

# Introduction

Objekttyp: **Chapter**

Zeitschrift: **Eclogae Geologicae Helvetiae**

Band (Jahr): **80 (1987)**

Heft 3

PDF erstellt am: **13.09.2024**

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### 1. Introduction

In the course of a project founded by the Swiss National Sciences Foundation (projects No 2.099-0.78 and 2.887-0.83) a biozonation of the Molasse of Switzerland and Savoy has been established. Between 1978 and 1986 important new material of fossil mammals have been collected for this study. At the ‘‘International Symposium on Mammalian Biostratigraphy and Paleocology of the European Paleogene’’ held in February 1987 in Mainz, we presented a new biozonation of the Lower Freshwater Molasse of Switzerland and Savoy. This zonation will be published shortly in the proceedings of the symposium.

A number of mammal taxa, on which this biozonation is based, are new, but for reasons of space, they could not be described in the proceedings of the symposium. Therefore, the description of these new species which are important for biostratigraphy, are presented here.

Four new species of eomyids are described in this study. These chapters are relatively short, because I have been engaged for several years in the preparation of a monograph

Vully 1												
La Chaux												
Fornant 11												
Boudry 2												
Brochene Fluh 53												
Küttigen												
Rickenbach												
Fornant 6												
Fornant 7												
Boningen												
Aarwangen 1												
Wynau 1												
Mümliswil-Hardberg	•	•	•	•	•	•	•	•	•	•	•	•
Oensingen	•	•	•	•	•	•	•	•	•	•	•	•
Bumbach 1	•	•	•	•	•	•	•	•	•	•	•	•
Grenchen 1	•	•	•	•	•	•	•	•	•	•	•	•
La Combe												
Balm												
											Agénien	Miocene
											Upper Chattian	
											Lower Chattian	Oligocene

Fig. 1. The stratigraphical range of the described species.

on the eomyids of the Swiss Molasse. In this latter publication, which will soon be completed, extensive comparisons and discussions of the relationships will be given. The new species of *Heterocricetodon* and that of *Plesiosminthus* are treated more extensively, because these two genera are small groups to which I will not refer again in the near future.

I am indebted to many persons for their help. The geologists Dr. M. Weidmann, Lausanne, Dr. H. A. Haus, Überlingen, and Dr. A. Breitschmid, Bern, helped me in the field and provided me with lithostratigraphical sections. Prof. Dr. V. Fahlbusch, Munich, Dr. M. Huguency, Lyon, and U. Oberli, St. Gallen, lent me fossil material. P. Hornisberger, Bern, D. Kälin, Balsthal, and H. Winistörfer, Balsthal, provided me with material from localities that they had discovered. Prof. Dr. V. Fahlbusch, Dr. Joh. Hürzeler, N. A. Mayo, and Dr. M. Weidmann discussed problems with me, and provided me with much information and numerous suggestions. Our preparators, D. Oppliger and M. Weick, helped me in the field, washed sediments and made casts. H. Gredig, H. Pouget, P. Schwarz, my wife Wies, and J. Zimmermann did the picking of the washed sediments. Dr. and Mrs. T. Harrison went over the manuscript which was typed by H. Pouget. To all these people I would like to express my thanks.

## 2. Systematic description

Family *Eomyidae* DEPÉRET & DOUXAMI 1902

Genus *Eomys* SCHLOSSER 1884

*Eomys molassicus* n. sp.

Fig. 2b–c, 3b, 4b, 5d, 6a, 7–8

*Diagnosis.* – Small species of *Eomys* with brachyodont, short, and wide lower molars which show a well-developed anterior cingulum (labial and lingual branch) and a medium to long mesolophid.  $P_4$  also with long mesolophid.  $M_1$  and  $M_2$  both with 4th labial syncline, but more reduced in  $M_2$  than in  $M_1$ .  $M^1$  and  $M^2$  mostly with long mesoloph and well-developed 1st labial syncline. Lower incisor relatively large, almost as large as in *Eomys zitteli*.

*Derivatio nominis.* – molassicus, because this species is so far known only from the Molasse basin.

*Type.* – Right mandible fragment with I,  $P_4$ – $M_3$ , U.M. 2926, Basel, Museum of Natural History. Dimensions:  $P_4$ : 0,94 × 0,92 mm,  $M_1$ : 0,98 × 1,00 mm,  $M_2$ : 1,02 × 2,08 mm,  $M_3$ : 0,86 × 0,98 mm. Incisor (cross-section): 0,66 × 1,12 mm, height of the mandible below  $P_4$ : about 3,25 mm; (fig. 2c, 5d).

*Referred material from Oensingen.* – Right mandible fragment with  $M_1$ – $M_2$ , right maxillary fragment with  $P^4$ – $M^1$ , 7 isolated teeth.

*Type locality.* – Freshwater limestone of Oensingen–Ravellen (Canton of Solothurn, Switzerland), coordinates of the “Schweizer Landeskarte” 1:25 000: 620 850/238 100 (see MAYO 1980, p. 1098 and ENGESSER & MAYO 1987).

*Age:* Middle Oligocene, assemblage zone of Oensingen (ENGESSER & MAYO 1987).

*Stratigraphic range.* – Assemblage zones of Oensingen and Mümliswil–Hardberg.