
NATURAL HISTORY NOTES

Natural History Notes features articles of shorter length documenting original observations of amphibians and reptiles mostly in the field. Articles should be concise and may consist of as little as two or three paragraphs, although ideally will be between 500 and 700 words. Preferred contributions should represent an observation made of a free-living animal with little human intrusion, and describe a specific aspect of natural history. Information based on a captive observation should be declared as such in the text and the precise geographical origin of the specimen stated. With few exceptions, an individual 'Note' should concern only one species, and authors are requested to choose a keyword or short phrase which best describes the nature of their observation (e.g. Diet, Reproduction). The use of photographs is encouraged, but should replace words rather than embellish them. Contributions are accepted

CNEMASPIS MYSORIENSIS (Mysore dwarf gecko): REPRODUCTION. *Cnemaspis* or Oriental dwarf geckos are a diverse group of primarily diurnal geckos distributed in Africa, south and Southeast Asia, with 51 currently recognized species (Bauer, 2002; Das, 2005; Das & Grismer, 2003; Das & Leong, 2004; Kluge, 2001). Of these, 20 and 19 species are distributed in south and Southeast Asia respectively. However, our knowledge of ecology and life history characteristics of these geckos is meagre at best (Werner & Chou, 2002). Here, I report observations on communal egg-laying, incubation period and reproduction in *C. mysoriensis* (Smith, 1935) from Bangalore, south India.

Communal egg-laying has been recorded in few species of the genus *Cnemaspis* (Bhupathy & Nikon, 2002; Biswas & Ishwar, *in press*) but not in *C. mysoriensis*. On 6th August 2005 two sites containing egg clutches of *C. mysoriensis* were located in a degraded scrub habitat in the outskirts of Bangalore city (13°04'14"N, 077°35'13"E; WGS84; elevation 914 m). The sites were located at a height of *ca.* 12 ft from the ground under a bridge over which a railway track passed. The walls under the bridge were damp, covered in places with growths of moss, and with water leaking from the roof. The sites were placed *ca.* 20 cm apart on the wall close to where it met the ceiling. Each site was spread over an area of

on the premise that they represent a previously unreported observation, and may be edited prior to acceptance. Standard format for this section is as follows:

SCIENTIFIC NAME (Common Name): KEYWORD. Text (there are no constraints on how information is presented but the date, time, and locality – with full map co-ordinates if possible – must be included, as should precise details on the nature of the observation with some discussion of its significance, and references to pertinent literature). If the information relates to a preserved specimen, its catalogue number and place of deposition should also be given. **REFERENCES.** Then leave a line space and close with name and address details in full.

approximately 6 cm x 2 cm. One site contained at least 30 hatched egg shells from previously deposited clutches, while the other contained about 18 and 2 unhatched eggs. Three other non-communal sites, two containing a single clutch of paired unhatched eggs and another with a clutch of one egg were also located under the bridge. The egg shells were counted using binoculars and are minimum estimates as it was not possible to reach the egg-laying sites to make accurate counts. Fragmental remains of more recently deposited eggs were found on older ones that may have resulted in counts being underestimated. *Cnemaspis mysoriensis* individuals were found on the same wall and the eggs were definitely of this species, as no other geckos occurring in Bangalore lay eggs of such size and *C. mysoriensis* is the only *Cnemaspis* recorded from in and around the city. *Hemidactylus brooki*, a common nocturnal gecko, was also found on the same wall and seems to use it as a retreat for resting during the day.

A female *C. mysoriensis* was caught on the afternoon of 8th March 2005 in a building in Bangalore (13°02'11"N, 077°35'24"E; datum: WGS84; elev. 924 m), India. The individual was not noticed to be gravid, but laid two eggs in the cloth bag in which it was kept, between 10th March and 11th March 2005. The eggs were white in colour, almost round in shape with a flattened side

attached to the cloth and measured 6.28 mm and 5.76 mm in length. The eggs were maintained in the same bag at a site 1 km away from the collection locality and were monitored every 2 to 3 days thereafter. Between 28th April 2005 and 2nd May 2005 a hatchling emerged from the larger of the two eggs. The hatchling had a snout to vent length of 13.58 mm (tail length 12.68 mm) and was released the next day in the same building after photographing. The other egg failed to hatch and was opened on 29th July 2005. While breaking open the egg under a binocular stereo microscope, a crack was observed on the egg shell. Inside was found a desiccated juvenile that seemed to have stopped developing at a very advanced stage. The above observation on the hatching of the intact egg suggests an incubation period of 49 to 53 days. Daily temperature in Bangalore during this period ranged between 36°C and 18°C. This seems to be the first report of incubation period for any of the south Asian species of *Cnemaspis*. However, more detailed observations on incubation time and ambient temperature in this and other species (after controlling for temperature, egg mass and probably body size) will shed further light on the ecology of their eggs. Incubation time is variable within the Gekkonidae but occupies around the middle of the time range recorded for squamate reptiles (Birchard & Marcellini, 1996).

Internal examination of the preserved female revealed two fully developed eggs (approximately of same size but without calcium egg shell deposition) suggesting that multiple clutching occurs in this species. Multiple clutching is useful to interpret communal egg-laying behaviour in *Cnemaspis* species (Bhupathy & Nikon, 2002; Biswas & Ishwar, *in press*) as it is currently unknown how many individuals contribute to such egg aggregations. Activity of these geckos throughout the year in Bangalore (pers. obs.) may also allow individuals of this species to reproduce more than once or through most of the year, although this evidently requires verification.

ACKNOWLEDGEMENTS

I thank Basudev Tripathy for comments and monitoring the eggs in my absence, Shomita Mukherjee for lending binoculars and Divya B U for procuring literature.

REFERENCES

- Bauer, A. M. (2002). Two new species of *Cnemaspis* (Reptilia: Squamata: Gekkonidae) from Gund, Uttar Kannada, India. *Mitt. hamb. zool. Mus. Inst.* **99**, 155–167.
- Bhupathy, S. & Nikon, A. M. A. (2002). Communal egg laying by *Cnemaspis indica* in Mukurthi National Park, Western Ghats. *J. Bombay nat. Hist. Soc.* **99**, 330–332.
- Birchard, G. F. & Marcellini, D. (1996). Incubation time in reptilian eggs. *J. Zool.* **240**, 621–635.
- Biswas, S. & Ishwar, N. M. (2006). *Cnemaspis* (Oriental Dwarf Geckos). Communal oviposition. *Herpetol. Rev.* **37** (*in press*).
- Das, I. (2005). Revision of the genus *Cnemaspis* Strauch, 1887 (Sauria: Gekkonidae), from the Mentawai and adjacent archipelagos off Western Sumatra, Indonesia, with the description of four new species. *J. Herpetol.* **39**, 233–247.
- Das, I. & Grismer, L. L. (2003). Two new species of *Cnemaspis* Strauch, 1887 (Squamata: Gekkonidae) from the Seribu Archipelago, Pahang and Johor states, West Malaysia. *Herpetologica* **59**, 544–552.
- Das, I. & Leong, T.-M. (2004). A new species of *Cnemaspis* (Sauria: Gekkonidae) from southern Thailand. *Current Herpetol.* **23**, 63–71.
- Kluge, A. G. (2001). Gekotan lizard taxonomy. *Hamadryad* **26**, 1–209.
- Smith, M. A. (1935). *The fauna of British India including Ceylon and Burma*. London: Taylor & Francis. 441 pp.
- Werner, Y. L. & Chou, L. M. (2002). Observations on the ecology of the arrhythmic equatorial gecko *Cnemaspis kendallii* in Singapore (Sauria: Gekkonidae). *Raffles Bull. Zool.* **50**, 185–196.

SAYANTAN BISWAS

Dept. of Biological Sciences, George Washington University, 2023 G Street NW, Washington D.C., 20052 and Ashoka Trust for Research in Ecology and the Environment, No. 659, 5th 'A' Main, Bellary Road, Hebbal, Bangalore 560 024, India.
E-mail: sayantan@gwu.edu