

A TENTATIVE ASSESSMENT OF THE PHYLOGENETIC RELATIONSHIPS OF PYRENASAURUS (SQUAMATA)

M. Camaiti^{1,*}, A. Villa¹, A. Bolet^{2,3} and M. Delfino^{1,3}

¹Dipartimento di Scienze della Terra, Università di Torino, Via Valperga Caluso 35, 10125 Torino, Italy

²School of Earth Sciences, University of Bristol, Life Sciences Building, 24 Tyndall Avenue, BS81TQ
Bristol, UK

³Institut Català de Paleontologia Miquel Crusafont, Universitat Autònoma de Barcelona, Edifici IC-TA-ICP, Carrer de les Columnes s/n, Campus de la UAB, 08193 Cerdanyola del Vallès, Barcelona, Spain

*camaitimarco@gmail.com

Keywords: *Squamata*, *Scincidae*, *late Eocene*, *osteology*, *phylogenetic analysis*

The extinct squamate *Pyrenasaurus evansae*, from the late Eocene of France and Spain, is considered a scincomorph with possible scincid affinities. In order to preliminary test its relationships, *Pyrenasaurus* is here included for the first time in a phylogenetic analysis as part of a broader study focused on the phylogeny of extant European scincids and their relationships with extinct forms.

The matrix, comprising a total of 148 cranial and postcranial characters, was created with Mesquite and analyzed with TNT, and it includes seven taxa of extant European scincids, the extinct *Pyrenasaurus* and an outgroup. All the specimens for each taxon were included in the matrix as distinct OTUs (operational taxonomic units), for a total of 12 OTUs. In the case of *Pyrenasaurus*, only the characters regarding the dentary could be scored. The preliminary analysis yielded a consensus tree in which *Pyrenasaurus* is part of a polytomy with all other OTUs but *Eumeces schneideri* and the outgroup. The application of the implied weighting tool resolved the polytomy, recovering *Pyrenasaurus* as the sister taxon to *Ophiomorus punctatissimus*. Of the four “K” values (K=5, K=10, K=50, K=100) used for the implied weighting analyses, only K=5 was able to resolve the polytomy.

The character that distinguishes *O. punctatissimus* and *P. evansae* from other European scincids is the elevation of the coronoid process of the dentary. This character is not shared by any other scincid included in this analysis, Further analyses, including a broader sample of taxa, will be needed to confirm this relationship.

Acknowledgments: A. Bolet is a Newton International Fellow, and is also supported by the CERCA Programme/Generalitat de Catalunya, and Ministerio de Economía, Industria y Competitividad (CGL2017-82654-P), Spain.