A New Species of Porcupine from the Later Cenozoic of Idaho
Author(s): Robert W. Wilson
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The excessive abundance of crocodiles in the East African rivers, rather than the absence of forage, probably accounts for the scarcity of dugongs there. What sort of marine plants are eaten seems a mystery; the Persian and Arabian Gulfs and the Red Sea appear comparatively free of large seaweed masses; recently, however, the writer noticed peculiar "slabs" of, presumably, some dark reddish growth, about 3 to 5 feet long by 1 or 2 feet wide, floating just below the surface of the Red Sea.

Perhaps the most obvious anatomical difference between the manatee and dugong lies in the structure of the penis. In the dugong this organ is moderately long, rather slender, and possessed of a distinct glans which has both a prominent processus urethrae protruding from a peculiar fossa and a córona. The body of the organ can be extended some 10 to 15 inches (in an 8-foot specimen) beyond the sheath opening, which is flush with the ventral surface.

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North Clarendon, Vermont.

A NEW SPECIES OF PORCUPINE FROM THE LATER CENOZOIC OF IDAHO

BY ROBERT W. WILSON

One result of continued exploration for fossil vertebrates in the late Cenozoic sediments of the Snake River Valley by the United States National Museum was the discovery, during the summer of 1934, of a ramus of a fossil porcupine in deposits exposed near Grand View, Idaho.[1] This specimen has been kindly loaned to me for study and description by Dr. C. Lewis Gazin. Interest attaches to the specimen since it represents not only the oldest *Erethizon* to be recorded from the North American region, but also the first remains of porcupines to be found in this area in beds other than cave or fissure accumulations.

Erethizon bathygnathum, new species

Locality—Castle Butte, 13 miles northwest of Grand View, Owyhee County, Idaho.
Type—Fragmentary left ramus with P_4-M_2, no. 13684, U. S. National Museum.
Horizon—Idaho Formation (?); upper Pliocene or lower Pleistocene.
Specific Characters—Ramus deeper and more massive than in Recent species of *Erethi-*

[1] For the principal fossil localities where rodent material has been obtained, see Wilson, R. W., Carnegie Inst. Washington, Publ. 440, p. 120, fig. 1, 1933. For a description of fossil lagomorph material obtained in the Snake River basin, see Gazin, C. L., Proc. U. S. Nat. Mus., vol. 83, no. 2976, pp. 111–121, figs. 1–5, 1934.

zon. M_1 and M_2 in comparison with P_4 relatively larger than in the Recent North American porcupines. Size slightly larger than *Erethizon epixanthum nigrescens.*

Description—The ramus of *Erethizon bathygnathum* is deep and massive. This is especially noticeable in the anterior portion, in the region of the symphysis. The anterior border of the coronoid meets the horizontal ramus opposite the posterior roots of M_2. The shelf-like excavation for attachment of the masseter medialis is not preserved in *E. bathygnathum.* However, enough of the fossil jaw is present to suggest a somewhat more posterior termination of the masseter medialis ridge or its lesser development. Individual variation in the formation of this ridge among recent specimens indicates the possibility that with a complete ramus at hand no peculiarities of this part of the fossil jaw might be noted. The masseter lateralis ridge presents a less angulate appearance than in recent *Erethizon* of the same age, and rounds into the inferior surface of the ramus. Attrition resulting from transportation before burial may have modified the original shape of the masseter lateralis ridge in the type specimen.

The considerably worn dentition shows a typical *Erethizon* pattern. P_4 is somewhat shorter and broader than in most recent specimens of *Erethizon.* The anterior lake is

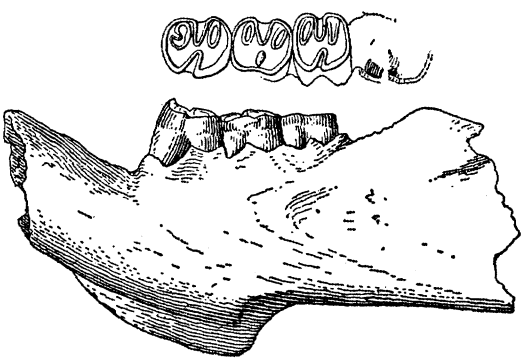

FIG. 1. *Erethizon bathygnathum,* n.sp. Type specimen, left ramus with P_4-M_2, no. 13684, U. S. Nat. Mus., lateral and occlusal views; natural size. Grand View, Idaho. J. L. Ridgway, *del.* It is to be noted that in the figure the jaw has been tilted sufficiently to bring the symphysial border into view.

complicated by a small re-entrant fold. M_1 is slightly longer than broad. This tooth is much worn and the external re-entrant fold is isolated. M_2 differs from M_1 in having the transverse diameter greater than the antero-posterior diameter, and in being slightly less worn. M_1 and M_2 are noticeably larger in respect to P_4 than in recent individuals of *Erethizon dorsatum dorsatum* and *E. epixanthum nigrescens.* The size of the animal represented by no. 13684 would appear to be slightly larger than that of individuals of recent species, if comparisons with rami of *E. e. nigrescens* and *E. d. dorsatum* are dependable.

Remarks—The occurrence of porcupines in the fossil record of the North American region is rare. Both recent species of *Erethizon,* namely *E. dorsatum* and *E. epixanthum,* have been recorded from middle or late Pleistocene cave or fissure deposits. The only extinct species so far described is *E. godfreyi* (Allen, 1904), from a volcanic fissure in Arizona, and probably of late Pleistocene age. This species is represented by a single specimen consisting of a rather complete skull. Although direct comparisons with *E. bathygnathum* can not be made, *E. godfreyi* apparently represents a somewhat smaller species.

Hystricops venustus (Leidy, 1869, p. 343), reported from the Pliocene of the Niobrara

River (Snake Creek) has been assigned at different times to the porcupines and to the beavers. The original material consisted of two isolated upper molars, and no additional remains have since been obtained. At the present time it is apparently impossible to place this genus systematically. From what is known of our Tertiary rodent faunas it seems likely that *Hystricops* is a member of the Castoridae. However, the finding of the Snake River material pushes back the known history of the Erethizontidae to upper Pliocene or lower Pleistocene and suggests perhaps that hystricomorphs were present in the North American area in earlier Pliocene times. Presence of edentate remains in the upper Snake Creek indicates that South American types were penetrating the northern region at this time.

No direct comparisons between *Erethizon bathygnathum* and *Hystricops* can be made. The type molar of *Hystricops*, however, seems much too large to fit into an upper dentition like that which *Erethizon bathygnathum* probably had. The presence in *E. bathygnathum* of a lower dentition very similar to that of the recent *Erethizon* makes an association of these mandibular teeth with upper molars like those illustrated by Leidy for *Hystricops* seem highly improbable.

Comparative measurements (in millimeters)

	E. bathygnathum U. S. N. M. Grand View no. 13684	*E. d. dorsatum* Dickey Coll. Recent no. 11504	*E. e. nigrescens* Dickey Coll. Recent no. 6764
Alveolar length of toothrow, P_4-M_3	33.6 (a)	31.1	30.4
Crown length of toothrow, P_4-M_2	22.5	21.4	20.8
P_4, antero-post. diam. of crown	8.5	8.5	9.5
P_4, transverse diam. of crown	7.7	6.9	7.6
M_1, antero-post. diam. of crown	7.2	6.7	6.0
M_1, transverse diam. of crown	7.1	6.5	6.1
M_2, antero-post. diam. of crown	6.8	6.7	5.9
M_2, transverse diam. of crown	7.3	6.4	7.0
Depth of jaw below M_2	19.5	17.9	16.8
Depth of jaw below ant. end of P_4	24.3	19.8	19.2

(a) Approximate.

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Balch Graduate School of the Geological Sciences,
California Institute of Technology,
Pasadena, California