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PALYNOLOGICAL EXAMINATION OF STRADEROKE AND
MULLUNGUNG BORES, GIPPSLAND BASIN, VICTORIA.

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PALYNOLOGICAL EXAMINATION OF STRADBROKE AND MULLUNGUNG BORES,
GIPPSLAND BASIN, VICTORIA.

The Stradbroke and Mullungung bores are located in the Parishes of Stradbroke and Mullungung, south-west of Sale in Gippsland. The samples were examined at the request of B. Thompson.

Biostratigraphic zonation follows the scheme established by Stover and Partridge 1973, Tertiary and Late Cretaceous Spores and Pollen from the Gippsland Basin, Southeastern Australia, Proc. Roy. Soc., V85, 2.

Stradbroke 37

Depth 36-37 m Slide 1352

Species include: Proteacidites stipplatus
P. pseudomoides
* P. crassus
Nothofagidites flemingii
Periporopollenites demarcatus
P. vesicus
* Santulamidites cainozcicus

The species marked with an asterisk last appear at the top of the Lower Nothofagidites asperus Zone whereas the remaining species range up to the Proteacidites tuberculatus Zone.

Depth 345 m Slide 1353

Species include: Simplicepollis meridianus
Tricolpites phillipsii
Proteacidites tenuixinus
P. crassus
* P. angulatus
Periporopollenites vesicus
* P. polyoratus
* Gambierina rudata
* Australopollis obscurus
* Phyllocladidites reticulosaccatus

Gymnosperms are the predominant species (85%), particularly Podosporites microsaccatus, P. antarcticus and Phyllocladidites paleogenicus. Also common are ferns, notably Baculatisporites comaumensis, and tricolpites (and tricolporites) spp., particularly Tricolpites phillipsii. Nothofagidites spp. and Halorgacidites harrisii are less common, with H. harrisii being the more abundant species. Proteacidites crassus ranges from the Proteacidites asperopolus Zone to the Lower Nothofagidites asperus Zone. Periporopollenites vesicus first appears in the Lower Nothofagidites asperus Zone.

A number of species of Paleocene age (asterisked) are present in the sample, including Gambierina edwardsii which was noted in another sample from the same depth (pers. com. D. Ripper). These species are interpreted as being reworked although colour and staining differences are not always evident.

Age: From 36 - 37 m to 345 m, Lower Nothofagidites asperus Zone (Middle to Late Eocene).

Stradbroke 41

Depth 68 m Slide 1354

Species include: Nothofagidites asperus
 N. falcatus
 Gephyapollenites calathus

These species first appear in the Lower Nothofagidites asperus Zone. Proteacidites stipplatus occurs consistently at this depth. A characteristic of the Upper Nothofagidites asperus Zone is the frequent occurrence of Proteacidites stipplatus which suggests that the sample is near the top of the Lower Nothofagidites asperus Zone.

Depth 144 m Slide 1355

Proteacidites reflexus, which is restricted to the Lower Nothofagidites asperus Zone, occurs at this depth. Nothofagidites spp. are more abundant than Haloragacidites harrisii, and Illexpollenites anguloclavatus occurs consistently in the sample.

Age: from 68 m to 144 m, Lower Nothofagidites asperus Zone.

Stradbroke 47

Depth 184.2 m Slide 1356.

Proteacidites recavus is present in the pollen assemblage.

Age: Lower Nothofagidites Zone.

Stradbroke 48

Depth 164 m Slide 1357.

Pollen yield sparse, and provided no information.

Stradbroke 49

Depth 296 m Slide 1358.

Assemblage includes Proteacidites recavus. Pollen yield is poor but the sample contains a relatively high proportion of monosulcate spores.

Age: Lower Nothofagidites asperus Zone.

Mullungdung 1

Depth 70 - 80 m Slide 1351

Species include: Proteacidites incurvatus
 P. pachypolus
 P. recavus
 Tricolpites simatus
 Beaupreacidites adelosus

Tricolpites simatus and Beaupreacidites adelosus occur only in the lower part of the Lower Nothofagidites asperus Zone.

Age: Lower Nothofagidites asperus Zone

Mullungdung 2

Depth 13 m Slide 1359

Species include: Triorites magnificus
 Proteacidites recavus
 P. reflexus
 P. rectomarginus
 P. tenuixinus
 Propylipollis beddoesii

Triorites magnificus, Proteacidites recavus and P. reflexus all occur only in the Lower Nothofagidites asperus Zone, with Triorites magnificus being restricted to the upper part of the zone. There is a diversity of Nothofagidites spp. which are more abundant than Halorogacidites harrisii.

Depth 44.5 m Slide 1360

Species include Polycolpites simplex and Periporopollenites vesicus, both of which first appear in the Lower Nothofagidites asperus Zone and Triorites magnificus.

Age: From 13 m to 44.5 m Lower Nothofagidites asperus Zone

Mullungdung 5

Depth 59 m Slide 1361

Triorites magnificus is common in this sample. Pollen is abundant with Nothofagidites spp. more common than Halorogacidites harrisii. Dinoflagellate species of Hystrichosphaeridium sp. and cf. Diphyes sp. occur at this depth, which may represent contamination from overlying limestone (to a depth of 54.9 m).

Age: Lower Nothofagidites asperus Zone.

Mullungdung 7

Depth 378 m Slide 1362

Species include: Nothofagidites heterus
 N. flemingii
 Beaupreacidites adelosus
 Tripoporopollenites scabratus

Beaupreacidites adelosus indicates lower part of Lower Nothofagidites asperus Zone. Pollen yield poor with sample containing mainly reworked material. Reworked species include Gymnosperms, Nothofagidites spp., an upper Mesozoic spore (Cingultriletes sp.) and a dinoflagellate (cf. Hystrichosphaeridium sp.).

Age: Lower Nothofagidites asperus Zone

Mullungdung 8

Depth 194 m Slide 1363

Species include: Proteacidites reticulatus
 P. beddoesii
 Beaupreacidites adelosus
 Tricolpites simatus

The latter two species indicate the lower part of the Lower Nothofagidites asperus Zone. Nothofagidites spp. are slightly more abundant than Haloragacidites harrisii.

Depth 288 m Slide 1364

Species include: Beaupreacidites adelosus
 Nothofagidites falcatus
 N. asperus
 Malvacipollis diversus

Presence of Beaupreacidites adelosus indicates lower part of Lower Nothofagidites asperus Zone. Nothofagidites spp. diverse and more abundant than Haloragacidites harrisii.

Age: From 194 m to 288 m, Lower Nothofagidites asperus Zone

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