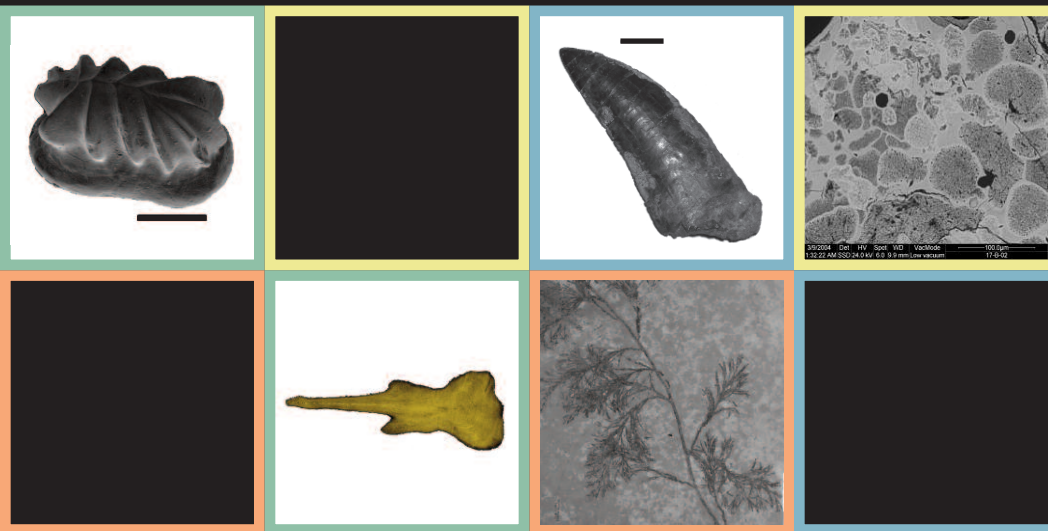


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New perspectives on the Evolution of Phanerozoic Biotas and Ecosystems



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Les Cases de la Valenciana, rediscovering a new “old” site from the early Miocene of the Vallès-Penedès Basin (Catalonia, Spain)

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The Vallès-Penedès Basin (Catalonia, Spain) is well known for its continuous Miocene sequence, but the early Miocene (from about 23 to 16 Ma) has been little studied compared to the middle and late Miocene of the same area. This is partly due to the poorer record during this time interval, but thanks to new field work our knowledge of the early Miocene has substantially improved.

Les Cases de la Valenciana, located in Gelida (l'Alt Penedès), was discovered in the 1950s and delivered a small collection of macrovertebrate fossils (Crusafont et al. 1955). In 2005, the site was exposed again thanks to small works in an adjacent road and new excavation campaigns in 2012, 2014 and 2015 lead to the recovery of more than 360 macrovertebrate remains. These mostly include postcranial macrovertebrate remains, with the remarkable find of two disarticulated partial skeletons, one belonging to the poorly-known rhinocerotid *Plesiaceratherium mirallesi*, and a second one assigned to the giant tortoise *Titanocheilon* sp. At the same time, a microvertebrate sampling was undertaken, for the first time, yielding more than 250 identifiable remains even though about half residue between 0.7-0.5 mm of grain size has yet to be processed. The recovered rodent fauna, includes the cricetodontines *Democricetodon hispanicus* and *Megacricetodon primitivus* as well as the eomyid *Ligerimys ellipticus* indicating a correlation to early Aragonian zone C of the Calatayud-Montalbán Basin (Aragón), ca. of 16.5-16 Ma.

Finally, special attention was devoted to recover stratigraphical and taphonomical information. This site corresponds to a small shallow lake, as indicated by sedimentological evidences and the presence of small crocodiles. Our preliminary results show that most of the macrovertebrate remains underwent little transport. This is further consistent with the presence of two partial skeletons corresponding to individuals that died close to the lake surroundings. Concerning the paleoenvironment, the rodent fauna provides some preliminary data. Purported forest-dwelling genera, such as the dormice *Microdyromys* and *Glirudinus* and particularly the eomyid *Ligerimys*, define more than one third of the recovered remains. However, there is also a significant proportion of rodents that preferred dryer landscapes, such as the dormice *Simplomys* and *Pseudodyromys* and the ground squirrel *Heteroxerus*. Finally, the cricetodontines (*Democricetodon*, *Megacricetodon*) are also common, but these are thought to have been generalists. Nevertheless, as compared to older sites of the same area, the environment appears to have been locally more humid and forested.

References

Crusafont M, De Villalta JF and Truyols J. 1955. El Burdigaliense continental de la cuenca del Vallès-Penedès. *Memorias y Comunicaciones del Instituto Geológico*. 12: 11-247.