

AN EUROPEAN CASTOR OF THE QUATERNARY ERA, *CASTOR PLICIDENS* F. MAJ.

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ABSTRACT — *Castor plicidens*, described in 1875 by C. J. Forsyth Major, is an extinct species that lived in occidental Europe during the warm and the postglacial periods of the Quaternary era, from its beginning to the Neolithic age.

FROM the early Quaternary strata of the Val d'Arno superior (Toscana, Italy), C. J. Forsyth Major described in 1875 *Castor plicidens* that stands out from *Castor fiber* L. by an important dental character: the jugal-teeth's grinding surface presents "a complex and elegant plication of the enamel" (M. A. C. Hinton). However, as the first, C. Bosco (1899), noted it, this plication exists only on the amply worn teeth. For instance: (1) *Castor rosinae* F. Maj. (Günzian of the Val d'Arno superior) with cheek-teeth free from plication on the grinding surface is, in truth, a young *Castor plicidens* with little worn cheek-teeth. (2) The subject from the Cromerian strata of Great Britain here figured and the two neolithic *Castor plicidens* from Switzerland (Lattrigen), I studied in the Museum of Bern, have a last molar M_3 , with the enamel of the grinding surface that is not as much folded as in the other cheek-teeth, because this tooth is not as much worn as the others (though P_4 made eruption before it).

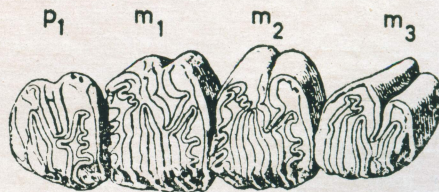


FIG. 1 — Right series of the inferior jugal teeth of *Castor plicidens* F. Maj.—The external side is above.—East Runton's Forest bed, near Cromer.—One time $\frac{1}{2}$ natural size.—Extract from C. J. Forsyth Major.—Copyright British Museum N.H. Neg. 25037.

PHYLETIC ORIGIN

The genus *Castor*, spread today in the Northern Hemisphere, is known from the Upper Miocene in Asia by *Castor anderssoni* (Schl.) of Mongolia and North China (M. Friant, 1936). It is an archaic species, far less hypsodont than the actual ones. In the Early Pleistocene (= Upper Pliocene of some authors) and later on, the Castors (in

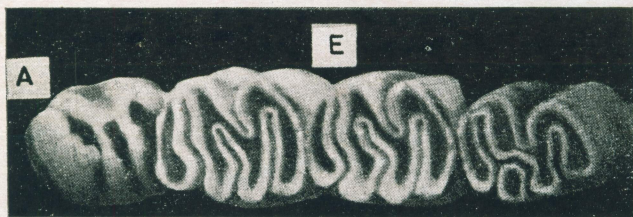


FIG. 2 — Right series of the inferior jugal teeth of *Castor fiber* actual. L. P_4 is unworn.—Coll. Museum Paris.—About 1 time $\frac{1}{2}$ natural size.

particular *Castor fiber* L. and *Castor plicidens* F. Maj.) were rather abundant during the warm periods.

STRATIGRAPHIC AND GEOGRAPHIC REPARTITION

Castor plicidens lived, as we said, during the Early Pleistocene (Günzian) in the Val d'Arno superior (Italy) (C. J. Forsyth Major, 1875). At the same period it has been pointed out in the French Massif Central (Perrier, Roca Neyra, H. G. Stehlin, 1922) and also in North Spain (Villaroya, M. Crusafont-Pairo, 1960).—Next, it has been met during the Cromerian (Mindel-Riss interglacial) in the Forest bed of Norfolk (Great Britain) (C. J. Forsyth Major, 1908; M. A. C. Hinton, 1914). The Zwingen's bearing near Basel (Switzerland), where this beaver has been found (H. G. Stehlin, 1922), is very probably of the same age.—During the Chellean (Riss-Würm interglacial), W. v. Reichenau (1910) pointed it out at Mosbach (Germany).—A long time after, during the Neolithic (postglacial period), it lived yet in Switzerland as it is shown by the two specimens of the Bern's Museum I studied: those beavers were found in the Palafittes of Lattrigen on the Bienne's lake. Very

near Lattrigen, the station of Mörigen (terminal Neolithic and Metal age) has also given some remains of this *Castor* (H. G. Stehlin, 1922).

During the historical period and the actual times *Castor plicidens* has never been met. It is, then, an extinct species that uniquely lived in Europe but has avoided the cold periods of the Quaternary era, during which it very probably retired towards warmer countries.

GENERAL CONSIDERATIONS

Some authors, H. G. Stehlin chiefly, thought that *Castor plicidens* F. Maj. was not a special species but a variety of *Castor fiber* L., for the reason that in aged teeth of *Castor fiber* a moderate plication of the enamel makes its appearance.—However, *Castor plicidens* is well a branch of the *Castor's* stem as, very judiciously, M. A. C. Hinton said in 1914: "*Castor plicidens* appears to be a specialized offshoot which arose in the early Quaternary period... and seems to have rapidly acquired a dental feature which the recent Beaver, had it been left alone, might have developed in the fullness of time."

REPARTITION IN TIME AND SPACE, OF *CASTOR PLICIDENS* F. MAJ.

	SPAIN	ITALY	SWITZERLAND	FRANCE	GERMANY	GREAT BRITAIN
Actual						
Historical period						
Metal age						
Neolithic		Mörigen Lattrigen				
Chellean					Mosbach	
Cromerian			Zwingen n/Basel			Norfolk Forest bed
Günzian	Villaroya	Val d'Arno sup.		Massif central Perrier Roca Neyra		

CONCLUSIONS

Castor plicidens F. Maj., considered during a long while as a pre-Würmian species, lived also in occidental Europe during the Quaternary era in the post-Würmian, at least till the Neolithic period.

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