SOME NOTES ON THE POSSIBLE REPLACEMENT OF TEETH IN *GAVIALIS GANGETICUS*

WHERE there is a continuous succession of tooth formation in a jaw, the new teeth erupting in close proximity to its predecessors, as in some species of fish, the succession has sometimes been termed "endless", but it is doubtful whether there is the constant loss and replacement which is commonly supposed to occur.

Revolving of the tooth-bearing area is out of the question at any rate in crocodiles where, according to Richard Lydekker (1896), the teeth are confined to the margin of the jaw, replacement occurring rather at the base of a shed tooth and in the same position as that of the previous tooth.

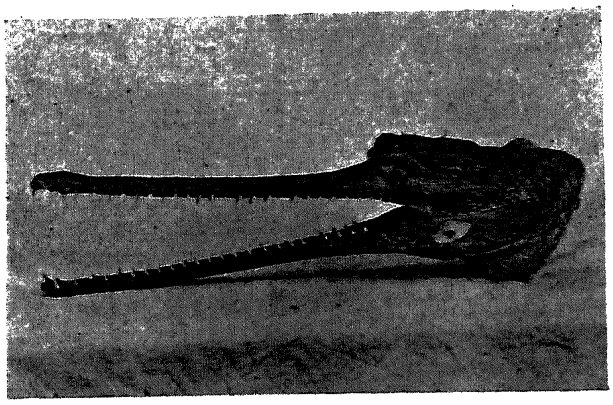
In *Gavialis gangeticus* the almost uniform spacing of the erupted teeth and the almost uniform size of many in a mature specimen shot by S. U. Nasmith in the Ganges does not support the belief that the teeth are at all commonly shed in this fish-eating species.

Although teeth may be missing or worn in old African crocodiles it is usual for the size of the teeth to correspond with the age of the individual which points to the conclusion that some at any rate are the original teeth and that only a few teeth have been shed and replaced during life.

There has been a tendency to apply human experience and what is known to occur in species with deciduous and permanent sets of teeth to all reptiles and it is even stated that the reserve teeth in a crocodile's jaw steadily push out the functional teeth, though dissection shows them independent in a hollow.

Although a new sharp tooth is usually visible at the place vacated by a shed tooth of a crocodile the phenomenon approaches that seen in the Mussel Crusher where some time elapses after a tooth is lost before the succeeding one appears, unlike the mammalian deciduous teeth whose shedding is hastened by osteoclastic action.

A successional tooth can be seen below the apex of many of the erupted teeth in a radiograph taken for me by Dr. Gordon Stewart of Durban but dissection of the *Gavialis* jaw would be necessary to determine how many exist below the twenty-nine teeth of the upper and the twenty-five teeth of the lower jaw.



Head of a twelve-to-thirteen feet specimen of *Gavialis gangeticus* shot by S. U. Nasmith, average length of exposed portion of tooth being approximately half an inch.

Experimental proof would be cruel and misleading but I have seen no sign of the apparently vestigial remains of teeth in crocodiles which I have sometimes noted in the hindermost rows of teeth in some sharks and fishes.

There can be no question that all crocodiles die with many of their reserve teeth unerupted and that, although these buried teeth serve for possible replacement when a functional tooth is lost, the production of teeth is excessive for their present needs.

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1. Cawston, F. Gordon, "Some Notes on the Opposing Surfaces of Teeth," *S. Afr. Dent. Jour.*, 1942, **41**, 408–10, No. 12. 2. —, "A Consideration of the successional theory of teeth," *Curr. Sci.*, 1942, **11**, No. 8. 3. Ditmars, Raymond, L., "Reptiles of the World," p. 64. 4. Lydekker, Richard, "Reptiles," *Roy. Nat. Hist.*, 1896, **5**.

PIGEONITE IN THE "ABNORMAL" DOLERITE DYKES OF CHARNOCKITIC AREAS IN MYSORE

CERTAIN "abnormal" dolerite dykes from the Biligirirangan Hills have been described by Mr. B. Rama Rao, Director of Geology, Mysore Geological Department. He describes the pyroxenes of these dykes as "pink to purplish, schillerized augite", elsewhere as "purplish to pinkish titanaugite."[1]

Dykes of a similar type have been noticed near Halagur and Dodkanya, two other Charnockitic areas in Mysore. The dykes traverse the general foliation of the gneisses with a rough east-westerly trend. Microsections of specimens of the dyke show plagioclase laths and pyroxene plates disposed in a sub-ophitic texture; in other specimens the pyroxenes cluster in glomeroporphyritic groups with an occasional felspar lath entangled between them, which, in ordinary light, imparts to the rock on ophitic texture; the interspaces between the glomeroporphyritic groups are intergranular with felspar laths; at other times, the interspaces have intersertal chloritic or amphibolic material between the felspars, imparting to the whole rock the "ophimottling" or "poikilophitic" texture.

The felspars are dusted with dark dotted inclusions mostly with a clear outer rim; they are twinned on the Albite Law, the most common type being oligoclase, and the most basic type being andesine; there are occasional crystals of microline, and of orthoclase twinned on the Baveno Law; some well-zoned crystals are also present.

The pyroxenes are purplish, showing characteristic pyroxene cleavages, most of them