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Agglutinated foraminifera from the Ludlow (Silurian) of Ireland

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Agglutinated foraminifera are one of the most primitive groups of foraminifera, possibly already appearing in the Cryogenian but usually rare in lower Paleozoic rocks. Their mean standing diversity slowly increased during Cambrian and Ordovician times, reaching a stable value of about 50 genera in the mid-Silurian which remained fairly constant up to the Triassic.

An assemblage of agglutinated foraminifera was unexpectedly found in conodont residue from material collected in the Dingle Peninsula, County Kerry, southwestern Ireland. This material comes from rare calcareous occurrences in volcanoclastics previously known for their rich trilobite and conodont assemblages. The limestones are trilobite-crinoidal silty wackestone to packstone, with local brachiopod concentrations, documenting brachiopod-trilobite-crinoidal dominated communities of shallow and well-ventilated water that might have periodically colonized the bottom intercalating with volcanic events and then successively redeposited in deeper waters. The conodont fauna indicates an early Ludlow (Gorstian-earliest Ludfordian) age (Kaminski et al., 2016). The foraminiferal assemblage has limited potential for stratigraphical correlation as long-range taxa are present, but it represents the first record from the Silurian of Ireland. The assemblage is dominated by tubothalamids (Rectoammodiscus and rare Sansabaina), with less abundant monothalamids (Psammosiphonella and Psammosphaera). The assemblage displays low diversity compared with other assemblages described from the British Isles (Kircher & Brasier, 1989). At the species level, this assemblage is identical to those described previously from the Silurian of North America but with lower diversity. Only Rectoammodiscus diai had apparently a wider geographic distribution, including not only the central USA (Oklahoma and Kansas) but also the Welsh Borderlands and Senegal. The affinities with the assemblages reported at several localities in the central United States that were parts of Laurentia during Silurian times appears to confirm data derived from paleomagnetic analysis of Homerian (upper Wenlock) sediments from the Dingle Peninsula (Mac Niocaill, 2000) indicating that the ocean between Laurentia and Avalonia had narrowed to below the limits of paleomagnetic resolution already by Wenlock time.

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