

Reproductive biology of *Ptychozoon lionotum* Annandale, 1905 (Squamata: Gekkonidae) from Northern Peninsular Malaysia

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Lizards from genus *Ptychozoon* are highly arboreal, having the ability to glide from one location to another. Three species of gecko from the genus *Ptychozoon*, including *Ptychozoon horsfieldii*, *P. kuhli* and *P. lionotum*, can be found in the rainforest of Peninsular Malaysia (Grismer, 2011a). Another species, *P. rhacophorus* is endemic to Borneo, East Malaysia (Min & Das, 2012). *Ptychozoon lionotum* is a medium-sized gecko, with a snout-vent length of 89 mm and 81 mm; males and females respectively (Grismer, 2011a). This nocturnal species ranges from India (Pawar & Biswas, 2001), Myanmar, Thailand and Cambodia, south through the Peninsular Malaysia (Das & Vijayakumar, 2009). In Peninsula Malaysia, this arboreal species can be encountered living in primary and old secondary lowland dipterocarp forests up to 300 m a.s.l. (Dring, 1979; Grismer, 2011b).

Data on the reproductive biology of lizards from the genus *Ptychozoon* has been documented by several researchers. Das (2007), recorded the egg diameter of *P. horsfieldii* and *P. kuhli* from Brunei, which was 13.7 x 11.9 mm and 11 - 15 mm respectively. Two eggs of *P. horsfieldii* were found attached to a branch on the floor of dipterocarp forest. The hatchlings measured snout-vent length (SVL) was 34 mm (Das, 2007). Two eggs of *P. kuhli* were found attached to a tree trunk, hatching in 73 days (Das, 2007). Grismer (2011a), reported pairs of *P. kuhli* eggs stuck together on tree trunks, 2 - 4 m above ground in shaded areas. Wood (2007), also found a pair of *P. kuhli* eggs on the shaded underside of a granite rock, approximately one meter above ground. Min & Das (2012) had collected two eggs of *P. rhacophorus* from the forest floor in Gunung Penrissen, Sarawak. The eggs were spherical in shape, fused together and deposited on the surface of a dry leaf. The eggs measured 10 x 10.8 mm and 9.99 x 10.3 mm, while the total length hatched geckos was 50.6 mm and 52.0 mm. However, to the best of my knowledge, there is no information on the reproductive biology of *P. lionotum*.

On 6 July 2017, between 2100 and 2200 hours (MST), a gravid *P. lionotum* female was captured at Sungai Sedim Recreational Forest, Kedah, Peninsular Malaysia (05° 25'N, 100° 46'E; < 150 m a.s.l.) (Fig.1). The specimen was collected while perched on the wall of wooden chalet, approximately 0.5 m above ground, after intermediate rain. The area was shaded, surrounded by lowland dipterocarp forest, and located about 10 m from the main river. Two individuals of *Hemidactylus frenatus* were also sighted



Figure 1. An adult female of *P. lionotum* from Sungai Sedim, Kedah, Peninsular Malaysia

around this area. Air temperature and relative humidity were 29 °C and 62 % respectively (measured by Thermo-hygro meter, Fisher Scientific). The lizard was captured by hand and taken to the laboratory for further inspections. The SVL=78 mm, tail length (TaL=82 mm), total length (ToL=160 mm) and head width (HW=23 mm) of the gecko was measured using a digital calliper.

In the laboratory, the female gecko was placed in a terrarium (60 x 30 x 30 cm). Tree bark, branches and leaf litter were placed in the terrarium as shelter. The gecko was

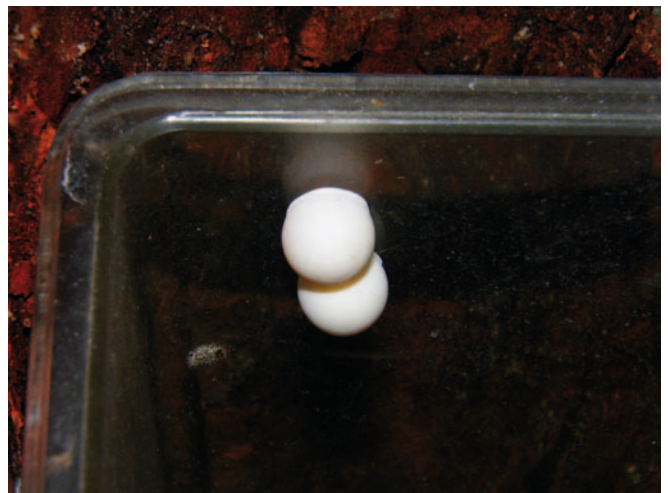


Figure 2. The egg clutch of *P. lionotum*



Figure 3. A newly hatched and unhatched egg of *P. lionotum*



Figure 4. A hatchling *P. lionotum*

fed on small crickets once a day (at night). On 16 July 2017 (10 days after capture) a clutch of two eggs were found. The two eggs were attached, whitish in colour, spherical in shaped and having a flattened bottom. The eggs were glued tightly to the wall of the terrarium (Fig. 2). The length and diameter of the eggs were 9 x 9 mm and 10 x 9 mm, respectively (measured by using digital calliper). After four days, the female gecko was found dead. The specimen (17USM-SS-PL01) was fixed with 10 % formalin, preserved in 70 % ethanol, and deposited at the School of Pharmaceutical Sciences, Universiti Sains Malaysia (USM) for reference.

The gecko eggs were reared in the terrarium. After 45 days (on 31 August 2017) one of the eggs was hatched (Fig. 3 and 4). The other was hatched on the following day (1 September 2017). The interval between hatching of the two eggs was approximately 30 hours. The SVL, TaL, ToL and HW of the newly hatched geckos were 26, 27, 53 and 7 mm for the first specimen, and 25, 27, 52 and 7 mm for the second specimen. After 10 days, the SVL, TaL, ToL and HW of the geckos became 30, 32, 62 and 7 mm for the first specimen and 30, 33, 63 and 8 mm for the second specimen. Later, both lizards were released back at the capture point.

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