

THE REDISCOVERY OF THE COMMON WATER MONITOR LIZARD *VARANUS SALVATOR* (SQUAMATA: VARANIDAE) IN NORTHERN MYANMAR

Sai Sein Lin Oo¹ & Paul Jeremy James Bates²

¹ Department of Zoology, Banmaw University, Banmaw, Kachin State, Myanmar

² Harrison Institute, 15 St Botolph's Road, Sevenoaks, Kent, TN13 3AQ, UK

¹ seinlinu@gmail.com, ² pjbbates2@hotmail.com (corresponding author)

On 09 June 2015, a Common Water Monitor *Varanus salvator* (Laurenti, 1768) was observed and photographed (Image 1) on the campus of Banmaw University, Banmaw (Bhamo), Kachin State, Myanmar (24°18'15"N & 97°15'52"E). Subsequently, a second individual was observed 140km to the west at Banmauk, Sagaing Division (24°24'N & 95°51'E); this individual had been collected locally and was being sold for food in Banmauk market.

These two observations are the first records of *Varanus salvator* from Upper Myanmar since Anderson (1878), who obtained a single individual from Bhamo (= Banmaw), and Boulenger (1888 cited in Mertens 1942) who included a record from the Kakhien Hills (= Kachin Hills).

Although the geographical distribution of *V. salvator*

is extensive, including Sri Lanka, northeastern India and Bangladesh through continental South-east Asia and the Sunda Islands east to the Moluccas and Luzon in the northern Philippines (Koch et al. 2007), the authenticity of the historical records of Anderson (1878) and Boulenger (1888 cited in Mertens 1942) from Upper Myanmar has been questioned over the years. For example, Cota et al. (2009) noted that despite numerous surveys, the California Academy of Sciences (CAS) had failed to find *V. salvator* in the central or northern regions of Myanmar.

The authenticity was also challenged on account of the distribution of this species in Thailand. Here it is common in southern, coastal areas but scarcely extends northwards, being virtually absent from the Kota Plateau in the north-east and restricted to Sukhothai Province in the north-west (Cota et al. 2009).

Therefore based on data from Thailand and an absence of further sightings from northern Myanmar, Cota et al. (2009) postulated that either the historical records from Bhamo (= Banmaw) and Kachin were based on natural events, such that *V. salvator* dispersed northwards up the Ayeyarwady River but without subsequent records or that the specimens obtained in markets were transported as food or that they were misreported and were locality errors.



ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

OPEN ACCESS



DOI: <http://dx.doi.org/10.11609/jott.2746.8.5.8827-8828> | ZooBank: urn:lsid:zoobank.org:pub:A54695B3-6F13-4EBC-AEB8-03E13A10B92E

Editor: Raju Vyas, Vadodara, Gujarat, India.

Date of publication: 26 May 2016 (online & print)

Manuscript details: Ms # 2746 | Received 20 April 2016 | Finally accepted 14 May 2016

Citation: Sai Sein Lin Oo & P.J.J. Bates (2016). The rediscovery of the Common Water Monitor Lizard *Varanus salvator* (Squamata: Varanidae) in northern Myanmar. *Journal of Threatened Taxa* 8(5): 8827–8828; <http://dx.doi.org/10.11609/jott.2746.8.5.8827-8828>

Copyright: © Sai Sein Lin Oo & P.J.J. Bates 2016. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use of this article in any medium, reproduction and distribution by providing adequate credit to the authors and the source of publication.

Funding: Funding for the UK-Myanmar collaboration was provided by CEPF (Critical Ecosystems Partnership Fund), the Darwin Initiative, UK (Project No. 21-012) and The Rufford Foundation, UK.

Conflict of Interest: The authors declare no competing interests.

Acknowledgments: The authors are grateful to the rector of Banmaw University, Prof. Dr. Kyi Shwin and Daw Htay Htay Aung, for their support during the study. We would also like to thank the Darwin Initiative (Project No: 21-012) and CEPF (Critical Ecosystems Partnership Fund) for promoting wildlife conservation in Myanmar and The Rufford Foundation for its contribution to networking and training exercises in biodiversity research in Myanmar. At the Harrison Institute, UK, we are most grateful to Malcolm Pearch for his advice and ongoing support and to Beatrix Lanzinger for co-ordinating and managing the Myanmar projects.





Image 1. Common Water Monitor Lizard photographed in a ditch on the campus of Banmaw University, Kachin State, Myanmar.

Indeed, such was the skepticism about the records of Anderson (1878) and Boulenger (1888 cited in Mertens 1942) that in the IUCN Red List of Threatened Species, Bennett et al. (2010) stated that ‘recent work has shown that this species is absent from northeastern Myanmar’, whilst Koch et al. (2010), excluded Myanmar completely from the range of the species.

Therefore the recent sightings in Bhamo (= Banmaw) and Banmauk are significant. They strongly support the records of Anderson (1878) and Boulenger (1888 cited in Mertens 1942) and clearly show that *V. salvator* is still present in Upper Myanmar. Although the Banmauk specimen was recorded from a market, its provenance was given as ‘captured locally’. In contrast, in Bhamo (= Banmaw) the species was not found in the market but was seen in the wild. Currently, it is not clear whether these individuals represent two localities of an isolated, relict population or are part of a species range that extends up the Ayeyarwady River and its tributaries. Here, following the reviews of Böhme (2003), Cota et al. (2009), and Koch et al. (2013), the Bhamo (= Banmaw) population is tentatively referred to *V. salvator macromaculatus* Deraniyagala, 1944, which was restricted by Koch et al. (2007) to “Siam” (= Thailand). Confusingly, there is considerable variation in colour in *V. s. macromaculatus* from throughout its range (Koch et al. 2009). The individual recently photographed in Bhamo (= Banmaw) has four prominent transverse black bars on its snout, a well defined black temporal band extending from the eye, and a generally dark upper body punctuated with paler spots and/or ocelli (Image 1).

This large monitor lizard is associated with water throughout its range. The recent observation in Bhamo

(= Banmaw) is consistent with this as the individual was observed in a ditch on the campus of Banmaw University. This ditch is a permanent water body with a dominant vegetation of Willow-leaved Water Croton, *Homonoia riparia*. It is situated in an area with an elevation of 110m and is adjacent to the Ayeyarwady and Tapping Rivers and alongside the extensive, all year wetlands of Nampha Inn. The Water Monitor Lizard was chasing a White-breasted Water Hen *Amauornis phoenicurus* among aquatic vegetation.

Contrary to Bennett et al. (2010) and others, the new data confirm previous records concerning the presence of a population of *Varanus salvator* in Bhamo (= Banmaw), northeastern Myanmar. It would be interesting to conduct follow-up studies to determine whether this is indeed a relict northern population.

References

- Anderson, J. (1878).** Anatomical and zoological researches: comprising an account of the zoological results of the two expeditions to Western Yunnan in 1868 and 1875; and a monograph of the two cetacean genera, *Platanista* and *Orcella*. Volume 1. Bernard Quaritch, London, 984pp.
- Bennett, D., M. Gaulke, E.R. Pianka, R. Somaweera & S.S. Sweet (2010).** *Varanus salvator*. The IUCN Red List of Threatened Species 2010: e.T178214A7499172. Downloaded on 22 December 2015; <http://dx.doi.org/10.2305/IUCN.UK.2010-4.RLTS.T178214A7499172.en>
- Böhme, W. (2003).** Checklist of the living monitor lizards of the world (family Varanidae). *Zoologische Verhandlungen Leiden* 341: 3–43.
- Cota, M., T. Chan-Ard & S. Makchai (2009).** Geographical distribution and regional variation of *Varanus salvator macromaculatus* in Thailand. *Biawak* 3(4): 134–143.
- Koch, A., M. Auliya, A. Schmitz, U. Kuch & W. Böhme (2007).** Morphological studies on the systematics of South East Asian Water Monitors (*Varanus salvator* Complex): Nominotypic populations and taxonomic overview. pp. 109–180. In: Horn, H.G., W. Böhme & U. Krebs (eds.). *Advances in Monitor Research III*, Mertensiella 16. Rheinbach.
- Koch, A., E. Arida, A. Schmitz, W. Böhme & T. Ziegler (2009).** Refining the polytypic species concept of mangrove monitors (Squamata: Varanus indicus group): a new cryptic species from the Talud Islands, Indonesia, reveals the underestimated diversity of Indo-Australian monitor lizards. *Australian Journal of Zoology* 57: 29–40.
- Koch, A., M. Auliya & T. Ziegler (2010).** Updated checklist of the living monitor lizards of the world (Squamata: Varanidae). *Bonn Zoological Bulletin* 57(2): 127–136.
- Koch, A., T. Ziegler, W. Böhme, E. Arida & M. Auliya (2013).** Pressing problems: Distribution, threats and conservation status of the monitor lizards (Varanidae: *Varanus* spp.) of Southeast Asia and the Indo-Australian Archipelago. *Herpetological Conservation and Biology* 8(3) 1–62.
- Mertens, R. (1942).** Die Familie der Warane (Varanidae). *Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft, (Frankfurt)* 462: 1–116; 465: 117–234; 466: 235–391.

