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ABSTRACT BOOK

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Anancus in Turkey

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Although the remains of bunodont mastodons are typical for Miocene localities of Turkey, the data about late representatives of the aforementioned genus *Anancus* from the south Black Sea region are very scanty. *Anancus* ex gr. *arvernensis* were widespread in Pliocene and Early Pleistocene deposits at adjacent to territory of Turkey (Bulgaria, Rumania, Ukraine, Moldova, south of Russia, Greece) and other south European regions (Hungary, France, Italy) though the Turkish records are the least known. In this study, we present some unstudied *Anancus* fossils from Late Miocene - Early Pleistocene sites of Turkey.

Develi (EUNHM): This material was found by former Prof. Ozansoy during late 1970's in Develi (latest MN13) site and belongs to the Vertebrate Paleontology collections of EUNHM (Ege University Natural History Museum, Izmir). The material is composed of a pair of well-preserved upper M3 and an upper and a lower tetralophont intermediate molar. In the former studies, they were referred to as *Tetralophodon longirostris*. Upper M3 is distinguished from the following Anatolian Plio-Pleistocene *Anancus* records by the weak anancoidy, less developed central conules and its larger dimensions. Turolian anancines are known from many European localities in Spain, Germany, Hungary and Bulgaria. In the context of paleobiogeography, Bulgaria and Turkey, mostly share same proboscideans during Turolian and a common anancine during Mio-Pliocene boundary sounds plausible. Morphologically and metrically, Develi specimen is closest to Turolian form, *Anancus turoliensis*. Since the whole faunal study is in progress, we tentatively identified our material as *Anancus* cf. *turoliensis*.

Sabuncubağlari (Edirne Archaeology Museum): We came across this fragment of lower right jaw with m3 which was found 50 years ago by Prof. Kansu, in the exhibition of Archaeology Museum of Edirne. The specimen was labeled as "*Choerolophodon pentelicum*", a single record from a locality, which is an abandoned Pleistocene sand pit. The relatively large tooth is composed of 5 lophs, excluding well developed posterior talonid and with some intermediate conules in the valleys. The size and the morphology of the tooth is similar to the same of Pliocene *A. arvernensis* ex gr. *arvernensis-brevirostris* (MN 14-15).

Çobanisa (EUNHM): The material is represented by single isolated incomplete m3 composed of 5 lophs, excluding a small posterior talonid. There are few additional intermediate conules in valleys of lower and upper teeth. Size of teeth is intermediate between Early Pleistocene *A. arvernensis alexeevae* and Late Pliocene *A. arvernensis arvernensis*. Taking into consideration the morphological features, this form is closer to *A. arvernensis arvernensis*. According to accompanying fauna from the site we suppose the late Early Pliocene age (MN15).

Saruhanli (EUNHM): The material is rather numerous, represented by an upper M3, a lower jaw with m2-m3,

and a fragment of right lower jaw with incomplete m3. Upper M3 is composed of 5 lophs and a small talon and characterized by thick coating of cementum in the transverse valleys and a rather simple crown with slightly undulated enamel. Lower jaw is composed of a typical tetralophodont intermediate molar and a m3 with 5 lophs (+ talonids) and expressed anancoidy. Since the additional intermediate conules around the valleys are not numerous, the crown morphology looks rather simple. The size is similar to Pliocene *A. arvernensis arvernensis*.

Yukarısöğütözü (Eskisehir Archaeology Museum):

During 2012-2013, one of us (SM) came across some new material from this locality which has been housed in the Archaeology Museum of Eskisehir town (NW Turkey). This new collection is comprised of mostly Proboscidean fossils, including 4 specimens of well-preserved *Anancus* remains as well as archaic mammoths. The *Anancus* collection is comprised of two upper M3's of different individuals and enamel-free upper tusk pairs of an adult male. Larger M3 consists of 6 transverse ridges (+talon) and the other M3 is composed of 5 with a weakly developed talon. Both upper M3 show incipient anancoidy which refers to alternate position of the pretrite and posttrite cusps pattern, though the larger molar has slightly better developed anancoidy and undulated enamel due to the wear degree. In both molars, transverse valleys partly filled with cement, additional central conules are numerous and basal cingulum is weakly developed. Tooth morphology and measurements of this small *Anancus* form are intermediate between those of *A. arvernensis alexeevae* (MNQ 17, south of Russia) and *A. arvernensis chilhiacensis* (MNQ 18, France) and surprisingly close to the new introduced Spanish form *A. arvernensis mencalensis* (MN 17, Spain; Garrido and Arribas, 2014). By the complex of the fauna, this Pleistocene locality was dated as beginning of Middle Villafranchian (mammal zone MN 17).

In the context of this new study, we can pick out three forms of *Anancus* from the territory of Turkey for the first time. The first one, latest Turolian (late MN13) *Anancus* cf. *turoliensis* (Develi), which is the oldest record of the genus and clearly referred plausible paleogeographical connections between Eastern Europe and Turkey. The second form is the Pliocene *A. arvernensis* cf. *arvernensis* (Saruhanli, Sabuncubağlari, Çobanisa) with rather large teeth; 5 transverse ridges at M3/m3 with weakly developed talon/talonids, and not numerous additional intermediate conules in the valleys. The clear progressive size reduction trend, starting from Miocene finalized by the third form – smaller Early Pleistocene *Anancus arvernensis* cf. *alexeevae* (Yukarısöğütözü) with 6 lophs at M3 (or 5 lophs and developed posterior talon) and a rather complex crown pattern with numerous additional intermediate conules in valleys.

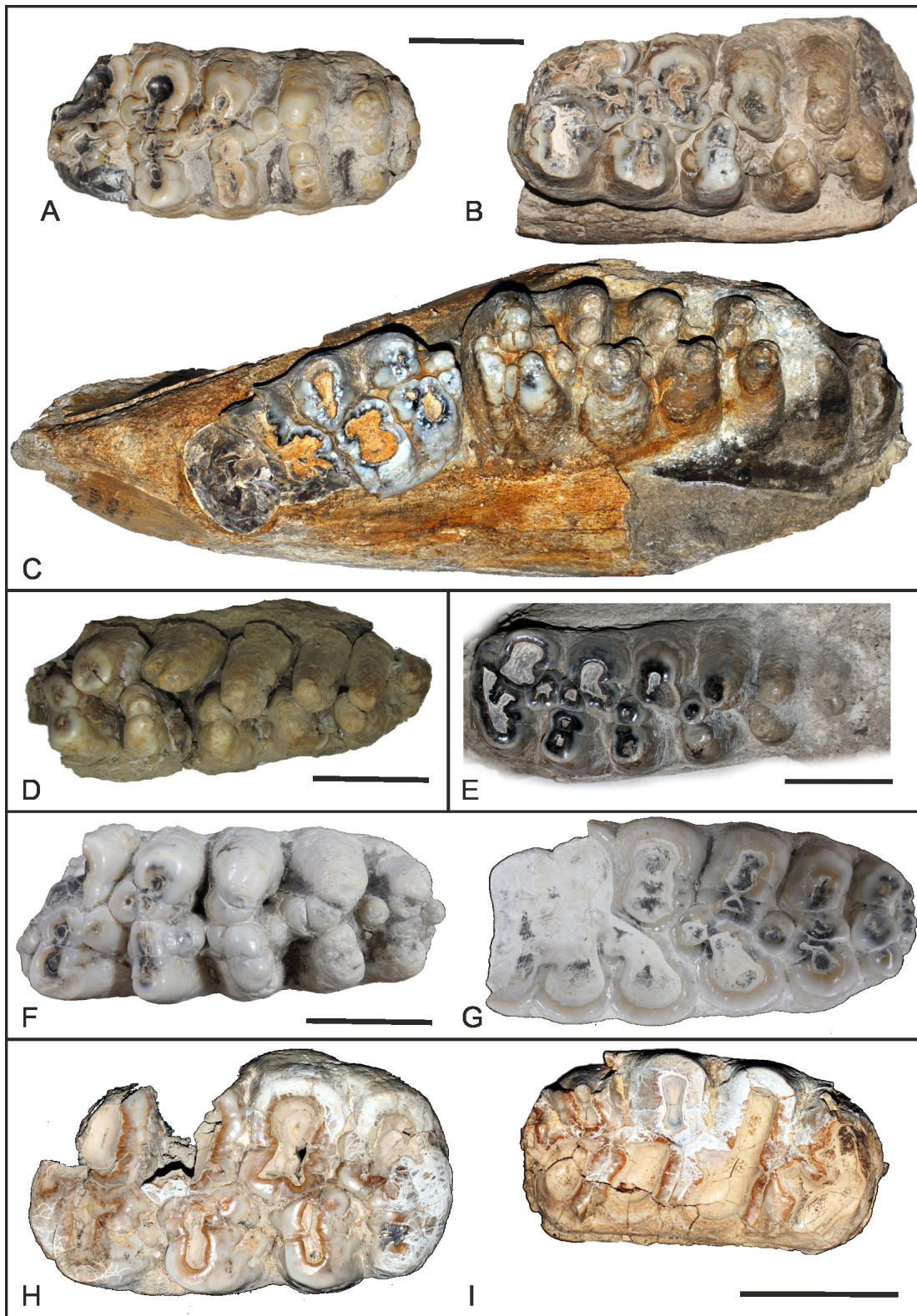


Fig. 1. Teeth of *Anancus* from territory of Turkey. *Anancus arvernensis* cf. *arvernensis*, Saruhanlı: A, Upper right M3; B, lower left m3; C, lower m2-3. Çobanisa: D, lower right m3. Sabuncubağları: E, lower right m3. A. *arvernensis* cf. *alexeevae*, Y.söğütönü: F, Upper right M3; G, Upper left M3. *Anancus* cf. *tuoliensis*, Develi: H, Upper right M2; I, lower right m2. Scale bar equals 5 cm.

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Reference

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