

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF
NATIONAL DEVELOPMENT
BUREAU OF MINERAL
RESOURCES, GEOLOGY
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Record 1971/63

CAINOZOIC FORAMINIFERAL ZONES AND STAGES USED IN
PAPUA NEW GUINEA

by

J.G. Binnekamp and H.L. Davies

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The purpose of this note is to present a comparative table of the various schemes of subdivision of the Cainozoic which are currently in use in Papua New Guinea. In the table the East Indies Letter Classification stages (based on larger Foraminifera) and the Planktonic Foraminiferal zones are related to the standard Cainozoic epochs, Papuan, Indonesian and European stages, and the radiometric time scale. It should be noted that these correlations are subject to revision as more data become available. The schemes of Adams (1970) and Clarke and Blow (1969) are in general agreement with the exception that Adams equates lower Tf stage with middle Miocene whereas Clarke and Blow equate lower Tf with lower middle Miocene. Radiometric age determinations (Page and McDougall, 1970) show that lower Tf stage falls almost exactly in the middle of the Miocene. Thus Adams' usage seems more logical though not necessarily more widely accepted.

The East Indies Letter Classification stages are referred to in several ways. The most commonly used form is "upper Tf", "lower Te", " Ta_1 ", " Ta_2 ", " Ta_3 " etc. Some authors prefer "Tertiary upper f" (f italicized) and others prefer "Tertiary upper "f" stage" (f in quotation marks).

We suggest that if the East Indies stages or Planktonic Foraminiferal zones are referred to in a report, there should be some note of explanation either in the form of a correlative table or a reference to a standard publication (see Bibliography).

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CAINOZOIC TIME SCALE SUMMARY OF SEVERAL REFERENCES

RADIOMETRIC TIME SCALE

ADAMS 1970

CLARKE AND BLOW 1969
BLOW 1969AFTER BERGGREN, 1969
PAGE AND McDOUGALL, 1970

Epoch	Tertiary Letter Stage	Planktonic Foraminiferal Zone	Tertiary Letter Stage	Epoch	European Stage	Papuan Stage	Indonesian Stage	m.y.
Pleistocene		N23		Pleistocene	Calabrian and younger		Bantamian	Pleist Plio 85
		N22						
		N21	? ?		Astrian			
Pliocene	Th	N20	Th	Pliocene	Zanclean	late	Sondian	Plio 5.5
		N19					Cheribonian	
		N18				Muruan		
		N17		late	Tortonian-	early	(Tijjarian?)	
	Tg	N16	Tg	Miocene	Messinian		Tjodeng	Tg 9
upper Miocene	upper Tf	N15	upper Tf					
	($\equiv f_3$)	N14				Ivorian	Preangurian	upper Tf 12
		N13	(f_3)	middle Miocene	Langhian (Helvetian Tortonian Vindobonian)	Kikorian		
middle Miocene	lower Tf	N12	lower Tf			Taurian	? ? ?	lower Tf 15
	($\equiv f_{1-2}$)	N11						
		N10	(f_{1-2})				Rembangan	
		N9						
lower Miocene	upper Te	N8	upper Te					
	($\equiv e_5$)	N7		early Miocene	Rudolgan			
		N6	Te					
		N5	($\equiv e_5$)		Aquitainian			Mio Olig 22.5
		N4				Keruran	Baturadja	
upper Oligocene	lower Te	N3	lower Te					
	($\equiv e_{1-4}$)	N2			Bormidian	Chatthian		
		N1	($\equiv e_{1-4}$)			Eochatthian		u.Olig 30
						Neochatthian		m.Olig
middle Oligocene	Td	P19	Td	Oligocene	Lattorian-Rupelian			m.Olig 32
					Chatthian (auctt)			l.Olig
lower Oligocene	Tc	P18	Tc					Olig 36
upper Eocene	Tb	P17	Tb	late Eocene	Priabonian		Nangulan	u.Eo 45
		P16						
		P15						
middle Eocene	Ta ₃	P14						m.Eo 49
lower Eocene	Ta ₂							Eo 53.7
upper Paleocene	Ta ₁							u.Paleo 60
								l.Paleo
								Paleo Cret 65

To accompany Record 1971/63

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