

Systematics, Biostratigraphy and Evolution of the Late Ludlow and Přídolí (Late Silurian) Graptolites of the Yass District, New South Wales, Australia

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ABSTRACT. Graptolites from the Yass district of New South Wales include important material from: low in the Black Bog Shale; from the Yarwood Siltstone Member; 2 levels high in the Black Bog Shale; 2 levels low in the Rosebank Shale; low in the Cowridge Siltstone; and in the lower part of the Elmside Formation. The faunas from the lower 4 levels are late Ludlow (early Late Silurian), and the higher 4 levels are Přídolí (late Late Silurian).

Twenty-seven graptolite taxa, a considerable increase on previous records from Yass, have been identified in the late Ludlow and Přídolí of the district. These taxa enable the Ludlow-Přídolí boundary to be identified some 20 m above the base of the Rosebank Shale (Booroo Ponds Group); our stratigraphically highest collection from the Elmside Formation is latest Přídolí, supporting the previous placement of the base of the Devonian approximately midway through the Elmside Formation (Barambogie Group). The following graptolite Biozones have been identified: *praecornutus*, *cornutus*, *parultimus*, *bouceki* and *transgrediens*. Twenty Yass taxa are described, including the new species *Bohemograptus paracornutus*, *Pristiograptus shearsbyi*, *Neocucullograptus? yassensis* and *N.? mitchelli* and the new subspecies *Monograptus perneri elmsidensis* and *M. formosus jenkinsi*. The following are recorded from Australia for the first time: *Bohemograptus praecornutus* Urbanek, 1970; *Crinitograptus operculatus* Münch, 1938; and *Pristiograptus kolednikensis* Příbyl, 1940. *Dictyonema* sp. cf. *D. sherrardae* Rickards *et al.*, 1995 and *D. elegans* Bulman, 1928 are considered late evolutionary derivatives of long-ranging dendroid species. *Linograptus posthumus introversus* Rickards & Wright, 1997 is interpreted as a short-lived, late Ludlow offshoot of the long-ranging *L. p. posthumus* Richter, 1875. *Bohemograptus praecornutus* is regarded as the ancestor of *B. paracornutus*, the *B. cornutus* evolutionary plexus being recognised for the first time in Australia. Late forms of *Pristiograptus dubius* (Suess, 1851) probably gave rise to *P. shearsbyi* n.sp. and *Pristiograptus kolednikensis* probably arose in the basal Přídolí from the late Ludlow *P. fragmentalis* (Bouček, 1936). Some material described and discussed by Brown & Sherrard (1952) is reinterpreted.

Bohemograptus paratenuis n.sp. is proposed for material assigned by Urbanek (1970) to *B. bohemicus* aff. *tenuis* (Bouček, 1936); this species is known only from Poland.

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