



# TENTH ROMANIAN SYMPOSIUM ON PALEONTOLOGY

Cluj-Napoca, 16-17 October 2015

**ABSTRACTS  
AND FIELD TRIP GUIDE**



Edited by:

**Ioan I. Bucur, Iuliana Lazăr and Emanoil Săsăran**

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# **Tenth Romanian Symposium on Paleontology**

**Cluj-Napoca, 16-17 October 2015**

## **Abstracts and Field trip guide**

Edited by Ioan I. Bucur, Iuliana Lazăr & Emanoil Săsăran

Presa Universitară Clujeană, 2015

# The 10<sup>th</sup> Romanian Symposium on Paleontology

Cluj-Napoca, 16-17 October 2015

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# New data on the mammalian assemblages of the Early Oligocene of Switzerland: paleoenvironmental and paleobiogeographic implications

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**Keywords:** Rhinocerotidae, Sciuridae, Adapidae, Swiss Molasse Basin, Jura canton.

The post-"Grande Coupure" time interval encompasses the European mammalian levels MP21 to MP25 (c. 33.5-27.4 Ma) and roughly coevals the Rupelian stage. During this period, the mammalian assemblages from Switzerland comprise a mixture of a few taxa inherited from the Eocene and Oligocene newcomers.

Recent investigations in the Early Oligocene of Swiss Molasse Basin have led to new discoveries of fossil mammals, especially in Jura Canton (North-West Switzerland). These discoveries include new remains and new investigations of Rhinocerotidae from Bressaucourt (MP21, Becker 2009), Beuchille and Poillat (MP24, Becker et al. 2013), and Bumbach (MP25, unpublished); of Ruminantia from Lovagny (MP23, Mennecart et al. 2011), Soulce (MP23/24, Mennecart et al. 2011), Beuchille and Poillat (MP24, Mennecart et al. 2011, Mennecart 2012), and Bumbach (MP25, Mennecart 2012); of Anthracotheriidae from Vaulruz (MP22, Scherler 2011), Poillat (MP24, Scherler 2011), and Bumbach (MP25, Scherler 2011); but also of small mammals from Del 1 (MP21, Wiedmann pers. com.) and Beuchille, Poillat and Pré Chevalier (MP24, Becker et al. 2013).

Among these discoveries, some taxa provide new indications on the environmental context during the Early Oligocene in Switzerland:

- *Molassitherium delemontense* Becker and Antoine, 2013 from Poillat (Becker et al. 2013) and Bumbach (unpublished) is a newly described species of small-sized unhorned rhinocerotid characterized by a low head-holding, brachyodont teeth and slender and tridactyl limbs. This morphology indicates that *Molassitherium* was probably a regular browser and a forest dweller.

- An undetermined m1/2 of sciurinae from Pré Chevalier displays a characteristic association of a deeptrigonid basin, a larger and well-differentiated mesotyloid, a large entoconid and mesoconid in comparison of other cuspids and a large size ( $3.43 \times 3.16$  mm). This tooth suggests a significant forest environment to sustain a population of large-sized tree squirrel.

- One small tooth from Beuchille is unicuspid and misses any styloid or crenulation. It is antero-posteriorly elongated with sharp anterior and posterior borders and a strongly bulging lingual side. The distal border bears a vertical and sharp postcristid joining the apex of the tooth to its base. This type of morphology can not be attributed to any known rodent, carnivore, marsupial or insectivore. On another hand, this tooth displays similarities with *Leptadapis* and can be interpreted as a lower premolars (p2) of Adapidae. Since Köhler and Moyà-Solà (1999) identified an Omomyidae in the Early Oligocene of Spain (Fonollosa-13, MP 22), it has been demonstrating that some primates did survive through the Eocene/Oligocene boundary in Europe. However, if confirmed, this tooth from Switzerland would be first occurrence of an Adapidae in the European Oligocene. As for *Molassitherium* and the indetermined sciurinae above, this taxon would indicate a large forest environment at least in North-West Switzerland during the Early Oligocene. It is noteworthy that the same locality yielded fossilised woods and tree trunks (Becker et al. 2004).

The succession of localities in the Early Oligocene (table 1) allows now a better understanding of paleoenvironmental evolution in Switzerland for this period, and emphasizes the importance of the Swiss fossil record for biogeographic reconstructions (see Maridet et al. 2013). Indeed, during the Early Oligocene, the continental climate is known to be cold in contrast to the Eocene inducing more open environments at European scale (e.g. Wolfe 1978, Legendre 1986). Our new results

suggest that in Switzerland, especially in North-Ouest Switzerland, more importance forest environments might have been maintained.

Levels	Localities	Newly discovered/revised taxa
MP25	Bumbach	<i>Molassitherium</i> , Anthracotheriidae.
MP24	Beuchille, Poillat, Pré Chevalier, Grechen 1	<i>Molassitherium</i> , <i>Ronzotherium</i> , , Anthracotheriidae, <i>Blainvillimys</i> , <i>Protechimys</i> , <i>Paracricetodon</i> , <i>Butseloglis</i> , <i>Eomys</i> , <i>Tetracus</i> , Adapidae?
MP23/24	Soulce	<i>Iberomeryx</i>
MP23	Lovagny	<i>Iberomeryx</i>
MP22	Balm, Kleinblauen, Vaulruz	<i>Ronzotherium</i> , <i>Molassitherium</i> , <i>Plagiolophus</i> , <i>Epiceratherium</i> , Anthracotheriidae.
MP21/22	Bressaucourt	<i>Caducotherium</i> , <i>Ronzotherium</i>
MP21	Del 1	<i>Theridomys</i>

Table 1. List and age of the main Early Oligocene localities of the Swiss Molasse Basin and new data on mammalian assemblages.

The earliest Oligocene is so far poorly recorded in Switzerland; however the recent discoveries from Bressaucourt and Del 1 (MP21; Becker 2009, Weidmann pers. com.) suggest that further prospection in Jura canton can complete our knowledge of the fossil record.

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