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## Analytic summary

BOGAN, S.; AGNOLIN, F.; OLIVA, C. & CAPMOURTERES, V. (2012): New considerations of an ichthyofaunistic assembly of the late Pleistocene of Quequén Salado River, province of Buenos Aires, Argentina. *Stud. Geol. Salmant.*, 48 (2): pp. 89-127, 11 figs., 1 pls., 59 bibliographic references. Salamanca.

**ABSTRACT:** In this contribution, novel materials belonging to an ichthyofaunistic association from the Superior Pleistocene of the Quequén Salado River, province of Buenos Aires, Argentina, are described. Eight different taxons are registered, including: Corydoradinae "morfotype Quequén Salado", *Synbranchus* sp., *Rhamdia* sp., *Odonthestes* sp., *Pogonias cromis*, cf. *Micropogonias furnieri*, cf. *Mugil* sp., and aff. Clupeidae indet. Moreover, most of the skeleton of the conspicuous species *P. cromis*, possibly one of the most abundant bony fish in the record of the Pleistocene from Buenos Aires, is also described in a very detailed way. We consider Corydoradinae "morfotype Quequén Salado" as a probable new species, possibly extinct by the end of the Pleistocene. Finally, surveys of actual ichthyofauna in mixohaline streams allow to corroborate the existence in the province of Buenos Aires, of an ictiologic association comparable to the one registered in the fossil site. This permits the disallowance of previous studies which proposed the Pleistocenic ictiofaunistic assembly of the Quequén Salado River as a non-analogous association compared to the ones currently registered in neighboring geographic areas.

Key words: Pleistocene, Buenos Aires, Quequén Salado River, Ichthyofauna *Pogonias cromis*.

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AGNOLIN, F. (2012): A new calyptocephalellidae (Anura, Neobatrachia) from the Upper Cretaceous of Patagonia, Argentina, with comments on its systematic position. *Stud. Geol. Salmant.*, 48 (2): pp. 129-178, 12 figs., 132 bibliographic references. Salamanca.

**ABSTRACT:** The living genus *Calyptocephalella* is currently represented by the species *C. gayi*, geographically restricted to Chile, and several extinct Cenozoic species from Argentine Patagonia. In the present paper, a species of *Calyptocephalella* is described from the Late Cretaceous (Campanian-Maastrichtian) of Río Negro province, Argentina. The new taxon shows a unique combination of apomorphic and plesiomorphic features, and represents the oldest record for the calyptocephalellids. Present analysis indicates that calyptocephalellids are

composed by the genera *Calyptocephalella*, *Gigantobatrachus*, and *Beelzebufo*. The genus *Gigantobatrachus* is revalidated, and a new species of the genus coming from the Paleocene of Patagonia, is described. The genus *Beelzebufo* is currently represented by the species *B. ampinga*, from the Latest Cretaceous of Madagascar. Although this taxon was previously referred to Ceratophryidae, present analysis suggests calyptocephalellid affinities for this genus. A brief overview of Late Mesozoic anurans from India sheds doubts about the occurrence of putative Laurasian-like taxa anuran taxa in the Latest Cretaceous of that continent, and most of these specimens are considered as indeterminate neobatrachians or as nearly related to calyptocephalellids, suggesting a wider distribution of this anuran clade during the Mesozoic.

Key words: *Calyptocephalella*, Ceratophryidae, Calyptocephalellidae, Gondwana, India, Cretaceous.

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DELGADO-IGLESIAS, J. & MEDINA GARCÍA, J. (2012): Didactic proposal for crystallography teaching using ornamental elements in historic buildings of Salamanca (Spain). *Stud. Geol. Salmant.*, 48 (2): pp. 179-196, 12 figs., 2 tables, 4 bibliographic references. Salamanca.

**ABSTRACT:** The aim of this paper is a methodological approach to the teaching of crystallography as a conceptual argument for the study of crystalline matter and minerals. It has carried out a study of ornamental or pictorial elements that decorate the facades and interiors of 10 historic buildings in the city of Salamanca, recognizing patterns and identifying mosaics and friezes. In the ten buildings have been recognized 19 friezes and 13 mosaic. In the first case, 5 space groups are identified, but the 1m1 and 2mm are the most common groups. On the mosaics are identified 5 space groups. The most common are the P4mm and Cmm groups. From the study, activities are proposed along a city tour for students of university degrees related to crystallography or mathematics or Secondary Education students. Students will apply the activities when visiting the building, responding to the implementation of the theoretical contents developed in the classroom. Essentially consist in representing the observed ornamental and identification of different geometric elements.

Key words: Historic heritage, didactic application, crystallography teaching, Salamanca (Spain).

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