 1. The freshly hatched *Oreocryptophis porphyraceus coxi* showing the pattern reduction on the anterior part of the body.

illusion may be enhanced in a striped snake as its body looks narrower. Stripes also function disruptively making the pattern more cryptic (Jackson et al., 1976). This could confer a selective advantage in comparison to conspicuous uniformly coloured *O. p. coxi* specimens and could explain why no wild specimens with reduced pattern have been found so far. The pattern reduction observed in the juvenile may be caused by inbreeding under human care, although the taxon has not been subjected to multi-generational selective breeding. Another possible explanation is epigenetic, where the pattern may represent an example of phenotypic plasticity influenced by artificial incubation.

REFERENCES

Bittner, T.D. (2003). Polymorphic clay models of Thamnophis sirtalis suggest patterns of avian predation. *Ohio J. Sci.* **103**, 62-66.

Jackson, J.F. (1976). Dorsal pigmentation pattern of snakes as an anti-predator strategy – multivariate approach. *Am. Nat.* **110**, 1029-1053.

Schulz, K.-D. & Helfenberger, N. (1998). Eine Revision des Unterarten-Komplexes der Roten Bambusnatter *Elaphe porphyracea* (Cantor, 1839). *Sauria*, **20**, 1, 25-45.

Shine, R. (1991). *Australian Snakes: a natural history*. Chatswood: Reed Books. 223 pp.

Submitted by: DAVID JANDZIK

Department of Zoology, Faculty of Natural Sciences, Comenius University, Mlynska dolina B-1, SK-84215 Bratislava, Slovakia. jandzik@fns.uniba.sk.

NOROPS SAGREI (Brown Anole) PATHOLOGY AND ENDOPARASITE. An introduced population of the Brown Anole, *Norops sagrei* (= *Anolis sagrei*), was discovered July 2000 in Taiwan (Norval et al., 2002). To date, the only reported pathologies from this population were two cases of hepatic granulomas (Norval et al., 2005) and an abnormal testis (Norval et al., 2006). Here we report the presence of a gular cyst and a nymph of the pentastome *Kiricephalus pattoni.*

On 17 June, 2007, an adult *N. sagrei* male (SVL – 58 mm. TL – 120 mm, 5.2 g) was collected by hand at night, from a Betelnut Palm (*Areca catechu*) plantation in Santzepu, Sheishan District, Chia-yi County (23º 25’ 43’ N, 120º 29’ 05’ E; datum: WGS84), as part of a trial to test the feasibility to exterminate this species in Taiwan. After returning from the field, the lizard was examined and found to have a large lump in the right lateral gular region posterior to the ear and a smaller lump anterior to the right hind leg (Fig. 1). The lizard was killed with ether, and dissected by making a mid-ventral incision, to examine the causes of the lumps.

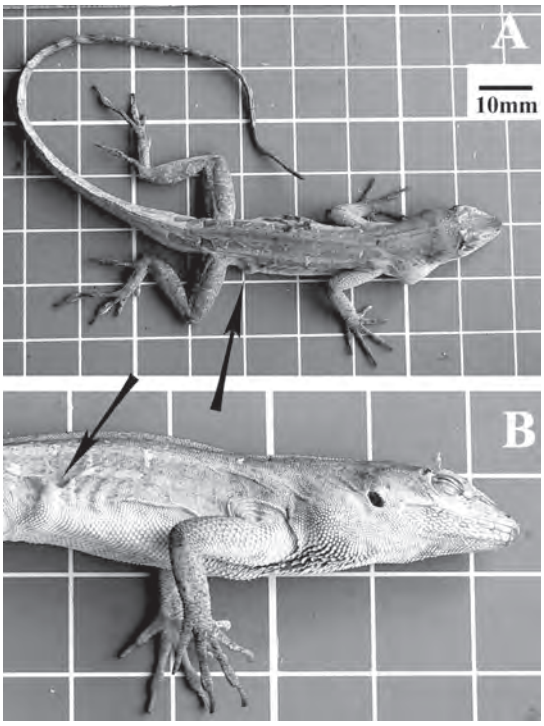

Figure 1. A dorsal and right lateral view of the male *Norops sagrei* prior to dissection. Note the gular lump, and the smaller one near the hind limb (black arrow).

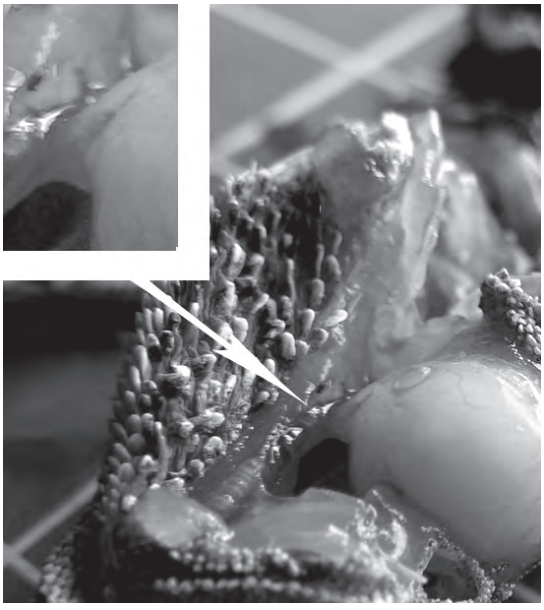

Figure 2. The gular nodule as seen during dissection. Note how the nodule is free from the surrounding tissue, except for where it is attached to the trachea (inset).

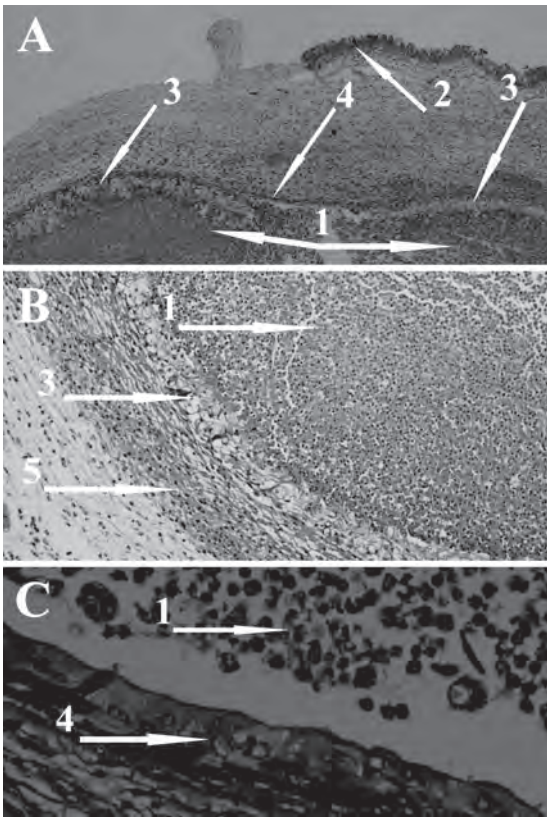

Figure 3. A – a section of the nodule, showing its connection to the trachea; B – a closer view of the nodule, showing the immune response; and C – a closer view of the of the epithelial invagination (1. inclusion of the cyst with central necrotic debris, which is composed of a mixture of necrotic tissue debris and degenerated leukocytes, 2. overlying tracheal respiratory epithelium, 3. collections of macrophages and multinucleated giant cells surrounding the necrotic focus, 4. metaplastic cuboid epithelium that lines the cyst, and 5. the outer fibrotic wall).

The gular lump contained a creamy-yellow nodule (0.2 g), which, apart from being attached to the trachea (Fig. 2), was free from all other surrounding tissue. The smaller lump near the right hind limb contained a parasite, which was identified as a nymph of the pentastome *Kiricephalus pattoni*. In addition to the nodule, the lungs, heart, liver, pancreas, and right testis were also removed, fixed in 10% formalin, and submitted for biopsy. All the submitted tissue samples were embedded in wax, sectioned at 8 µ and stained with Ehrlich's hematoxylin and eosin, and examined under a

compound light microscope. The nodule consisted of necrotic tissue and cellular debris, surrounded by chronic inflammatory tissue consisting of pleomorphic histiocytes and invaginated epithelium (Fig. 3). Other tissues presented normal histological patterns. Although the exact cause of the nodule could not be determined, the origin was most likely due to penetration from the interior of the trachea. Because pentastomes utilize airways of the host, the possibility that the nymph may have induced the cyst cannot be excluded. Nymphs of *K. pattoni* have been reported in the lizards *Hemidactylus frenatus* and *Japalura swinhonis* as well as several frogs and snakes (see Bursey & Goldberg, 2004); *N. sagrei* represents a new host record for nymphs of *K. pattoni*. The parasite was deposited in the United States Parasite Collection, USNPC, Beltsville, Maryland as USNPC 100978.

ACKNOWLEDGEMENTS

The authors would like to thank Mei-Hsiu Cheng and the other laboratory technicians of the Chiayi Christian Hospital cytology laboratory for preparing the microscope slides. This study was partly funded by grant COA-FB-95-00-8-04.

REFERENCES

Bursey, C.R. & Goldberg, S.R. (2004). A new species of *Spinicauda* (Nematoda: Heterakidae) and other endoparasites in *Platymantis pelewensis* (Anura: Ranidae) from the Palau Islands, Republic of Belau, Oceanica. *J. Parasitology*, **90**, 1428-1433.

Norval, G., Mao, J.J., Chu, H.P. & Chen, L.C. (2002). A new record of an introduced species, the brown anole (*Anolis sagrei*) (Duméril & Bibron, 1837), in Taiwan. *Zool. Studies*, **41**, 332-336.

Norval, G., Tung, C.L. & Cooper, J.E. (2005). A report of hepatic granuloma in free-living brown anoles (*Anolis sagrei*) in Taiwan: two cases. *Herpetol. Bull.* **93**, 9-13.

Norval, G., Tung, C.L. & Cooper, J.E. (2006). Anolis sagrei (Brown Anole) Testicular pathology. *Herpetol. Rev.* **37**, 219-220.

Submitted by: GERRUT NORVAL[1], CHARLES R. BURSEY[2], STEPHEN R. GOLDBERG[3], CHUN-LIANG TUNG[4] and JEAN-JAY MAO[5]

[1] *Applied Behavioural Ecology & Ecosystem Research Unit, Department of Nature Conservation, UNISA, Private Bag X6, Florida, 1710, Republic of South Africa.* gerrutnorval507@yahoo.com

[2] *Department of Biology, Pennsylvania State University, Shenango Campus, Sharon, Pennsylvania 16146, USA.* cxb@psu.edu

[3] *Department of Biology, Whittier College, Whittier, California 90608, USA.* sgoldberg@whittier.edu

[4] *Chiayi Christian Hospital, Department of Pathology, No.539 Chung Hsiao Road, Chiayi City, Taiwan, Republic of China.*

[5] *Department of Natural Resources, National I-Lan University, No. 1, Shen-Lung Rd., Sec. 1, I-Lan City 260, Taiwan, Republic of China.*