

Early Ordovician Orthide Brachiopods from Mount Arrowsmith, Northwestern New South Wales, Australia

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ABSTRACT. Two new late Early Ordovician orthide brachiopods, *Celsiorthis bulancis* n.gen. and n.sp. and *Alocorthis psygmatelos* n.gen. and n.sp., are described from the Tabita and Pingbilly formations at Mount Arrowsmith, northwestern New South Wales. The associated conodont assemblage from the succession at Mount Arrowsmith indicates a late Bendigonian to Chewtonian age for the brachiopod bearing horizons.

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In a global review of Ordovician brachiopod distribution, Jaanusson (1973) was so frustrated by the lack of data from Australia that he used the term “terra incognita” to describe the major lacuna in knowledge concerning the occurrence of taxa from austral waters. Whilst Percival (in Webby *et al.*, 2000) indicated this situation has improved significantly, especially for Late Ordovician faunas from Tasmania (Laurie, 1991a,b) and New South Wales (Percival, 1979a,b, 1991; Percival *et al.*, 2001), knowledge of Early and Middle Ordovician brachiopod faunas from Australia remains deficient.

The oldest known formally described Ordovician brachiopod fauna from Australia was recorded by Laurie (1987) from the Lancefieldian Digger Island Formation in Victoria. The fauna consists of two orthid species, *Finkelburgia lindneri* Laurie and *Archaeorthis waratahensis* Laurie.

Prendergast (1935) described eleven brachiopod species, including the orthid *Spanodonta hoskingiae*, from the Gap Creek Formation of the Canning Basin, Western Australia, and indicated a Late Palaeozoic (Permo-Carboniferous) age for the fauna. The Gap Creek Formation is now known to be late Bendigonian (Be3–Be4) in age (Laurie, 1997). Laurie (1997) also described the orthids *?Pseudomimella*

sp., *?Oligorthis* sp., *Tritoechia* sp., and *Tinopena shergoldi* from the Gap Creek Formation.

Brown (1948) described two clitambonitoid and one porambonitoid species from the Lower Ordovician (Lancefieldian–Castlemanian—see Laurie, 1991a,b) Florentine Valley Formation of southern Tasmania. Laurie (1980) later redescribed *Tritoechia lewisi* and recorded several new orthoid and clitambonitoid species from the Florentine Valley Formation and overlying Karmberg Limestone. The species Brown (1948) described as *?T. careyi* was tentatively referred to *Nanorthis carinata* by Laurie (1987). The taxon documented as *Orthis lenticularis* Wahlenberg by Etheridge (1904, pl. 10, figs. 5–9) was also placed in synonymy with *N. carinata* by Laurie (1987). Laurie (1991a) developed a detailed biostratigraphic scheme for the Ordovician of Tasmania based on twenty brachiopod assemblages. In his comprehensive study of the Ordovician and Early Silurian articulate brachiopods of Tasmania, Laurie (1991b) recorded six Early Ordovician brachiopod assemblages, ranging in age from the Lancefieldian to Chewtonian. These six brachiopod assemblages extend from the Pontoon Hill Siltstone Member of the Florentine Valley Formation through to the lower parts of the Karmberg Limestone.

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