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MATERIAL CONCERNING SEVERAL GROUPS OF LATE CENOZOIC
VERTEBRATES OF THE UKRAINE

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Examined in the articles are problems of morphology, systematics, and distribution of true seals, hipparions, lizards, and snakes from some finds of the late Miocene–early Pleistocene period in the Ukraine.

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The position of the genus *Praepusa* in the Phocinae system

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Among the sea mammals of the Neogene Period of interest to us are the true seals. Remains of these pinnipeds are more numerous in the middle Sarmatian–Meotian deposits along the northern Black Sea littoral, and especially in the Ukraine, Romania, Hungary, Czechoslovakia, Austria, and Belgium. They are also found in Turkey. In spite of their wide dispersion, their relatively numerous remains, and long-standing research, many important problems of morphology, ecology, phylogeny, and systematics of the group to date have not been determinate. All of this applies to the genus *Praepusa* that we studied, which was described by M. Kretzoi in 1941 (Hungary).

In Kretzoi's first description (1941) he marked the holotype, presented a schematic drawing of the mandible, made some measurements, and considered this fully adequate in singling out a new taxon of a generic rank.

Similar publications with inapplicable or missing diagnosis without a generally acceptable method of describing and determining the remains contributed toward complicating the nomenclature of most of the taxa of subfamilies of the true seals and the comparability of written facts (Eichwald, 1850; Nordmann, 1858; Alekseev, 1924; Simionescu, 1925).

Furthermore, an unsatisfactory condition of systematics of the Phocinae has developed because classification of fossil representatives of true seals was for a long time based on the morphology of postcranial skeleton. Many authors described new species related either to the single genus *Phoca* or to a new genus, while ignoring the morphology of the skull. At the same time, the classification of modern true seals, on the other hand, is based exclusively on the morphology of the skull, and neither the specific characteristics of the mandible nor the structure of the postcranial skeleton are taken into account.

For these reasons it is currently practically impossible to compare the taxa of the Neogene Period with modern phocines. Therefore, most monographic reports, as a rule, do not

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take into consideration either the fossils or the modern taxa of the subfamily (Ognev, 1935; Geptner, 1976; Gromov, 1981). Dr. Kretzoi's service consists in that for the first time he attempted to combine both of these approaches based of fossil fragments, which unfortunately he was unable to do in full.

In 1984 when describing the species *Praepusa tarchankutica*, I diagnosed the genus *Praepusa* for the first time and compared it to other genera of the subfamily Phocinae. But in recent years a collection of craniological remains of the present species was found along the northern Black Sea littoral that confirms the specific independence of the Hungarian seal, substantially adds to its morphological characteristics, and permits one to make a species diagnosis, clarify the generic diagnosis, and compare it with other representatives of the species, as well as broaden the natural habitat of this species.

Praepusa pannonica Kretzoi, 1941

Fig. 1a

Holotype: Mandible with M_1 and alveolus I_2 – P_4 (Kretzoi, 1941), number 1. Lower–middle Sarmatian in Hungary.

Material and location of finds: Incomplete left body of the mandible, unnumbered; Lime quarry near Kishinev (Moldavia); collection of the Tiraspol State Pedagogical Institute.

Incomplete right body of the mandible, unnumbered; middle Sarmatian; collection of the Paleontological Institute of the USSR Academy of Sciences (Moscow).

Diagnosis: The chin prominence is located under P_3 – P_4 in the lingual direction. The length of the P_4 alveolus exceeds than of M_1 . The diastema between P_3 – P_4 is smaller than between P_4 – M_1 .

Description: The true seal is closer in size to the modern ribbon seal (*Krylatka*). The body of the mandible is low, the symphysis part is blandly rounded, the chin prominence is well defined and directed lingually. The base of the body of mandible under P_3 is slightly concave. The rami of the mandible were not preserved. The cheek teeth are located along the axis of the mandible, with small diastemata, except for P_4 – M_1 where the length of the diastema reaches 3.5 mm. The P_4 alveolus is larger than that of M_1 . P_1 has a single root and the rest are double-roots.

Comparison: From *Pr. tarchankutica* the type-species is distinguished by a larger size of the mandible, teeth and a higher projection of the chin prominence and a long row of P₁–M₁. Although some measurements such as the height of the mandible behind M₁, the length of the I₁–M₁ row and some others overlap, nevertheless, the small series on hand enables us to determine that this similarity is generic (see Table).

Observation: The lack of complete data and the absence of a description of the Hungarian species leaves some doubts about whether the material from Moldavia belongs to this species. In fact, based on written evidence, the Moldavian finds cannot be diagnosed more precisely than Phocini. Still, judging from the finds on hand, the size of the teeth and the diastemata between them, and the location of the chin prominence enable us with ample certainty to relate this true seal to the species *Pr. pannonica*. From our point of view such a step is more expedient than singling out another taxon.

For more complete idea about the species one should be in mind the size of the tibia and the fibula designated by Kretzoi as a paratype (with measurement of the proximal part of the tibia – 35.0 mm; the width of the distal part of the fibula – 17.0 mm).

Distribution: Lower?–middle Sarmatian in Hungary, and middle Sarmatian in Moldavia.

There are still many unexplained questions in the taxonomy of the family Phocidae. For instance, there are no clear criteria for dividing them into tribes, genera, and species. For example, the *Pusa sibirica* has always belonged to the genus *Pusa*, but it is more akin to the genus *Phoca* on the basis of morphological characters of the mandible, teeth, and structure of the postcranial parts of skeleton. Like many other questions the matter of whether the species "*Phoca*" *maeotica* belong to the Phocinae or to the Monachinae is still not resolved. One may hope that the aforementioned results will open up new vistas in studying the indicated groups of pinnipeds, and will enable researchers to view in a new way some of the problems of taxonomy of ancient as well as contemporary representatives of the family Phocidae.

Table. – Measurements of the mandibles of *Praepusa pannonica*

Characters	Hungary;	Moldavia	
1. Length of I ₁ –M ₁ row	35.5	–	–
2. Length of P ₄	7.0	9.0	10.0
3. Length of M ₁	7.0	7.0	8.0
4. Length of P ₁ –M ₁ row	31.5	–	–

5. Width of M ₁	2.7	–	–
6. Height under M ₁	10.0	15.0	–
7. Height under P ₂	9.0	–	–
8. Height behind M ₁	9.0	13.0	15.0
9. Height between P ₃ –P ₄	11.0	16.0	15.0
10. Thickness under M ₁	–	6.0	6.5
11. Diastema between P ₄ –M ₁	3.0	3.0	3.5

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