Article VII.—A FOSSIL HEDGEHOG FROM THE AMERICAN OLIGOCENE.

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The Hedgehog family (Erinaceidæ) has hitherto been found only in the Old World (Europe, Asia, and Africa). It includes three living and five extinct genera, ranging from Lower Oligocene to recent. It has been divided into two subfamilies, one including the modern hedgehogs (*Erinaceus*) and one extinct genus (*Palæoërinaceus*), the other with two modern genera, *Gymnura* and *Hylomys*,— small rat-like East Indian insectivores,— and four extinct genera, *Necrogymnurus*, *Galerix*, *Lanthanotherium*, and *Tetracus*. The subfamilies are distinguished as follows:

Erinaceinæ. — Dentition $\frac{3.1.3.3}{2.1.2.3}$. Palate imperfectly ossified. Pelvis wide. Fur with spines.

Gymnurinæ. — Dentition $\frac{3.1.4.3}{3.1.4.3}$. Palate completely ossified. Pelvis very narrow. Fur without spines.

A related but more primitive family, the Leptictidæ, is found in the American Eocene and Oligocene. The dentition is unreduced (except that there are only two upper incisors), the molars subtriangular and extended transversely, while in Erinaceidæ they are subquadrate and not extended transversely. The Leptictidæ might, however, without serious straining of relationships, be included as a primitive subfamily of Erinaceidæ, with which they agree well enough in skeleton and in most skull characters. There are four described genera, *Palæictops* from the Middle Eocene, *Leptictis*, *Ictops*, and *Mesodectes*, from the Lower Oligocene of the Western United States.

A true Hedgehog, of the Erinaceine subfamily, is represented by the front half of a skull from the Upper Oreodon Beds of South Dakota, found by Dr. F. B. Loomis of the American Museum Expedition of 1902. The dentition is that of *Erinaceus*, but the teeth are less specialized, and in several

respects resemble those of the Leptictidæ. The reduced premolars and short facial portion of the skull exclude it from the Gymnurinæ, but the teeth resemble quite nearly those of *Necrogymnurus*,[1] and the palate does not show the defective ossification of *Erinaceus*. The last molar is small and tritubercular as in *Hylomys*, *Necrogymnurus*, and *Galerix*. In *Gymnura* it is large and extended longitudinally; in *Erinaceus* small and reduced to a transverse blade. The teeth are more extended transversely than those of *Erinaceus*, and retain considerable indications of the tritubercular form of molar from which they no doubt originated. Their pattern, however, is definitely Erinaceid, with two equal outer and two equal inner cusps, a smaller separate median cusp (metaconule), and an antero-median ridge from the antero-internal cusp (protocone) to the antero-external cingulum.

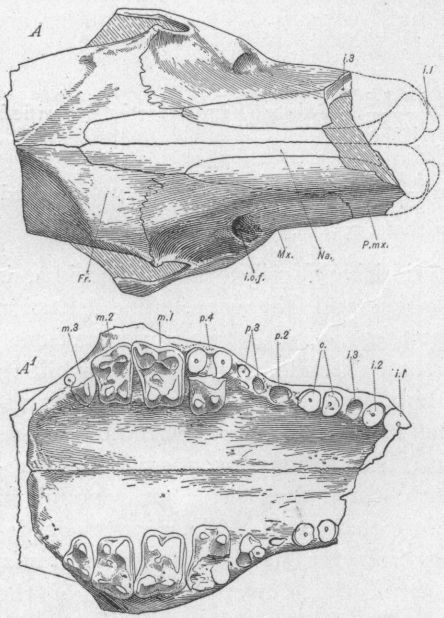

Fig. 1. *Proterix loomisi*. Type specimen, twice natural size. *A*, anterior part of skull from above; A^1, palate from below.

This hedgehog forms a connecting link between the Erinaceine and Gymnurine subfamilies, and to some extent between Erinaceidæ and Leptictidæ. It seems impossible to place it in any of the described genera, and it is therefore named:

Proterix loomisi, gen. et sp. nov.

Dentition $\frac{3 \cdot 1 \cdot 3 \cdot 3}{}$. I^1 enlarged. C^1 large, two-rooted. P^2 small, one-rooted. P^3 small, three-rooted with well developed deuterocone. P^4 large, molariform, with small hypocone.

[1] Relying on Dr. Leche's very careful figures and descriptions.

M^1 and m^2 wider than long, quadrate with two external and two internal cusps of about equal size and a small separate postero-intermediate cusp (metaconule), the antero-internal cusp (protocone) with a ridge running out towards the antero-external margin. M^3 trihedral, small, not extended transversely, paraconid and metaconid equal and well separated, no hypocone. Palate completely ossified, its posterior margin as in *Erinaceus*. Skull bones arranged much as in *Erinaceus*, a well defined sagittal crest; premaxillæ not reaching frontal bones.

Measurements.

Maxillary dentition, c–m^3 inclusive	18.4 mm.
Transverse width of palate including molars	17.6
Depth of skull, junction of postorbital crests to palate	16.8
Length of three true molars (antero-posterior)	7.9
Antero-posterior diameter of m^1	3.4
Transverse " " "	4.8
Antero-posterior " " m^2	2.9
Transverse " " "	3.9
Antero-posterior " " m^3	2.0
Transverse " " "	2.8

RANGE OF THE ERINACEIDÆ AND LEPTICTIDÆ.

	Europe.	Asia.	Africa.	North America.
Modern.	Erinaceus.	Erinaceus. Gymnura. Hylomys.	Erinaceus.	
Pleistocene.	Erinaceus.			
Pliocene.	Erinaceus.			
Miocene.	Erinaceus. Galerix. Lanthano-therium.			
Oligocene.	Palæoërina-ceus. Tetracus. Necrogym-nurus.			Proterix. Leptictis, Mesodectes. Ictops.
Eocene.				Anisacodon ? Passalaco-don. Palæictops.