

and others on the back, etc." In the Bangkok specimen, as with another from Den Chai, the only two which I have seen alive, these white cross-bands were, during life, of a bright lemon-yellow colour, whilst in the former also, a young specimen, the dark brown was pure black.

MALCOLM SMITH.

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No. IV.—ON THE BREEDING HABITS AND COLOUR CHANGES IN THE LIZARD, *CALOTES MYSTACEUS*.

A pair of these lizards, caught at Paknampo in January of last year, bred whilst in captivity, and afforded me an opportunity of observing their habits during this period. Like other species of the genus *Calotes* in confinement, they were extremely wild and shy, and would never allow themselves to be handled. They fed, however, freely on insects of all sorts. For the first six weeks of captivity, they were evidently too much disturbed to show any colour changes, and remained a mixture of dull greys and browns of varying shades.

The courtship, which was continued until the eggs were laid, was much the same as that described for *C. versicolor*, (Robinson, *P. Z. S.* p. 858. 1899.) and consisted for the most part in absurd bowings and noddings of the head. This was commenced by the male, and was usually, after a short time, responded to by the female. The pair invariably faced each other on these occasions, arching their backs and puffing out their throats to the full extent. The vivid hues assumed by the male (and slightly so by the female) during this performance, transformed him into a truly gorgeous creature. The head and fore-part of the body became of a light electric blue (sometimes green) colour, the gular pouch dark purple, whilst the pale stripe which borders the upper lip, and passes on to the shoulder, turned almost white, and stood out in strong contrast to its surroundings.

They were first observed *in copula* on May 9th, and after that were frequently seen together. On June 21st, I observed the female busy with the earth in the flower pot in the cage. She did not like being watched, and ceased operations as soon as she saw me, but by hiding behind a door I was enabled to observe the rest of the proceedings. The eggs had been already laid, and she was then engaged in covering them up, raking the earth over them with her fore-paws and hammering it down with her nose. The male, perched on a branch above, watched the performance with great interest, and I was surprised to see him, in the midst of it all, suddenly race down to his mate and engage her. She, finally, completed her task, smoothing the earth completely over at the spot, so that no traces were left to show that anything had been done there. I never saw her near the spot again, and she appeared to take no further interest in her progeny. The eggs were placed about 2 inches deep in the earth, and had the usual soft, white parchment-like covering. They were 7 in

number, 15 to 18 x 10 to 11 mm. in size. The first young one appeared on Aug. 20th, and measured from snout to vent 26 mm., tail 48 mm. in length. They had the usual drab colours of their parents.

The colour changes in these specimens, I found, were not brought about by sexual excitement only. Fear would produce exactly the same effect. This could be demonstrated by putting a snake into their cage. Their attitude then was that of being fascinated and unable to escape. They invariably faced the snake, bowing to it and nodding their heads exactly as when courting. The crest was strongly erected, the gular pouch fully distended, and the colours would gradually become more vivid until they were almost as intense as during sexual excitement.

*Calotes mystaceus* is widely distributed throughout Siam, its handsome colouring usually attracting attention wherever it is found. It has been seen as far South as Hua Hin, but below that Latitude has not yet been recorded. It is not found in Bangkok, or in the country immediately surrounding, but away from the great plain, its haunts and modes of life are similar to those of *C. versicolor* (the common Bangkok "chameleon"), to which, when "off colour," it bears a close resemblance.

MALCOLM SMITH.

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