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dedicated to the GSSP, and exhibits a referenced integrated stratigraphic model for the section (Figure 1). The Massignano site represents not only the subject of exciting scientific research and cooperative work, but also a concrete example of an ideal GSSP.

JURASSIC PELAGIC DEPOSITS OF EAST SULAWESI (KOLONODALE AREA, INDONESIA): NEW BIOSTRATIGRAPHIC DATA BASED ON CALCAREOUS NANNOFOSSILS

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New litho- and biostratigraphic data are here presented, concerning the Jurassic succession of East Sulawesi. Sulawesi is located at the junction of the converging plates: Eurasia, Australia and Pacific (1, 2). In Indonesia this convergence strongly dismembered the margins of the continental plates into "microblocks". The island of Sulawesi is composed of three major structural zones (3, 4): i) West Sulawesi, a Cretaceous to Neogene volcanic arc on a continental basement; ii) East Sulawesi, a pre-Neogene imbricated sedimentary succession, changing into a pre-Neogene metamorphic belt to the West, with an eastern ophiolitic belt; iii) Easternmost Sulawesi, a part of the Sula Platform, which shows Lower Jurassic to Cenozoic passive margin sediments, overlying a Permian-Triassic crystalline and volcanic basement.

Jurassic calcareous nannoplankton has been recorded in the Kolonodale-Beteleme area of the western margin of the East Sulawesi Zone, allowing us to propose a first synthetic lithostratigraphic succession. The reconstruction of the succession, based both on structural field observations, and palaeontological data shows, from the bottom to the top: a) Upper Norian to Rhaetian (or Lower Liassic ?) limestones (basinal to reefal environment) (5, 6). Faunal and palynological content have affinities with coeval associations from the Australian-Indonesian carbonate platform; b) a dismembered Jurassic succession, mainly dated here by means of calcareous nannofossils; - Toarcian dark well-bedded limestones and argillaceous limestones (200-300m) with rare chert, belemnites, pelagic molluscs, calcareous nannofossils, and radiolaria. Poorly preserved ammonoid fragments were recorded near the top; - undated green clays with some fine-grained dark interbedded limestones (> 30m); -

dark to reddish well-bedded limestones and shales with radiolarian chert (> 100m); the radiolarites may reach 20m at the base. Calcareous nannofossils indicate a Bajocian ? to Bathonian age; an Early Bajocian ammonite (*Itinsaites* of the *Humphriesianum* Biozone) has been recorded from an isolated outcrop (Bay of Kolonodale); - a dismembered Late Cretaceous to Late Oligocene pelagic succession made of well-bedded limestones with some red cherts, with abundant planktonic foraminifera (7).

In a first set of samples, nannofossil assemblages show a medium to low species diversity. The dominant taxon is the cosmopolitan Jurassic *Schizosphaerella*. Other species are: *Mitrolithus jansae*, *Calyculus* spp., *Lotharingius hauffii*, *L. crucicentralis*, *Discorhabdus ignotus*, and *D. striatus*; in one sample, the first specimens of the genus *Watznaueria* have been recorded. This indicates quite precisely the Early to Middle Toarcian boundary (8). In a second set of samples, the poorly diversified nannofossil assemblage contains: *Schizosphaerella* spp. (still present), together with *Watznaueria britannica*, *W. colacicchii*, *W. manivatae*, *W. barnesae* and *Cyclagelosphaera margerelii*. All these long range species span from the Middle Jurassic to at least the end of the Jurassic. The combined presence of *W. barnesae* and *W. colacicchii*, together with a still consistent presence of *Schizosphaerella* spp., suggests a Bathonian age in analogy with the Tethyan realm (8), even if *W. barnesae* is recorded in the Bajocian in Northern Europe (9).

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