Graptolite Zonation in the late Wenlock (Early Silurian), with a New Graptolite-Brachiopod Fauna from New South Wales

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ABSTRACT. The Panuara Formation at Cobblers Creek near Orange, New South Wales, Australia has yielded a graptolite-brachiopod fauna assigned to the sherrardae sub-Biozone (late Wenlock: Early Silurian). The sherrardae sub-Biozone as defined here is equivalent to the praedeubeli sub-Biozone, and is the lowest part of the ludensis Biozone. The ludensis Biozone is reappraised following restudy of the type specimens of Monograptus ludensis, which are shown to exhibit growth stages from the deubeli to the gerhardi condition.

The graptolite fauna consists of Gothograptus chainos Lenz, G. marsupium Lenz, Pristiograptus jaegeri Holland, Rickards & Warren, Pristiograptus dubius (Suess), Monograptus ludensis (Murchison), Monograptus moorsi n.sp., Monograptus sp. and Lobograptus sherrardae (Sherwin). The limited shelly fauna includes the brachiopods Plectodonta brownae n.sp., Bracteoleptaena pannucea n.sp. and ?Lissatrypa.


Silurian strata in the vicinity of the New South Wales central western city of Orange have yielded important and abundant graptolite faunas (e.g., Sherrard, 1954; Packham & Stevens, 1955; Sherwin, 1971a, 1982; Jenkins, 1978, 1986; Rickards, Packham, Wright & Williamson, 1995) as well as abundant shelly fossils (see Pickett, 1982). The small but significant fauna of graptolites and shelly fossils, from Silurian exposures in Cobblers Creek, a tributary of Panuara Rivulet (Fig. 1) described here, was discovered by Ray Smith (1966) during mapping of the Mandurama-Panuara district, south of Mount Canobolas; the locality is about 30 km roughly SSW of Orange (Fig. 1). Our initial collections were made by Henry Moors, Norman Savage and Tony Wright in about 1963; further collections were made by Barrie Rickards, Penny Williamson and Wright in 1989, and again by Wright in 1996. The graptolites are described by Rickards, and the brachiopods by Wright; trilobite identifications are by Andrew Sandford of the Museum of Victoria, Melbourne, Australia.