

comparable with inarticulate brachiopods. Not only are the latter composed of calcium phosphate but the protegula (= larval shells) of acrotretids show cross-cutting and discrete circular pits that have been interpreted to be the result of internal resorption. The formation of circular resorption pits in juvenile acrotretid brachiopods would have permitted them to retain a covering of calcium phosphate that was strong on one hand but light and porous on the other, and would have permitted the juvenile acrotretid brachiopod to remain afloat before being ready to settle down. Resorption of calcium phosphate in the possibly related conodontophorids may have served a similar purpose.

Conodont Faunas from Devonian and Carboniferous Conglomerates of the Western Mediterranean and their Paleogeographic Implications.

By M. F. BUCHROITHNER

Graz, Austria.

Limestone boulders of conglomerate horizons from 3 localities on the island of Menorca (Balears) and 3 localities in the Betic Cordillera (Southern Spain) yielded conodonts of mostly excellent preservation. The specimens from Ferragut Vell and Escollo del Frances (northern Menorca) throughout indicate an age of Upper Devonian I, those from Cala Murta (east coast of Menorca) show a temporal distribution from Upper Devonian I to lowermost Namurian. At Velez Rubio (near Murcia) in the eastern Betic Cordillera the „Polymict Conglomerate Member“ yielded conodonts of Givetian, Upper Devonian and Lower Carboniferous ages. A second clastic horizon, the „Marbella Conglomerate Member“, could be dated Upper Visean to Lower Westphalian. At La Peluca and at Ardales (NW of Malaga) conglomerate layers show the same age as the Marbella Conglomerate.

The rich microfauna of the Upper Devonian I samples from Menorca allow the establishment of a paleoenvironmental model for a differentiated carbonate shelf. A comparison of the distribution of different groups of conodonts and other microfossils with the various microfacies types shows a remarkable correspondence. Apart from indications by typical environmental index microfossils some obvious trends can be noticed with the conodonts: maxima of icriodontiform elements from the outer shelf to the lower shelf slope and at subtidal ridges; maxima of palmatolepiform elements at subtidal ridges; minima of polygnathiform elements at the back-reef, at the outer shelf, and at subtidal ridges; maxima of ramiform elements in lagoons and at the back-reef. — The faunas contain 3 new species of the genera *Bisphathodus*, *Caenodontus* and *Falcodus*.

The conglomerates are interpreted as deep-sea deposits within submarine canyons. A reconstruction of the paleogeographic setting permits to postulate the existence of a pre-Variscan continental margin of the Atlantic type which included the North African Meseta, the Moroccan Variscan orogenic belt and the Alboran-Balearic flysch trough. The source area of the Devonian boulders is probably the Moroccan Variscan orogenic belt.

The Value of Icriodontidae in Stratigraphic Correlation.

By P. L. BULTYNCK

Department Paleontologie, Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussel; Afdeling Historische Geologie, Instituut voor Aardwetenschappen, K. U. Leuven.

Refinement of systematics of Icriodontidae in the late 1960's and early 1970's supported the idea that this group could be used in Devonian biostratigraphy as successfully as most of the Polygnathidae. Since that time most conodont research has dealt with biofacies and paleoecology and on the whole the Icriodontidae are now considered to have been particularly adapted to shallow water shelf environment whereas many Polygnathidae had a deeper, pelagic habitat. Consequently, the stratigraphic value of Icriodontidae, especially in intercontinental correlations is strongly questioned because of this biofacies generalisation and on the base of more concrete and more local observations as in the following quotations: „highly irregular vertical distribution of *Icriodus* in most sequences“, „*Icriodus* and other Icriodontids, which developed endemic species . . . were probably not capable of distribution and survival via major oceanic currents“. More definite is the very recent opinion that in the Middle Devonian *Icriodus* is extremely dependent on local facies factors („ecophenotypic groups“). As a partial alternative to these hypotheses attention is drawn to the fact that in the late Lower Devonian, the Middle Devon-