

Apectodinium spp. and *Paralecaniella indentata* whose environment distribution probably extends into brackish water facies, and probable freshwater forms such as *Saepodinium* sp., *Morkallacysta* sp. and *Pseudoschizea circula*.

4. A possible "mangrove" spore-pollen association was recorded from 2417m. The diagnostic forms were several specimens of *Spinizonocolpites prominatus* whose recent affinity is with the *Nypa* palm associated with the spore *Polypodiaceoisporites varus* ms whose affinity is with the spore genus *Pteris*. Within the Lower *M. diversus* Zone in the Gippsland Basin both species are typically recorded from the *Apectodinium hyperacanthum* dinoflagellate Zone incursion of Partridge (1976). A possible correlation to this horizon is suggested for the sample at 2417m in Flinders-1.

BIOSTRATIGRAPHY

Zone and age determinations are based on the Gippsland Basin spore-pollen zonation scheme proposed by Stover & Partridge (1973), partially modified by Stover & Partridge (1982) and Helby, Morgan & Partridge (1987). Other modifications to this scheme and local spore-pollen ranges applicable to the Bass Basin are provided by Partridge (1973). Although dinoflagellates were recorded in the samples none of the assemblages could be confidently correlated to any of the dinoflagellate zones recognised in the adjacent Gippsland Basin (Partridge 1975, 1976).

Author citations for most spore-pollen species can be sourced from Stover & Partridge (1973, 1982), Partridge (1973), or Helby, Morgan & Partridge (1987). For the other rarer species as well as most of the new genus/species name combinations the principal references are Dettmann & Jarzen (1988), Germeraad, Hopping & Muller (1968), Harris (1965) and Mildenhall & Pocknall (1989). Author citations for the dinoflagellates can be found in the indexes of Lentin & Williams (1985, 1989).

Species names followed by "ms" are unpublished manuscript names, most of which can be found in Partridge (1973). For some species there are dual entries on the range chart. Those species tagged as "dark" are considered to be *insitu* in the carbonised interval between 1702-2304m.

Lower *Nothofagidites asperus* Zone: 1602 metres

Middle Eocene.

Because all samples are cuttings it is particularly difficult in the shallowest sample at 1602m to be confident which species recorded are caved and which are *insitu*. A Lower *N. asperus* Zone age is preferred because of the relative high numbers of *Haloragacidites harrisii* which occur in equal