ON A NEW SPECIES OF *URAEOCTYPHLLUS* FROM SOUTH INDIA

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(With one plate and two text-figures)

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In the course of my studies on the spermatogenesis of the local forms of Apodan Batrachians which I have been investigating for some years, I have had opportunities of obtaining a fairly large collection of material. I have been able to record a few interesting phases in the phenomenon of spermatogenesis in *Ichthyophis glutinosus* Linn. and with the object of extending my observations to all the species available in India, I procured fresh material from Kottayam, a small town in Travancore State. Malabar forests, it is well known, with their spurs projecting into Mysore, Coorg and as far as North Canara, form the most favourable situation for harbouring a varied and rich Amphibian fauna. It is not therefore surprising that practically all the known Indian members of Apoda are reported from this region, except the solitary instance of *Herpele Fuller* Alc. which has been described from Assam. Of these, *Ichthyophis* enjoys a wide distribution while species belonging to the genera *Uraeotyphlus* and *Gegenophis* are, so far as is known at present, confined to the western belt of Malabar and Wynaad. We have now five species definitely assigned to the genus *Uraeotyphlus* and of these, *U. sarpeshini* Dum. occurs in Africa and the other four, *U. oxyurus* Dum. and Bibhr., *U. malabaricus* Bedd., *U. menoni* Annan. and *U. narayani* n.sp. seem apparently restricted to a comparatively small area. *Gegenophis carnosus* Bedd. is known only from Wynaad and Travancore and has not been taken from other parts of India. The concentration of Apodan population in the western ghats must give rise to many interesting problems in the study of the distribution of these amphibians and when our knowledge of all the ecological factors involved in the reaction of these animals to their environment is completed, we may be able to account for the abundance of Apodan life within a narrow zone. The members of the three genera, *Ichthyophis*, *Uraeotyphlus* and *Gegenophis*, occur in South India in identical physical conditions and naturally *Uraeotyphlus* and *Gegenophis* may be expected to be co-extensive with *Ichthyophis*. In this connection it may be noticed that
another interesting Apodan genus *Herpele* whose congeners occur in tropical America and West Africa has been reported from the northeastern corner of India. The discontinuous distribution of *Herpele* is accounted for by Alcock (1904) by invoking the theory of a Tethyan Sea which, as he has pointed out, explains the remarkable coincidence of the occurrence of a large number of sub-littoral genera of hermit crabs wherever *Herpele* and other Apodan genera are found. He explains the alternate theory of a land-connection well known by the name "Lemuria" as a probable explanation of the zoogeographical problems concerning *Herpele* and *Uraeotyphlus*. It is probable that when all the twenty genera including *Idiocranium* from Africa described recently by Parker (1936) into which the order Apoda Batrachia is divided should be investigated, they may be found to be erected "on comparatively slight grounds, and several of these genera are probably unnatural, the distinctive characters having undoubtedly been developed independently in various countries" (Gadow, 1923, p. 89). The problems of distribution can be understood when geological evidence of a sufficiently convincing nature supported by zoological testimony and by ecological studies is accumulated and until then, our interpretation must to a large extent be tentative.

While examining the Kottayam material I found that the specimens differed in material respects from the published descriptions of *Uraeotyphlus oxyurus*, *U. malabaricus* and *U. menoni*. In order to clarify the position a few specimens from Kottayam were forwarded to the Director, Zoological Survey of India, for the purpose of comparison with the collection in the Indian Museum and Dr. Baini Prasad reported that they differed from the material in his possession. However, as *U. malabaricus* was not contained in the material at his disposal, he advised the despatch of some specimens to Dr. Malcolm Smith with a request that they may be examined more fully with reference to the collection of Apoda in the British Museum. The result of these two examinations was that the Kottayam specimens differed from the known forms and that they probably represented an undescribed species. I take this opportunity of thanking Dr. Baini Prasad and Dr. Malcolm Smith for their numerous acts of kindness and courtesy. In this connection I must gratefully record the encouragement given to me by Dr. Baini Prasad who has generously placed the type and co-type of *Uraeotyphlus menoni* for my study and my warmest thanks are due to him for this singular act of friendship. Throughout my work I have received numerous helpful suggestions from Prof. A. Subba Rau whom I have great pleasure in thanking.

I have great pleasure in associating with this new species of *Uraeotyphlus* the name of Prof. C. R. Narayan Rao, till very recently Professor of Zoology