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from different localities in Gando Protected Area located in Sistan and Baluchistan provinces which extends from 25°03' to 26°16' N and 61°09' to 61°53' E on the southeastern border of Iran and Pakistan.

Morphological analyses were performed using 14 metric and 9 meristic characters. T-test and principal component analysis (PCA) was performed on the log transformed matrix of metric and proportional characters. T-test shows significant differences in all metric characters with the exception of HL, HW and HH ($p < 0.05$). None of the meristic characters reached high enough probability to be

used in discriminating between the two sexes. In this lizard, sexual dimorphism of head, in contrast to other congeneric species, is more due to the shape of head. In contrast to *L. caucasia* and *L. microlepis* in *L. m. lirata* patches of callous scales at abdomen and preanal regions usually occur independent to sex, nonetheless, in some females no callous scales was observed and others had some just in abdomen region.

Key words: *Laudakia melanura lirata*, sexual dimorphism, Gando Protected Area, Sistan and Baluchistan province, Southeastern Iran.

A STUDY OF BEHAVIOUR, HABITAT, DISTRIBUTION AND ECOLOGY ON *LYRIOCEPHALUS SCUTATUS* (LINNAEUS, 1758) IN SRI LANKA

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There are 18 species of agamid lizards distributed throughout Sri Lanka, 15 (83%) of them are endemic and the genera *Ceratophora* Gray, 1834, *Cophotis* Peters, 1861 and *Lyriocephalus* Merrem, 1820 are relic to the island. The genus *Lyriocephalus* Merrem, 1820 is monotypic and relict to Sri Lanka. *Lyriocephalus scutatus* is diurnal, sub-arboreal and slow moving agamid lizard. This colorful species is distributed in cool and shady forested areas with a

dense canopy in wet & intermediate lowlands and mid hills up to elevations of 1600 m, snout-vent length (SVL) varies around 94 mm. Very little is known about the ecology, biology and behaviour of this species throughout its range, hence we have examined 52 localities (August 2004 to March 2007) throughout 11 districts. A total of 109 individuals (Males: 47, Females: 41 and Juveniles: 21) were observed in nature during dry and wet seasons. The analysis of habitat

data has shown that species is widely spared within the well shading riverine forested areas and poorly in the home gardens. The results of this survey indicate *Lyriocephalus scutatus* lays eggs about 3 – 4 from March to May on shady, cool places nearly 1 foot away from the tree base. While laying eggs the females change their body color in to ground color. The eggs are 22.1 mm to 24.6 mm (mean 23.4 mm) long and 13.6 mm to 15.1 mm (mean 14.4.0 mm) wide. Mostly egg layings were recorded in mornings with high humidity. Hatchlings



Lyriocephalus scutatus (Linnaeus, 1758) from Sri Lanka

come out from June to August after 65 – 71 days of incubation. The hemipenis of males is completely different comparative to the other agamid lizards in Sri Lanka. This species specially feed on earth worms, spiders, centipedes and other insects. These lizards' natural predators are Gray Hornbill, Blue Magpie, Shikra and other raptors, Cat snakes, Green Pitviper, Loris, Toque Monkeys and domestic cats. When a danger appears this lizard slowly climbs to the tree while moving around the stem. At night they sleep on the trees about 2.5 m to 4.5 m above ground level

on branches diameter about 40 mm to 58 mm. *Calotes calotes*, *Calotes liolepis*, *Calotes liocephalus*, *Ceratophora aspera*, *Otocryptis nigristigma* and *Otocryptis wiegmanni* are recorded as other sympatric agamid lizards. The current habitat destruction shows a great warning to this species. The villagers inhabit in the forested areas believe several myths of this lizard. Therefore education awareness programs are needed to conserve this relict species.

Key words: Sri Lanka, *Lyriocephalus scutatus*, ecology.

PHYLOGEOGRAPHY OF *PHRYNOCEPHALUS VLANGALII* COMPLEX ON THE UPPER REACHES OF THE YELLOW RIVER INFERRED FROM mtDNA ND4-tRNA_{Leu} SEQUENCES

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A fragment of mtDNA ND4-tRNA_{Leu} from 189 samples in 26 populations was used to infer the phylogeographic structure of *Phrynocephalus vlangalii* complex on the upper reaches of the Yellow River. 703bp ND4-tRNA_{Leu} sequences defined 39 hap-

lotypes. Both the Bayesian tree and MP tree comprised two Clades (A and B). Clade A included populations in Zoige Wetland (A1), populations in the west of Kuku-noor Lake (A2) and *P. theobaldi*; Clade B included populations in the south of Kuku-noor



a

b

Male (*a*) and female (*b*) of *Phrynocephalus putjatai* from Haiyan and Tianzhu respectively



a

b

Males of *Phrynocephalus vlangalii* from Suganhu (*a*) and Xiaman (*b*) respectively