



Fifth International Symposium on Fossil Cnidaria

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The International Symposium on Fossil Cnidaria (and Archeocyatha, Spongimorphs) was last held in Washington, D.C. in 1983, and the Fifth International Symposium was reconvened, 25-29 July 1988 in Brisbane, Queensland, Australia, under the patronage of Dr. Dorothy Hill, the doyenne emeritus of fossil coral studies, who attended all sessions. The very successful organization was carried out by John Jell, Desmond Strusz, Barry Webby and John Pickett and numerous others. Despite the location on the other side of our planet, about 100 specialists were able to make it to the meeting: China and the USSR each sent small delegations and all the inhabited continents were represented (including 1 participant from South America).

The conference centered around several themes. The first of these was intraspecific variability in corals and sponges (followed up later by another session on classification). This is inherently a sticky problem in nearly every fossil group, but perhaps even more so in clonal organisms such as corals which have both sexual and vegetative reproductive capacities. Oliver regarded this as a fundamental unsolved problem: for example, one Devonian species, *Calceola sandalina*, may show remarkable uniformity, yet another, *Heliophyllum halli*, seems incredibly variable (from solitary to colonial). Taxa may intergrade or may be dimorphic. Scrutton's excellent summary divided variability into intracolony (ontogenetic, astogenetic, cyclomorphic, topomorphic) and intrapopulation (genotypic, ecologic), a multifaceted approach which may help us to untangle the myriads of species. Cairns, who presented us with a look at the living deep water genus *Flabellum*, used discriminant analysis to sort out species but, discouragingly, pointed out that many modern corals have dozens of species which have

few definitive skeletal characteristics to separate them. The answer: be cautious, but don't worry! After all, there are 368 species of *Acropora* around today in the oceans!

The "frame-building" session was devoted to reefs and reef organisms through time. This attracted a mixed crowd as concurrent sponge sessions were another attraction. Themes here were evolution and development of reefs from the Cambrian to Recent. Peter Davies ended the session with a preview of the migration of the Great Barrier Reef faunas as Australia moved north into the equatorial belt in the Tertiary (a modified version was given later at the Coral Reef Symposium held in Townsville (see report following)).

Extinctions received a going-over in a session covering the Precambrian Ediacaran extinctions (Jenkins, Seilacher), to the Ordovician-Silurian changes (Elias), Frasnian-Famennian extinction (Sorauf, Cockbain), the Permian-Triassic boundary (Fedorowski), Triassic-Jurassic and Cretaceous-Tertiary boundaries (Rosen). This was followed up the next day by studying migration patterns, biogeography and origins.

Sponge morphology and phylogeny attracted considerable interest, as it seems to be becoming evident that sponges are one of the most persistent players in the fossil reef record. Reitner and Wood (separately) explained the new look at sponge taxonomy and origins of the skeleton, views which will make us rethink what we see in the fossil record. For example, some sponge groups today may include taxa with or without a basal skeleton. Now that the stromatoproids, chaetetids, and probably archeocyathids, are accepted by most as sponges we can get on with detailed ecologic-taxonomic studies to help us unravel origins. John Pickett presented us with a new extant "sphinctozoan sponge", a startling creature with blister-like chambers capped by siliceous spicules. John may be the first paleontologist to come to two meetings in one year presenting the same beast under two different phyla (in Berlin during September 1988 at the Third International Sponge Symposium, John heroically confessed that this animal has turned out to be a foram that cements available sponge spicules into its wall!).

Under the Precambrian-Cambrian session, we were informed about the earliest sponges and cnidarians (papers by Narbonne, Jenkins, Kennard, and others). The most interesting new discovery revealed at the meeting was probably that of a large and new Early Cambrian tabulate "coral" from South Australia with the classic architecture of mid-Paleozoic tabulates (Lafuste, Jell, Gandin, Gravestock and Debrenne). The question: is it a real tabulate (it certainly looks like one), or is it a tabulate look-alike? And, why aren't they more common later or elsewhere?

All in all, a productive meeting that brought out new concepts and reviewed old ones, shed new light and gave us new ideas for speculation. The next meeting is scheduled for Munster, Germany, to be organized by Klemens Oekentorp. It will not be confined to the Cnidarians as the group agreed to a change in title. Canada was well represented: Bolton, Copper, Elias, McLean, Narbonne, and Steam, not bad for a country without living coral reefs!

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