

# DIAGNOSIS OF A NEW GENUS AND SPECIES OF FOSSIL SEA-LION FROM THE MIOCENE OF OREGON

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At the suggestion of Mr. Wm. H. Dall, the National Museum purchased from Mr. B. H. Cammann of Empire City, Coos County, Oregon, in 1898, a portion of a large fossil skull from the soft Miocene sandstone of that locality. The specimen, as I am informed by Mr. Dall, was found by Mr. Cammann in the sandstone bluff on the east side of the lower part of Coos Bay, between Empire City and the "south slough," in the formation to which Mr. J. S. Diller has given the name of the "Empire Beds."

Upon examination, the skull proves, as Mr. Cammann had supposed, to be that of a sea-lion. It represents a genus allied to *Eumetopias*, but much larger. The fragment consists of the brain-case, or cranium proper, together with the pterygoids and the palatines as far forward as the posterior end of the hard palate. Both zygomatic processes of the squamosal are broken off near the root, and the right parietal bone has been lost, leaving a large opening through which the whole interior of the brain-case can be examined. The tympanic bullæ are crushed and splintered off down to the level of the basioccipital and so mingled with the matrix that their form is lost. The surrounding foramina are also obliterated, and the base of the skull thus presents a broad, nearly flat surface, the appearance of which is, at first sight, very misleading. In other respects, however, the fragment is in an excellent state of preservation, and presents characters which plainly indicate its affinities.

It has been deemed desirable to publish the following diagnosis and measurements in advance of a full description, with figures, which will appear later in one of the publications of the U. S. Geological Survey.

## PONTOLEON new genus

Similar to *Eumetopias*, but with the ventral surface of the basioccipital nearly plane, and the dorsal surface strongly concave. Postglenoid process of the squamosal strongly produced distally and directed somewhat posteriorly, so that the glenoid fossa is broader

distally than proximally. Dorsal surface of squamosal, between the wall of the cranium and the zygomatic process, concave antero-posteriorly throughout its whole extent. Hard palate abbreviated, the posterior margin concave.

. **PONTOLEON MAGNUS** new species

Size much larger than that of the largest of existing eared-seals. Skull when complete probably about 50 cm. (or 20 inches) long.

DIMENSIONS OF THE TYPE-SKULL OF *Pontoleon magnus* AND OF TWO ADULT SKULLS OF *Eumetopias jubata*.

Measurements.	<i>Pontoleon magnus</i> Type No. 3792.	<i>Eumetopias jubata</i> .	
		Bering Id., Kamchatka No. 49729.	St. Paul Id., Alaska, No. 49730.
	cm.	cm.	cm.
Total length (basi-cranial).....		40.1	36.5
Total height posteriorly (from line of occipitomastoid processes to top of occipital crest in a straight line ..	19.1	17.0	15.2
Greatest breadth between occipitomastoid processes.....	24.8 <sup>1</sup>	23.2	21.6
Greatest breadth between outer margins of zygomatic processes of squamosal.....	25.0 <sup>2</sup>	23.9	23.1
Greatest breadth between outer margins of occipital condyles.....	11.0	9.0	8.6
Height of occiput from upper margin of foramen magnum to top of occipital crest.....	11.2	9.2	8.1
Height of foramen magnum.....	5.7	4.5	4.7
Breadth of foramen magnum.....	4.1	3.9	3.7
Length of an occipital condyle.....	8.1	6.2	6.4
Breadth of an occipital condyle.....	3.7	3.4	3.1
Greatest transverse breadth of occipital crest.....	15.4	15.8	13.8
Breadth between occipital condyles inferiorly.....	1.7 <sup>3</sup>	2.1	1.7
Greatest breadth of occipitomastoid process antero-posteriorly.....	7.1	5.9	5.2
Distance from inferior margin of foramen magnum to outer inferior angle of exoccipital.....	8.6	8.2	7.8
Distance from outer inferior angle of exoccipital to postglenoid process of squamosal.....	10.2	7.8	7.2
Distance from inferior margin of foramen magnum to tip of hamular process of pterygoid.....	13.4	11.6	10.9
Distance from tip of hamular process of pterygoid to posterior end of hard palate.....	10.2	6.0	5.1
Distance from surface of occipital condyles to end of hard palate.....	24.1	19.1	17.2
Greatest breadth between outer walls of ascending plates of palatines at their posterior end.....	8.6	5.7	5.6
Greatest breadth of posterior nares.....	5.1	3.6	3.9
Length of glenoid fossa of squamosal (transverse).....	7.1	7.5	6.3
Length of glenoid fossa of squamosal (antero-posterior).....	4.1	3.9	3.2

<sup>1</sup> Actually 24.0 cm., but the left side is broken and 0.8 cm. has been added to agree with the right side.

<sup>2</sup> Actually 23.0 cm., but the right side is broken.

<sup>3</sup> The condyles are a little defective below.

Distance from the occipital condyles to the posterior end of the hard palate nearly equal to the mastoid breadth of the skull. Occipitomastoid processes widely divergent, compressed laterally, nearly plane internally. External wall of the ascending plate of the palatines thickened, forming a strong rounded ridge. Posterior nares as broad as deep.

*Type*.—No. 3,792, U. S. N. M. (Vert. Pal.). Empire Beds (Miocene) of Empire City, Oregon. Collected by B. H. Cammann.