the description of several new taxa (e.g., WELLS & WELLINGTON 1985; HOSER 1998, 2002; APLIN & DONNELLAN 1999).

In the past, death adder populations in Maluku have been referred to as *A. antarcticus* (SHAW & NODDER, 1802), *A. (a.) laevis* MACLEAY, 1878, or *A. praelongus* RAMSAY, 1877 by various authors (DE ROOIJ 1917; KLEMMER 1963; SUPRIATNA 1995; HOW & KITCHENER 1997; MONK et al. 1997; ISKANDAR & COLIJN 2001). Recently, HOSER (2002) proposed the new name *A. groenveldi* for death adders from Seram, which on biogeographical grounds are likely to share close relationships with the population on Ambon. As further studies on the phylogeography and taxonomy of Indonesian death adders are required, we refrain from assigning a specific name to the snake from Ambon at this time, and provisionally refer to it as a member of the *A. laevis* complex (WÜSTER et al. 2005).

The curious absence of these medically important, dangerously venomous snakes from earlier faunal lists of Ambon may have several reasons and may not just be a collecting artefact. Although Ambon may have served as a mere stop-over for many expeditions rather than being the final destination and main collecting site, it seems reasonable to suspect a correlation between the apparent rarity of death adders in Ambon, their cryptic dorsal pattern and coloration, and the fact that considerable parts of the island (especially the Timor Peninsula) have experienced centuries of continuous disturbance including extensive habitat conversion, and have traditionally supported a relatively numerous human population (about 222,000 before 1990 [MONK et al. 1997]).

ACKNOWLEDGMENTS: We are grateful to Bulquiny BAADILLA (formerly of Paso, Ambon) and his collectors for providing the specimen, logistical support, and assistance in the field.

REFERENCES: APLIN, K. P. & DONNELLAN, S. C. (1999): An extended description of the Pilbara Death Adder, *Acanthophis wellsi* HOSER (Serpentes: Elapidae), with notes on the Desert Death Adder, *A. pyrrhus* BOULENGER, and identification of a possible hybrid zone.- Records of the Western Australian Museum, Perth; 19: 277-298. DE HAAS, C. P. J. (1950): Checklist of the snakes of the Indo-Australian Archipelago (Reptilia, Ophidia).- Treubia, Bogor; 20: 511-625. DE ROOIJ, N. (1917): The reptiles of the Indo-Australian Archipelago; II. Ophidia. Leiden (E. J. Brill), 334 pp. HOSER, R. (1998): Death adders (genus *Acanthophis*): an overview, including descriptions of five new species and one subspecies.- Monitor, Ardeer (Victoria); 9: 20-30, 33-41. HOSER, R. (2002): Death adders (genus *Acanthophis*): an updated overview, including descriptions of 3 new island species and 2 new Australian subspecies.- The Crocodilian, Journal of the Victorian Association of Amateur Herpetologists, Geelong (Victoria); 4: 5-11, 16-22, 24-30. HOW, R. A. & KITCHENER, D. J. (1997): Biogeography of Indonesian snakes.- Journal of Biogeography, Oxford; 24: 725-735. ISKANDAR, D. T. & COLIJN, E. (2001): A checklist of Southeast Asian and New Guinean reptiles – Part I. Serpentes. Jakarta (Biodiversity Conservation Project, Indonesian Institute of Sciences, Japan International Cooperation Agency, The Ministry of Forestry, The Gibbon Foundation and Institute of Technology Bandung), 195 pp. KLEMMER, K. (1963): Liste der rezenten Giftschlangen: Elapidae, Hydropheidae, Viperidae und Crotalidae; pp. 255-464. In: Die Giftschlangen der Erde. Behringwerk-Mitteilungen, Sonderband. Marburg (Elwert). MONK, K. A. & DE FRETES, Y. & REKSODIHARJO-LILLEY, G. (1997): The ecology of Nusa Tenggara and Maluku. Singapore (Periplus), 923 pp. STORR, G. M. & SMITH, L. A. & JOHNSTONE, R. E. (1986): Snakes of Western Australia. Perth (Western Australian Museum), 187 pp. SUPRIATNA, J. (1995): Ular berbisa di Indonesia. Jakarta (Penerbit Bhratara), 75 pp. WELLS, R. W. & WELLINGTON, C. R. (1985): A classification of the Amphibia and Reptilia of Australia.- Australian Journal of Herpetology, Supplementary Series, Katoomba (New South Wales); 1: 1-61. WÜSTER, W. & DUMBRELL, A. J. & HAY, C. & POOK, C. E. & WILLIAMS, D. J. & FRY, B. G. (2005): Snakes across the Strait: trans-Torresian phylogeographic relationships in three genera of Australasian snakes (Serpentes: Elapidae: *Acanthophis*, *Oxyuranus*, and *Pseudechis*).- Molecular Phylogenetics and Evolution, San Diego; 34 (2005): 1-14.

KEY WORDS : Reptilia: Squamata: Serpentes: Elapidae: *Acanthophis laevis* complex; *Acanthophis groenveldi*; geographical distribution; island record; venomous snakes; Ambon; Maluku; Indonesia

SUBMITTED: April 1, 2005

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Evidence for oviparity in the extinct bolyeriid snake *Bolyeria multocarinata* (BOIE, 1827)

The snake family Bolyeriidae consists of only two species classified in two genera whose current distribution is restricted to Round Island, a small offshore island north of Mauritius in the western Indian Ocean. Of the two species *Casarea dussumieri* (SCHLEGEL, 1837) is threatened but still ex-

tant (KORSÓS & TRÓCSÁNYI 2003), whereas *Bolyeria multocarinata* (BOIE, 1827) has not been seen for 30 years and is likely to have become extinct (BAUER & GÜNTHER 2004). The origin of the bolyeriids on the oceanic island of Mauritius is a biogeographic mystery and their phylogenetic relationships to other primitive snake lineages are still far from being understood. Several unique characters (especially the presence of an intramaxillary joint and the complete absence of a pelvic girdle) emphasize the importance of bolyeriids to understand the evolution of primitive snakes (CUNDALL & IRISH 1989). Nevertheless, little is known on their morphological variation and their reproduction: *Casarea* is oviparous (BLOXAM & TONGE 1986) whereas the reproductive mode of *Bolyeria* has been unknown so far (POUGH et al. 2004).

Recently, BAUER & GÜNTHER (2004) published a short note on a newly discovered specimen of *B. multocarinata* in the Zoological Museum Berlin (ZMB 8984) and mentioned that only a few specimens of that species exist in collections in London (The Natural History Museum – BMNH), Paris (Muséum National d'Histoire Naturelle – Type specimen MNHN 7185), and Mauritius (Mauritius Institute – Port Louis). This prompted us to investigate a further specimen in the Zoological Museum Hamburg (ZMH). We give measurements of that specimen to complete our knowledge on the variation in pholidosis within that species. The specimen (ZMH R06726, old numbers 1265 and 10143) was received from the Museum of Natural History, London (BMNH) in 1885. The old jar label reads Mauritius, but an exact locality is unknown because there are no further documents of collector or locality due to the fact that all ZMH catalogues or correspondence in Hamburg were destroyed during World War II. The other specimens in London were from Round Island (BOULENGER 1893) as was proposed to assume for the ZMB specimen (BAUER & GÜNTHER 2004). The ZMH specimen is an adult female and has lower scale counts than the other specimens from which data are available in the literature [two females from London (BOULENGER 1893), one male from Berlin (BAUER & GÜNTHER 2004), at least two specimens from Paris (GUIBÉ 1958)]. Snout-vent length of the Hamburg specimen is 750 mm [versus 710 (ZMB) and 800 (BMNH specimens)] and tail length is 180 mm [versus 184 (ZMB) and 200 (BMNH specimens)]. The scale rows around midbody number only 51 [versus 59 (ZMB), 53 and 57 (BMNH), 55-63 (MNHN)]; ventrals 191 [versus 204 (ZMB), 199 and 200 (BMNH), 192-200 (MNHN)] and subcaudals 71 [versus 102 (ZMB), 83 and 92 (BMNH) 83-92 (MNHN)]. There are 4/5 postoculars, 8/9 supralabials (3rd or 4th in contact with eye) on left/right side, respectively.

The coloration of ZMH R06726 is grayish with irregular dark spots scattered on the dorsum merging to lateroventral semiannuli on the tail. The middle part of the body is moulting, whereas the anterior and posterior parts are not (fig. 1). An X-ray did not detect any food items.

The ZMH specimen is a mature female containing five relatively large oval deformed eggs (length x diameter: 37-43 x 15-21 mm, fig. 2). One of the eggs was dissected and contained yolk without any traces of embryonic development. All five eggs have relatively compact shells which is typical for oviparous but would be unusual for ovoviviparous species (BLACKBURN 1993, 1995). We therefore suppose *B. multocarinata* likely to have been oviparous as is the related *C. dussumieri* (although erroneous reports of viviparity in this species exist, e. g. STAUB 1993: 78). Clutch size in *C. dussumieri* ranges from three to 11 eggs (mean 6.6), with newly hatched neonates averaging about 180 mm in length (BLOXAM 1984; BLOXAM & TONGE 1986). Although evidence is limited, the low number of only five eggs found in the *Bolyeria* specimen suggests that clutch size might have been similar as in *Casarea*.

ACKNOWLEDGEMENTS: We thank Colin MCCARTHY (The Natural History Museum, London) for information about specimens in his care, as well as Quentin BLOXAM and Gerardo GARCIA for providing literature.

REFERENCES: BAUER, A. M. & GÜNTHER, R. (2004): On a newly identified specimen of the extinct bolyeriid snake *Bolyeria multocarinata* (BOIE, 1827).- Herpetozoa, Wien; 17(3/4): 179-181. BLACKBURN, D. G. (1993): Standardized criteria for the recognition of reproductive modes in squamate reptiles.- Herpetologica, Lawrence; 49(1): 118-132. BLACKBURN, D. G. (1995): Saltationist and punctuated equilibrium models

Fig. 1: Female specimen of the extinct *Bolyeria multocarinata* (BOIE, 1827) in the Zoological Museum Hamburg (ZMH R06726) containing five eggs.

for the evolution of viviparity and placentation.- J. Theoret. Biol., Amsterdam; 174: 199-216. BLOXAM, Q. (1984): A preliminary report on the captive management and reproduction of the Round Island Boa (*Casarea dussumieri*); pp. 115-117. In: TOLSON, P. J. (ed.): 7th annual reptile symposium on captive propagation & husbandry; Thurmont MD, (Zool. Consort. Inc.). BLOXAM, Q. M. C. & TONGE, S. J. (1986): The Round Island Boa (*Casarea dussumieri*) breeding program at the Jersey Wildlife Preservation Trust.– The Dodo: J. Jersey Wildlife Preserv. Trust, Trinity; 23: 101-107. BOULENGER, G. A. (1893): Cataloge of the snakes in the British Museum (Natural History) Volume I; London (Trustees of the British Museum), pp. 448, xxviii pl.. CUNDALL, D & IRISH, F. J. (1989): The function of the intramaxillary joint in the Round Island boa, *Casarea dussumieri*.- J. Zool., London; 217: 569-598. GUIBÉ, J. (1958): Les serpents de Madagascar.- Mem. Inst. Scient. Madagascar, Tananarive; (A) 12: 189-260. KORSÓS, Z. & TRÓCSÁNYI, B. (2003): Herpe-

Fig. 2: Eggs of specimen ZMH R06726.

tofauna of Round Island, Mauritius.- Biota, Race; 3 (1-2): 77-84. POUGH, F. H. & ANDREWS, R. M. & CADLE, J. E. & CRUMP, M. L. & SAVITZKY, A. H & WELLS, K. D. (2004): Herpetology, third edition. Upper Saddle River (Pearson, Prentice Hall), 726 pp. STAUB, F. (1993): Fauna of Mauritius and associated flora. Port Louis, Mauritius (Précigraph Ltd.), 97 pp..

KEY WORDS: Reptilia: Squamata: Bolyeriidae, *Bolyeria multocarinata*; reproduction, eggs, additional newly discovered specimen, morphology, pholidosis

SUBMITTED: May 20, 2005

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Reptile fauna of the Chancaní Reserve (Arid Chaco, Argentina): species list and conservation status

The Chancaní Provincial Reserve (65°26' W / 30°22' S, 49,200 ha) is the only remaining well preserved relict of the Arid Chaco woodland in central-western Argentina (60,000 km^2), and the driest portion of the Chaco transitional with the Monte ecoregion and the western Chaco (CABRERA & WILLINK 1980). The Arid Chaco has been severely degraded by deforestation, overgrazing, and land degradation (BUCHER & SCHOFIELD 1981). This Reserve protects typical Arid Chaco vegetation with smaller fragments of sierra Chaco. Dominant vegetation is characterized by a deciduous, thorny woodland. Canopy (15 m height) is discontinuous, dominated by *Aspidosperma quebracho-blanco* and *Prosopis* spp. The shrub stratum (4 m) is almost continuous in cover, dominated by *Larrea divaricata*, *Mymozyganthus carinatus*, and *Acacia* spp. The grass and herb understory is well developed, in contrast with the neighboring degraded areas (CABIDO & PACHA 2002).

Here we report a list of reptiles that occur in the Reserve. Data were collected using a combination of field observations (during day and night), drift fence funnel traps (LEYNAUD & BUCHER 2005) and bibliographic sources. Field work extended for 375 days (2004-2005). Specimens captured were released immediately afterwards.

We trapped nine lizard species (seven families), one amphisbaenid species, and ten snake species (four families). *Teius teyou* and *Stenocercus doellojuradoi* (lizards), and *Waglerophis merremi*, *Micrurus pyrrhocryptus* and *Crotalus durissus terrificus* (snakes) were the most abundant species in each group (table 1). Field observations added three lizards (*Tropidurus spinulosus*, *Liolaemus* sp. aff. *gracilis* and *Vanzosaura rubricauda*) and one snake species (*Boa constrictor occidentalis*) and bibliographic sources added one turtle and one snake species (table 1).

We assigned the conservation status categories provided by Secretaría de Ambiente y Desarrollo Sustentable – Ministerio de Salud y Ambiente (2004). Accordingly, the lizard fauna of the Chancaní Reserve includes two species considered as "vulnerable" (*Cnemidophorus serranus* and *Leiosaurus paronae*, and one Chaco endemic species (*Stenocercus doellojuradoi*) (LEYNAUD & BUCHER 2005). The snake fauna includes one "vulnerable" species (*Epicrates cenchria alvarezi*), and one "threatened" species (*Boa constrictor occidentalis*). The only turtle species found in the Reserve (*Chelonoidis chilensis*) is categorized as "in danger of extinction".

Diversity of Chancaní's reptile fauna is low if compared with other sites in the western Chaco. Lizard species richness found in the Chancaní Reserve (12 species) is about half of that found in Salta, the northern border of the Arid Chaco in Argentina (19 species, eight species in common) (CRUZ et al. 1992; LAVILLA et al. 1995; LEYNAUD & BUCHER 2005). Regarding ophidians, 25 snake species were recorded in Salta (CRUZ et al. 1992; LAVILLA et al. 1995; LEYNAUD & BUCHER 2005), whereas only 12 were found in Chancaní, 11 of which are common to both sites. Three turtle species occur in Salta (LAVILLA et al. 1995), of which only the terrestrial turtle *Ch. chilensis* is shared with Chancaní. This pattern is consistent with Chancaní being located at the drier and colder, southermost portion of the Chaco.

ACKNOWLEDGEMENTS: This study was supported by CONICET (project PIP 6296). The first author has a fellowship from CONICET.

REFERENCES: BUCHER, E. H. & SCHOFIELD, J. (1981): Economic assault on Chagas disease.- New Scientist, London; 92: 321-324. CABIDO, M. & PACHA, M. J. (2002): Vegetación y flora de la Reserva Natural Chancaní; Córdoba (Agencia Córdoba Ambiente, Gobierno de la Provincia de Córdoba), pp. 50.