

## PALAEONTOLOGY IN SPAIN

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ABSTRACT.—This note gives a brief historical review of Palaeontological and Palaeobotanical work in Spain.

PALAEONTOLOGICAL studies in Spain were really founded by Lucas Mallada in the second half of the last century. Although



this famous geologist made a special study of stratigraphic palaeontology, his palaeontological work is very remarkable, and his famous *Synopsis* is still the principal work on Spanish palaeontology, and the only comprehensive one that has ever been written.

His contemporaries, Vidal, Villanova, Landerer, Almera, studied general regional Palaeontology of the stratigraphic type, but all have left us magnificent monographs which contain numerous descriptions of new species and precise paleontological observations.

Their successors, and now even our contemporaries, follow their palaeontological work: Faura in the Catalonian Palaeozoic, Azpeitia principally in Molluscs and Diatoms, Madariaga in coal palaeobotany Jimenez de Cisneros in several groups of Mesozoic fossils, and others.

At present Paleontology in Spain follows different patterns than the geologic-stratigraphic, and is studied in the universities of Madrid and Barcelona, the Special School

of Mining Engineers, the Geological Institute, in different Departments of the Lucas Mallada Institute (High Council for Scientific Researches) the Paleontological Laboratory of the Seminary at Barcelona, Museums of Natural Sciences at Madrid and Barcelona, Museum of Sabadell, and others.

There are numerous Spanish palaeontologists who now work in the different branches of Palaeontology of the Paleozoic and Mesozoic, and above all, of the Tertiary. The names of Hernandez-Pacheco, Sampelayo, Bataller, Melendez, Crusafont, Villalta, Colom, Ruiz de Gaona, Bauza, Menendez Amor, G. de Llarena and others, are guarantees of the seriousness of these studies, almost all the branches of Palaeontology being cultivated in Spain by specialists of great repute.

A special study is being made in Spain of several items involving almost all the systematic groups. We shall especially mention the Archaeocyathids, Cystoids Crinoids, Blastoids, Ammonites, Nummulites, Tintinnids, Microforaminifera, neogene Mammals, etc.

The theme of organic evolution has been recently studied with an eclectic criterion and from a really finalist point of view. Its paleontological aspect has been studied by Crusafont and Melendez, biological by Palafox and Ponz, and also its philosophical aspect by F. F. Munoz, Anderez and Roldan, all being in agreement with one another on fundamental points.