

The assemblage at 7378 feet is dominated by *Gleicheniidites* spp. and *Dilwynites granulatus* is common. Most frequently occurring distinctive species is *Proteacidites grandis*. *Cyathidites gigantis*, which is not known to occur above the Lower *M. diversus* zone, is rare as is *Proteacidites lapis*. A single dinoflagellate species of the autophragmous *Spinidinium*-type is present in this sample and it continues to occur sporadically down to 8240 feet.

*Gleicheniidites* spp. and *Dilwynites granulatus* continue to be the most common forms in the assemblage at 7510 feet. *Spinidinium*-type microplankton and *Wetzeliella homomorpha* are present also in this sample. Except for the introduction of *Nothofagidites asperoides* at 7674 feet, the assemblages from 7636, 7674 and 7688 feet are essentially the same as that at 7378 feet.

*Lygistepollenites balmei* Zone - The shallowest sample assigned unequivocally to this zone is at 7980 feet. Recorded in the assemblage are the last (youngest) occurrences of *Gambierina rudata*, *Lygistepollenites balmei*, *Phyllocladidites reticulosaccatus* and *Polycolpites langstonii*, and this particular association of species does not occur above the *L. balmei* zone. Preservation throughout the *L. balmei* interval is poor and species diversity is very low, hence an Upper-Lower *L. balmei* boundary could not be documented adequately in Dondu-1. Based on the very rare occurrence of *Peromonolites morgani* at 8240 feet, a suggested placement of an Upper-Lower *L. balmei* boundary is between 8124 and 8240 feet.

Coal samples from SWC 4 (9496 feet) and from an unknown depth - An excellently preserved and moderately diverse Middle Eocene spore-pollen assemblage containing species indicative of the upper part of the *Proteacidites asperopolus* zone were recovered from the coal reportedly from 9496 feet (i.e., in the *Lygistepollenites balmei* zone) and from another coal sample of unknown depth. The spore-pollen assemblages from these two samples are remarkably similar as evidenced by the occurrence of the following 23 species in both assemblages.

*Liliacidites lanceolatus*  
*Lygistepollenites florinii*  
*Malvacipollis diversus*  
*Malvacipollis subtilis*  
*Myrtaceidites tenuis*  
*Nothofagidites emarcidus/heterus*  
*Nothofagidites flemingii*  
*Periporopollenites demarcatus*  
*Phyllocladidites mawsonii*  
*Proteacidites annularis*  
*Proteacidites crassis*  
*Proteacidites delicatus*  
*Proteacidites obscurus*  
*Proteacidites pachypolus*  
*Proteacidites parvus* s.s.  
*Proteacidites pseudomoides*  
*Proteacidites rugulatus*