



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ON TWO NEW SPECIES OF SAURODONTIDÆ.

BY E. D. COPE, A.M.

PORTHEUS LESTRIO, Cope.

Represented by a portion of the cranium, including both mandibular rami, and the maxillary and premaxillary bones of one side, all with dentition nearly complete. The size of these parts considerably exceeds that of corresponding ones in the two other species of the genus, and indicates a large and powerful fish. It differs from the *P. molossus* and *P. thaumas*,¹ in having three premaxillary teeth instead of two, and in the relative positions, numbers, and sizes of the other teeth; also in the prominent edentulous superior distal extremity of the dentary bone.

The first premaxillary is very large, the two others of moderate size. These are followed by a long rugose diastema before the maxillary teeth begin; these are, one small, five large, twenty-two small, and eleven or twelve very small. The mandibular teeth are, one very large, one immense, one small, one medium, four small, eight large, and two small; total eighteen. The teeth are all simply round or oval in section, and the external, probably cementum layer, is smooth. The maxillary bone has two large superior proximal condyles, separated by a space; the anterior is the narrower, and is directly behind the premaxillary condyle. The anterior margin of the latter bone is very rugose.

	M.
Length of tooth line of upper jaw . . . . .	.300
" " premaxillary . . . . .	.058
Depth, premaxillary (axial) . . . . .	.095
" maxillary at second condyle . . . . .	.095
" " twentieth tooth . . . . .	.065
Diameter base first premaxillary tooth . . . . .	.018
" bases five large maxillaries . . . . .	.052
Length of dentary above . . . . .	.270
Depth at second large tooth . . . . .	.095
" at last tooth . . . . .	.105
Diameter base first large tooth . . . . .	.013
" " second " . . . . .	.020
Length crown of second large tooth . . . . .	.050
" " sixth from behind . . . . .	.025

¹ See Proceedings Am. Philosophical Society (On Fishes of the Kansas Cretaceous) January, 1872.

If of the same proportions as the *P. molossus*, the vertical diameter of the head of this fish would be twenty-three inches.

A complete cranium of a *Portheus*, probably the *P. molossus*, for which I am indebted to my friend Professor Merrill, of Lincoln University, at Topeka, Kansas, furnishes several points of interest previously unknown. The mouth is nearly vertical, somewhat as in *Osmeroides*, while the vertex is surmounted by an elevated crest. Hence the superior and inferior facial outlines meet at a right angle at the muzzle. The orbit is small, and there is a suborbital chain of laminiiform bones. The elevation of the skull is 16.75 inches, while the length is only 12.75 inches.

The specimen of *P. lestris* was procured by Professor B. F. Mudge, of Manhattan, Kansas, during his survey of 1872, near the Solomon River. Prof. Merrill's specimen was obtained from the same region.

PORTHEUS GLADIUS, Cope.

Established on a spine of the kind which I have supposed to be pectoral, and which resembles one I have described (loc. cit., p. 332) as from *P. molossus* or *P. thaumas*. It is, however, relatively much thicker than that one, and absolutely much larger, and might pertain to the *P. lestris*, but there is no evidence to that effect.

When complete, the spine measured, according to Professor Mudge, forty-one inches in length; the portion now before me measures thirty-one inches. The margin is exceedingly acute and is coated with an enamel-like layer, which conceals the rods of which the spine is composed. Near the middle of its length these rods number thirty, but whether the entire width is preserved is uncertain. The transverse section is a crescent from the base to beyond the middle, the surface being thus somewhat trough-like. The spine has been somewhat distorted by pressure, but I cannot discover that the form in question is entirely due to that cause. The edge is excavated and notched at irregular points, indicating the frequent use to which this formidable weapon was put during the life of its possessor.

	M.
Total length (<i>vide</i> Mudge)	1.040
Width near middle . . . . .	.175
Thickness posteriorly in middle . . . . .	.012

Discovered by Prof. Mudge near the upper waters of the Solomon River, Kansas.

DAPTINUS, Cope, gen. nov.

This genus is proposed for the *Samocephalus phlebotomus*, Cope.

The form of the crowns of the teeth is that of *Samocephalus* and *Erisichthe*, but it differs from the latter in their perfect equality of size. It differs from the former in the position of the nutritious foramina of the inner side of the dentary bone, for instead of forming an independent series as in that genus, they only appear as notches on the inner margins of the alveoli. But one species is known as above, which is from the Niobrara cretaceous of Kansas.