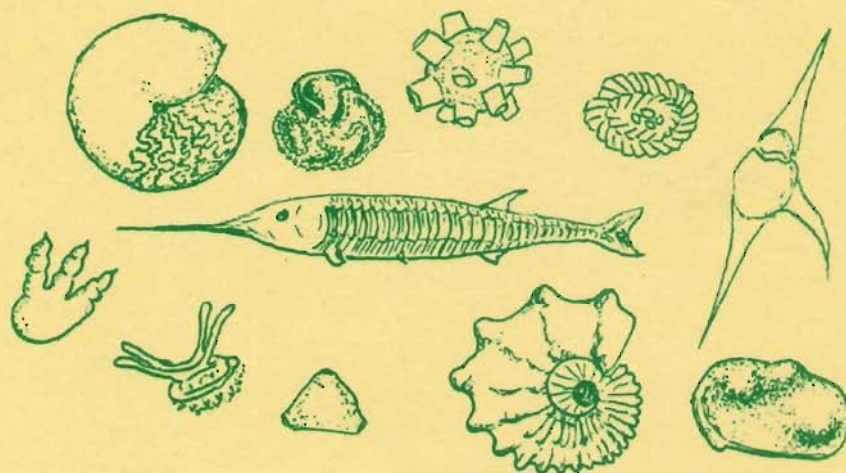


STRATIGRAPHIC RANGE OF CRETACEOUS MEGA- AND MICROFOSSILS OF BRAZIL

Edited by

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4.3. The Parnaíba Basin

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Introduction

The Parnaíba Basin has an area of 600,000 km², and occupies a great region of Brazilian Northeastern (States of Piauí, Maranhão, Ceará and part of Goiás).

It is separated from the neighbouring Amazonas, Marajó, São Luis and Barreirinhas basins by structural archs (Fig. 1). The basin originated in Paleozoic times when the South American Platform achieved its greatest tectonic stability. The Devonian-Carboniferous sedimentation comprises a sequence of shallow-marine to paralic environments. The Mesozoic is dominantly continental (19).

The Cretaceous sequence comprises continental deposits (Fig. 2) (17). The basal section is built-up of the clastic material of Pastos Bons Formation. It is overlaid by conglomerates and red, cross-bedded sandstones named Corda Formation. They are considered as sediments of fluvial-aeolian environments settled in a semi-arid to desertic climate.

During the opening of the Equatorial Atlantic margin, extensive basaltic flows occurred through a fissural vulcanism which overlaid the Pastos Bons and Corda formations. These volcanic rocks - mainly diabbases - constitute the Sardinha Formation.

During the Alagoas time were deposited conglomerates, coarse to fine sandstones (Grajáu Formation), shales and carbonates (Codó Formation). The environmental settling of the former was fluvial. The lithology and paleontological content of the latter (Codó Formation) reflects a restricted marine or lacustrine paralic environments. Climatological conditions were hot and dry.

The fine-grained sandstones with interbedded argillaceous and carbonate levels - Itapecuru Formation - is the youngest Cretaceous unit. The depositional environment is considered marine in the Northern, changing to a floodplain at the southern of the basin.

Paleontological aspects

The known fossils of Pastos Bons Formation comes from the Muzinho Shale, a famous fossiliferous site located at 16km to the Northeast of Floriano (Piauí State). A conchostracean assemblage were described by some authors (2, 21); the most important species is *Palaeolimnadiopsis pauloi*, although species of the genera *Pseudestheria*, *Lioestheria*, and *Amussia* (?) are common too. Scales of *Lepidotes*, *Lepidotes piauhyensis*, besides species of the families *Semionotidae*, *Macrosemiidae* and *Pleuropholidae* are indicatives of a rich paleoichthyofauna (26).

The palynomorphs of that site were described recently (14). Buracica in age, the assemblage is poor and badly preserved, probably due the presence of diabase dikes. One spore and thirteen pollen species were recognized. The dominance of rimulate pollen grains with subordinated monocolpate forms is remarkable. Stratigraphically important species are *Dicheiropollis etruscus*, *Exesipollenites tumulus* and *Vitreisporites pallidus*.

Until now, only vertebrate ichnofossils, comprising seven ornithischian trackways in a sandstone layer at the municipality of Itaguatins (Goiás state), are known from the Corda Formation (12).

The most important unit on the paleontological view is the Codó Formation. The available palynological data are due to Lima et alii (15) and Lima, (13). Among the most useful species are *Exesipollenites tumulus*, *Sergipea variverrucata*, *Equisetosporites irregularis* and *Alaticolpites limai*.

Besides the palynological content, the Codó Formation bears a diversified fauna. Bivalves *P. scabra* (*Anomiilidae*, *Coebulidae* and *Cardiidae*), gastropods (*Turritelidae* and *Cerithiidae*) (9), ostracods (*Hourqia angulata symmetrica* and *Candonopsis* sp.), conchostraceans ("*Lioestheria*" *codoensis* = *Cyzicus codoensis*), and echinoid spines are common. The ichthyofauna is similar that recorded in Chapada do Araripe, except for the absence of the genus *Knightia* (*Clupeidae*), that occurs only in Codó Formation.

The Itapecuru Formation (Albian-Cenomanian) has a large distribution in Parnaíba Basin; the carbonatic layers of its uppermost part contain a rich malacofauna (9, 10) - bivalves such as *Brachidontes eoexustus*, *Chlamys* sp., *Neithea* (*Neitheops*) *nana*, *Plicatula* sp., *Paranomia macedoi*, *Acepta maranhensis*, *Lopha* (*Actinostreon*) *lombardi*, *Pterotrigonia* (*Scabrotigonia*) sp., *Mulinoides* ? sp., *Corbula* sp., gastropods (*Nerinea pontagrossensis*) (18), besides plant remains.

The vertebrates, mainly dipnoic fishes, elasmobranchs, actinopterygians and reptiles (*Theropoda*, *Sauropoda*, *Crocodylia* and *Testudines*) were first described by Price (22, 23). Later on, Cunha & Ferreira (7) described new dipnoic fish species (*Ceratodus brasiliensis*, and a species close to the African *Ceratodus africanus*). Skeletal fragments of small animals were also found, whose molar teeth structure suggest affinities with the the order *Triconodonta* (6).

TAXONOMIC LIST OF IDENTIFIED SPECIES OF THE PARNAIBA BASIN

1. Palynomorphs

- Afropollis jardinus** (Brenner, 1963) Doyle, 1982 (13)
Alaticolpites cf. A. limai Regali et alii, 1974 (13)
Aratrisporites ocellatus Hedlund & Norris, 1968 (13)
Araucariacites australis Cookson, 1957 (14)
Araucariacites guianensis Van Der Hammen & Burger, 1966 (13)
Araucariacites limbatus (Balme, 1957) Habib, 1969 (13)
Bennettitaepollenites minimus Singh, 1964 (13)
Biretisporites potoniaei Delcourt & Sprumont, 1955 (13)
Camarozonosporites insignis Norris, 1967 (15)
Camarozonosporites rudis (Leschick) Klaus, 1960 (15)
Camarozonosporites sp. (13)
Ceratospores sp. (13)
Chomotriletes almegrensis Pocock, 1962 (15)
Chomotriletes fragilis Pocock, 1962 (15)
Cicatricosporites avnimelechi Horowitz, 1970 (15)
Cicatricosporites brevilaesuratus Couper, 1958 (13)
Cicatricosporites hallei Delcourt & Sprumont, 1955 (13)
Cicatricosporites mediodstriatus (Bolkhovitina) Pocok, 1965 (13)
Cicatricosporites microstriatus Jardiné & Magloire, 1965 (13)
Cicatricosporites nuni Horowitz, 1970 (13)
Cicatricosporites subrotundus Brenner, 1963 (13)
Cicatricosporites venustus Deak, 1963 (13)
Circulina minima (Hergreen, 1971) Lima, 1979 (13)
Circulina parva Brenner, 1963 (13)
Classopollis classoides Pflug, 1953 (15)
Classopollis intrareticulatus Volkheimer, 1972 (13)
Classopollis torosus (Reissinger, 1950) Couper, 1958 (14)
Classopollis cf. C. torosus Reissinger, 1950 (13)
Clavatipollenites sp. 1 (13)
Clavatipollenites sp. 2 (13)
Crybelosporites brenneri Playford, 1971 (15)
Crybelosporites cf. C. brenneri Playford, 1971 (13)
Crybelosporites pannuceus Brenner, 1963 (15)
Crybelosporites striatus (Cookson & Dettmann, 1963) (15)
Cyathidites australis Couper, 1953 (13)
Cyathidites minor Couper, 1953 (13)
Cycadopites deterius (Balme, 1957) Pocock, 1964 (15)
Cycadopites nitidus (Balme, 1957) Pocock, 1964 (13)
Cycadopites sp. 1 (15)
Cycadopites sp. 2 (15)
Deltoidospora tenuis Lima, 1978 (13)
Deltoidospora hallii Miner (13)
Densoisporites sp. (13)
Dicheiropollis etruscus Trevisan, 1971 (14)
Equisetosporites concinnus Singh, 1971 (13)
Equisetosporites costaliferous (Brenner, 1969) Lima, 1980 (13)
Equisetosporites elegans Lima, 1980 (15)
Equisetosporites fragilis Lima, 1980 (13)
Equisetosporites irregularis (Hergreen, 1973) Lima, 1980 (13)
Equisetosporites luridus Lima, 1980 (15)
Equisetosporites minuticostatus Lima, 1980 (13)
Equisetosporites strigatus (Brenner, 1968) Lima, 1980 (13)
Equisetosporites subcircularis Lima, 1980 (13)
Equisetosporites cf. E. procerus Brenner, 1963 (13)
Eucommiidites minor Groot & Penny, 1960 (14)
Eucommiidites troedssonii (Erdtman, 1948) Hugues, 1961 (14)

- Exesipollenites tumulus** Balme, 1957 (13)
Gemmatriletes cf. **G. clavatus** Brenner, 1968 (13)
Gnetaceaepollenites barghoornii (Pocock, 1964) Lima, 1980 (15)
Gnetaceaepollenites chlatratus Stover, 1964 (15)
Gnetaceaepollenites fissuratus (Paden-Phillips & Felix, 1971)
 Lima, 1980 (15)
Gnetaceaepollenites jansonii Pocock, 1964 (13)
Gnetaceaepollenites oreadis Srivastava, 1968 (13)
Gnetaceaepollenites retangularis Lima, 1980 (13)
Inaperturopollenites crisopolensis Regali et alii, 1974 (15)
Inaperturopollenites simplex Regali et alii, 1974 (15)
Inaperturopollenites sp. (13,14)
Ischyosporites granulatus Tralau, 1968 (15)
Klukisporites scaberis (Cookson & Dettmann) Dettmann, 1963 (13)
Leptolepidites equatibossus (Couper) Tralau, 1968 (15)
Leptolepidites psarosus Norris, 1966 (13)
Leptolepidites verrucatus Couper, 1953 (15)
Liliacidites sp. (13)
Matonisporites sp. (13,14)
Monocolpopollenites sp. (13)
Monosulcites cf. **M. chaloneri** Brenner, 1963 (13)
Monosulcites sp. (13)
Peltrandipites sp. (13)
Penetetrapites mollis Hedlung & Norris, 1968 (13)
Psilatricolpites sp. (13)
Retimonocolpites peroreticulatus (Brenner, 1963) Doyle, 1975 (13)
Retimonocolpites sp. (15)
Retitricolpites sp. (15)
Scabratricolpites sp. (15)
Schizosporis parvus Cookson & Dettmann, 1959 (15)
Schizosporis spriggi Cookson & Dettmann, 1959 (15)
Sergipea cf. **S. variverrucata** Regali et alii, 1974 (13)
Singhia acicularis Lima, 1980 (15)
Singhia crenulata Lima, 1980 (15)
Singhia elongata (Horowitz, 1970) Lima, 1980 (15)
Singhia montanaensis (Brenner, 1968) Lima, 1980 (13)
Singhia minima Lima, 1980 (13)
Steevesipollenites cupuliformis Azema & Boltenhagen, 1974 (13)
Steevesipollenites dayani Brenner, 1963 (15)
Steevesipollenites grambasti Azema & Boltenhagen, 1974 (13)
Steevesipollenites pygmeus Azema & Boltenhagen, 1974 (15)
Stellatopollis araripensis (Lima, 1976) Lima, 1978 (13)
Stellatopollis sp. 1 (13)
Stellatopollis sp. 2 (13)
Stereisporites psilatus (Ross) Manum, 1954 (13)
Todisporites major Couper, 1958 (13)
Todisporites minor Couper, 1958 (15)
Triangulopsis sp. (13)
Trilites sp. 1 (13)
Trilites sp. 2 (13)
Tuberculatosporites sp. 1 (13)
Tuberculatosporites sp. 2 (13)
Uvaesporites glomeratus (15)
Vitreisporites pallidus (Reissinger) Nilsson, 1958 (14)
Zonallapollenites dampieri Balme, 1957 (15)
Zonallapollenites segmentatus Balme, 1957 (15)

2. Ostracods

Hourcgia angulata symmetrica Krömmelbein & Weber, 1971 (11)
Candonopsis sp. 1 (13)

3. Invertebrates

GASTROPODA

Nerinea pontagrossensis Oliveira, 1958 (18)

BIVALVIA

Acesta maranhensis Ferreira & Klein in Klein & Ferreira, 1979
 (10)
Brachidontes eoexustus Ferreira & Klein in Klein & Ferreira, 1979
 (10)
Chlamys sp. (10)
Corbula sp. (10)
Lopha (Actinostreon) lombardi Dartevelle & Freinex, 1957 (10)
Mulinoides ? sp. (10)
Neithea (Neitheops) nana Ferreira & Klein in Klein & Ferreira,
 1979 (10)
Paranomia macedoi (Maury, 1925) (9)
Paranomia scabra (Morton, 1860) (9)
Plicatula sp. (10)
Pterotrigonia (Scabrotrigonia) sp. (10)

CRUSTACEA (CONCHOSTRACA)

Asmussia ? sp. (21)
Cyzicus codoensis (Cardoso, 1962) (5)
Liostheria sp. (21)
Palaeolimnadiopsis pauloi (Beurlen, 1954) (2,16)
Pseudestheria sp. 1 (21)
Pseudestheria sp. 2 (21)

INSECTA

Laticutella santosi Pinto & Ornellas, 1974 (20)
Pricecoris beckeræ Pinto & Ornellas, 1974 (20)

4. Vertebrates

PISCES

Actinopterygii indet. (23)
Brannerion vestitum (Jordan & Branner, 1908) (28)
 ? *Ceratodus africanus* Haug, 1905 (7)
Ceratodus brasiliensis Cunha & Ferreira, 1980 (7)
Cladocycclus gardneri Agassiz, 1841 (28)
Dastilbe elongatus Santos, 1974 (8)

Dipnoi indet. (23)
 Elasmobranchii indet. (23)
 Enneles audax Jordan & Branner, 1908 (28)
 Knightia sp. (28)
 Lepidotes piauhyensis Roxo & Loeffgren, 1936 (24,250)
 Araripelepidotes temnurus (Agassiz, 1841) (28,30)
 Lepidotes sp. (1)
 Macrosemiidae indet. (27)
 Pleuropholidae indet. (27)
 Semionotidae indet. (27)
 Tharrhias araripis Jordan & Branner, 1908 (28)
 Vincifer comptoni (Agassiz, 1841) (28)

REPTILIA

Chelonia indet. (23)
 Crocodilia indet. (23)
 Sauropoda indet. (23)
 Theropoda indet. (23)

INCERTAE SEDIS

Candidodon itapecuruense Carvalho & Campos, 1988 (6)

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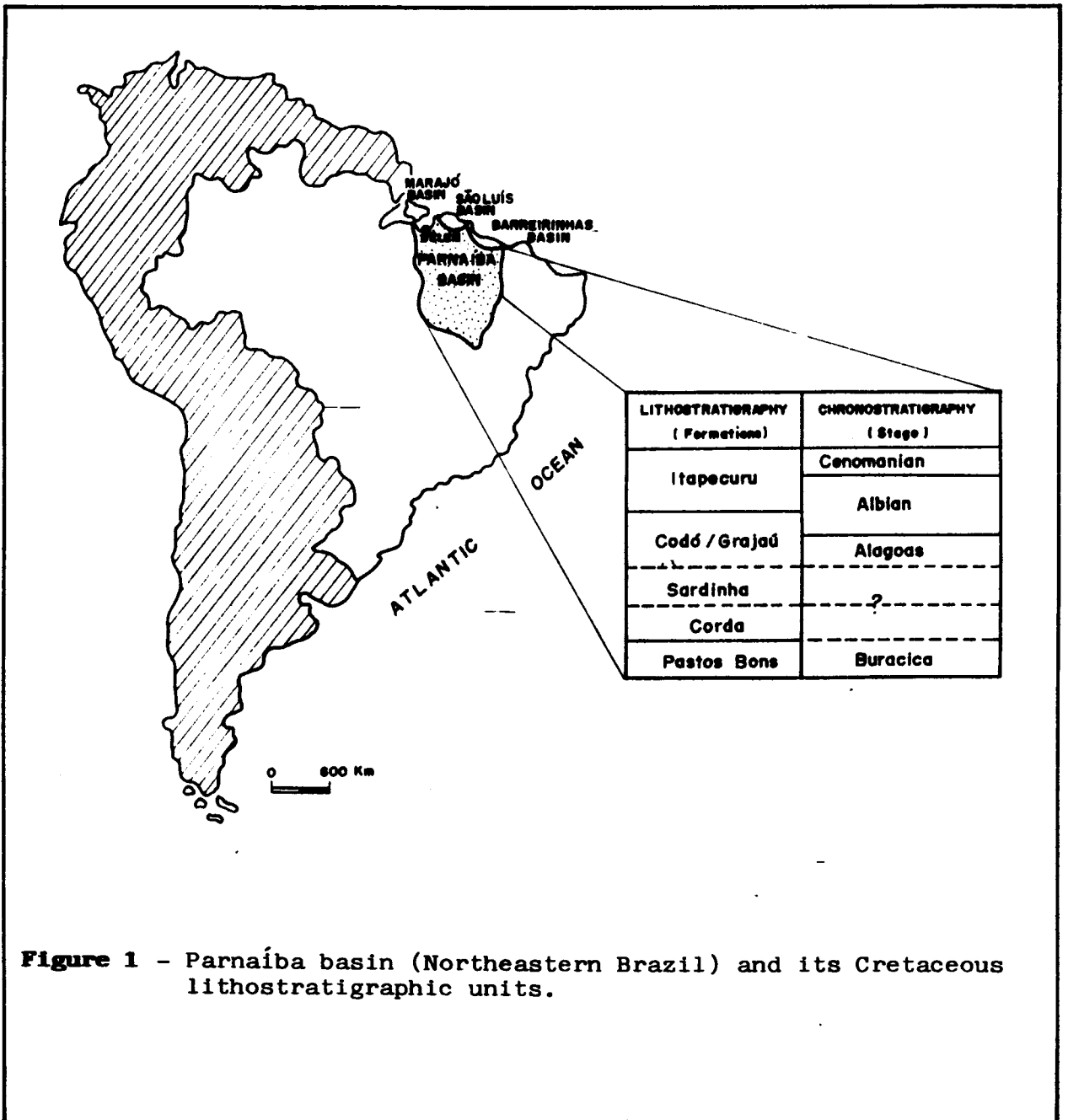


Figure 1 - Parnaíba basin (Northeastern Brazil) and its Cretaceous lithostratigraphic units.

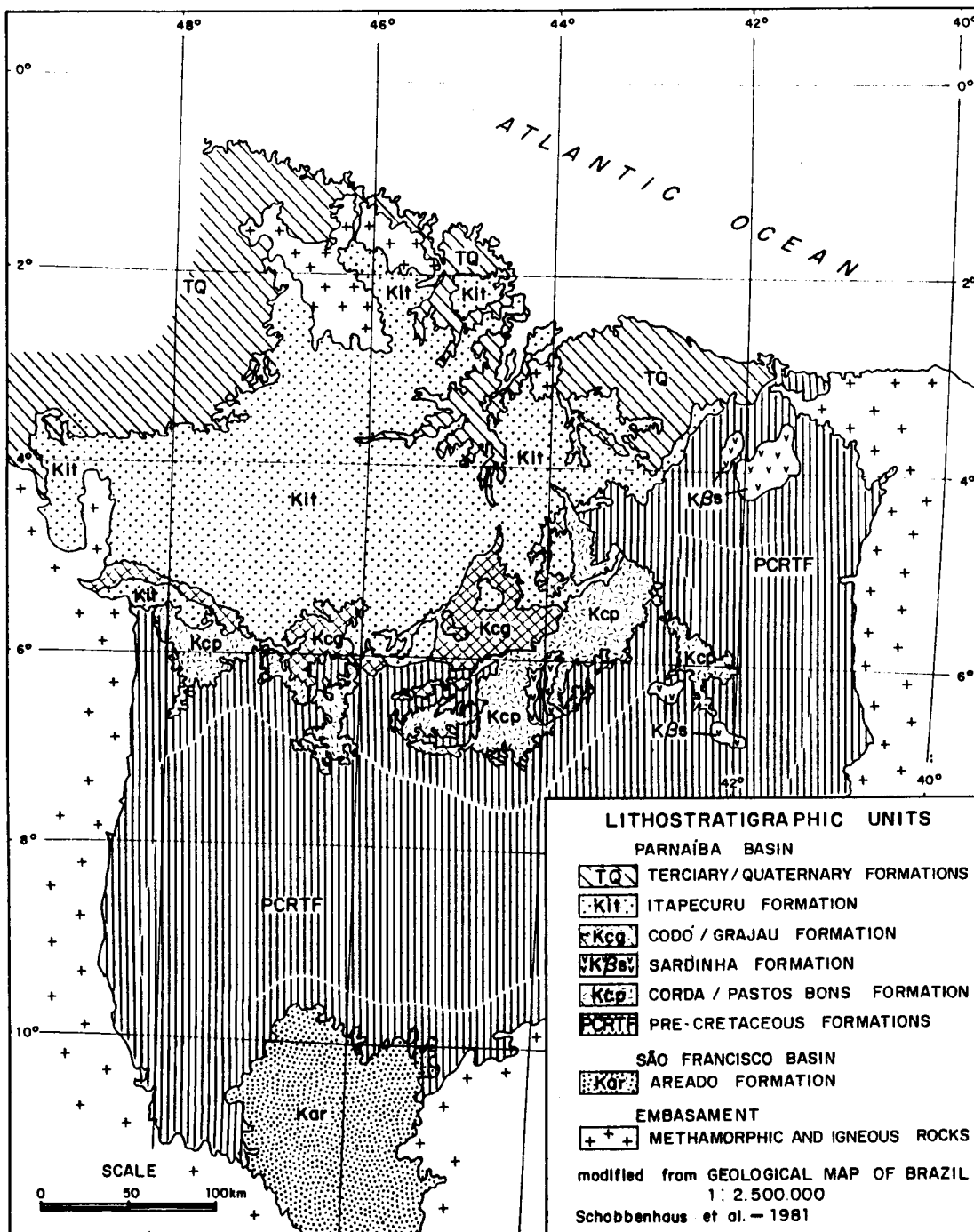


Figure 2 - Cretaceous lithostratigraphic units of the Parnaíba basin.

EARLY CRETACEOUS — TAXA PALYNOMORPHS PARNAÍBA BASIN	NEOCOMIAN TO EARLIEST ALBIAN					ALBIAN (PARS)
	BRAZILIAN LOCAL STAGES					
	RIO DA SERRA	ARATU	BURACICA	JQUIÁ	ALAGOAS	
<i>Afropollis jardinus</i> (13)					—	
<i>Alaticolpites</i> cf. <i>A. limai</i> (13)					—	
<i>Aratrisporites ocellatus</i> (13)					—	
<i>Aracariacites australis</i> (14)			—		—	
<i>A. guianensis</i> (13)					—	
<i>A. limbatus</i> (13)			—		—	
<i>Bennettitaepollenites minimus</i> (13)					—	
<i>Biretisporites potoniaei</i> (13)					—	
<i>Camarozonosporites insignis</i> (15)					—	
<i>C. rudis</i> (15)					—	
<i>Camarozonosporites</i> sp. (13)					—	
<i>Ceratosporites</i> sp. (13)					—	
<i>Chomotriletes almegrensis</i> (15)					—	
<i>C. fragilis</i> (15)					—	
<i>Cicatricosisporites avnimelechi</i> (15)					—	
<i>C. brevilaesuratus</i> (13)					—	
<i>C. hallei</i> (13)					—	
<i>C. mediostriatus</i> (13)					—	
<i>C. microstriatus</i> (13)					—	
———— common						

EARLY CRETACEOUS TAXA PALYNOMORPHS PARNAÍBA BASIN	NEOCOMIAN TO EARLIEST ALBIAN					ALBIAN (PARS)
	BRAZILIAN LOCAL STAGES					
	RIO DA SERRA	ARATU	BURACICA	JQUIÁ	ALAGOAS	
<i>C. nuni</i> (13)						
<i>Cicatricosisporites subrotundus</i> (13)						
<i>C. venustus</i> (13)						
<i>Circulina minima</i> (13)						
<i>C. parva</i> (13)						
<i>Classopollis classoides</i> (15)						
<i>C. intrareticulatus</i> (13)						
<i>C. torosus</i> (14)						
<i>C. cf. C. torosus</i> (13)						
<i>Clavatipollenites</i> sp. 1 (13)						
<i>Clavatipollenites</i> sp. 2 (13)						
<i>Crybelosporites brenneri</i> (15)						
<i>C. cf. C. brenneri</i> (13)						
<i>C. pannuceus</i> (15)						
<i>C. striatus</i> (15)						
<i>Cyathidites australis</i> (13)						
<i>C. minor</i> (13)						
<i>Cycadopites deterius</i> (15)						
<i>C. nitidus</i> (13)						
<p>———— common</p>						

EARLY CRETACEOUS TAXA PALYNOMORPHS PARNAÍBA BASIN	NEOCOMIAN TO EARLIEST ALBIAN				ALBIAN (PARS)
	BRAZILIAN LOCAL STAGES				
	RIO DA SERRA	ARATU	BURACICA	JQUIÁ	
<i>Cycadopites</i> sp. 1 (15)					
<i>Cycadopites</i> sp. 2 (15)					
<i>Deltoidospora tenuis</i> (13)					
<i>D. hallii</i> (13)					
<i>Densoisporites</i> sp. (13)					
<i>Dicheiropollis etruscus</i> (14)					
<i>Equisetosporites concinnus</i> (13)					
<i>E. costaliferous</i> (13)					
<i>E. elegans</i> (15)					
<i>E. fragilis</i> (13)					
<i>E. irregularis</i> (13)					
<i>E. luridus</i> (15)					
<i>E. minuticosatus</i> (13)					
<i>E. cf. E. procerus</i> (13)					
<i>E. strigatus</i> (13)					
<i>E. subcircularis</i> (13)					
<i>Eucomiidites minor</i> (14)					
<i>E. troedssonii</i> (14)					
<i>Exesipollenites tumulus</i> (13)					
————— common					

EARLY CRETACEOUS TAXA PALYNOMORPHS PARNAÍBA BASIN	NEOCOMIAN TO EARLIEST ALBIAN					ALBIAN (PARS)
	BRAZILIAN LOCAL STAGES					
	RIO DA SERRA	ARATU	BURACICA	JQUIÁ	ALAGOAS	
<i>Gemmatriletes</i> cf. <i>G. clavatus</i> (13)						
<i>Gnetaceaepollenites chlatratus</i> (15)						
<i>G. barghoornii</i> (15)						
<i>Gnetaceaepollenites fissuratus</i> (15)						
<i>G. jansonii</i> (13)						
<i>G. oreadis</i> (13)						
<i>G. retangularis</i> (13)						
<i>Inaperturopollenites crisopolensis</i> (15)						
<i>I. simplex</i> (15)						
<i>Inaperturopollenites</i> sp. (13,14)			-			
<i>Ischyosporites granulosus</i> (15)						
<i>Klukisporites scaberis</i> (13)						
<i>Leptolepidites equatibossus</i> (15)						
<i>L. psarosus</i> (13)						
<i>L. verrucatus</i> (15)						
<i>Liliacidites</i> sp. (13)						
<i>Matonisporites</i> sp. (13,14)			-			
<i>Monocolpopollenites</i> sp. (13)						
<i>Monosulcites</i> cf. <i>M. chaloneri</i> (13)						
————— common						

EARLY CRETACEOUS TAXA PALYNOMORPHS PARNAÍBA BASIN	NEOCOMIAN TO EARLIEST ALBIAN					ALBIAN (PARS)
	BRAZILIAN LOCAL STAGES					
	RIO DA SERRA	ARATU	BURACICA	JQUIÁ	ALAGOAS	
? <i>Monosulcites</i> sp. (13)						
<i>Peltrandipites</i> sp. (13)						
<i>Penetetrapites mollis</i> (13)						
<i>Psilatricolpites</i> sp. (13)						
<i>Retimonocolpites peroreticulatus</i> (13)						
<i>Retimonocolpites</i> sp. (15)						
<i>Retitricolpites</i> sp. (15)						
<i>Scabratricolpites</i> sp. (15)						
<i>Schizosporis parvus</i> (15)						
<i>S. spriggi</i> (15)						
<i>Sergipi</i> cf. <i>S. variverrucata</i> (13)						
<i>Singhia acicularis</i> (15)						
<i>S. crenulata</i> (15)						
<i>S. elongata</i> (15)						
<i>S. montanaensis</i> (13)						
<i>S. minima</i> (13)						
<i>Steevesipollenites cupuliformis</i> (13)						
<i>S. dayani</i> (15)						
<i>S. grambasti</i> (13)						
<p>————— common</p>						

EARLY CRETACEOUS TAXA — PALYNOMORPHS PARNAÍBA BASIN	NEOCOMIAN TO EARLIEST ALBIAN					ALBIAN (PARS)
	BRAZILIAN LOCAL STAGES					
	RIO DA SERRA	ARATU	BURACICA	JQUIÁ	ALAGOAS	
<i>S. pygmeus</i> (15)						
<i>Stellatopollis araripensis</i> (13)						
<i>Stellatopollis</i> sp. 1 (13)						
<i>Stellatopollis</i> sp. 2 (13)						
<i>Stereisporites psilatus</i> (13)						
<i>Todisporites major</i> (13)						
<i>T. minor</i> (15)						
<i>Triangulopsis</i> sp. (13)						
<i>Trilites</i> sp. 1 (13)						
<i>Trilites</i> sp. 2 (13)						
<i>Tuberculatosporites</i> sp. 1 (13)						
<i>Tuberculatosporites</i> sp. 2 (13)						
<i>Uvaesporites glomeratus</i> (15)						
<i>Vitreisporites pallidus</i> (14)						
<i>Zonallapollenites dampieri</i> (15)						
<i>Z. segmentatus</i> (15)						
—— common						

EARLY CRETACEOUS TAXA INVERTEBRATES PARNAÍBA BASIN	NEOCOMIAN TO EARLIEST ALBIAN					ALBIAN (PARS)
	BRAZILIAN LOCAL STAGES					
	RIO DA SERRA	ARATU	BURACICA	JIQUIÁ	ALAGOAS	
BIVALVIA						
Paranomia scabra (9)						
CRUSTACEA (CONCHOSTRACA)						
Asmussia ? sp. (21)						
Cyzicus codoensis (5)						
Liostheria sp. (21)						
Palaeolimnadiopsis pauloi (2,16)						
Pseudestheria sp. 1 (21)						
Pseudestheria sp. 2 (21)						
INSECTA						
Laticutella santosi (20)						
Pricecoris beckeræ (20)						
<p>———— common</p>						

<p style="text-align: center;">LATE CRETACEOUS TAXA</p> <p style="text-align: center;">INVERTEBRATES PARNAÍBA BASIN</p>	CENOMANIAN	TURONIAN	CONIACIAN	SANTONIAN	CAMPANIAN	MAASTRICHTIAN
GASTROPODA						
Nerinea pontagrossensis (18)	—					
BIVALVIA						
Acesta maranhensis (10)	—					
Brachidontes coeustus (10)	—					
Chlamys sp. (10)	—					
Corbula sp. (10)	—					
Lopha (Actinostreon) lombardi (10)	—					
Mulinoides ? sp. (10)	—					
Neithea (Neitheops) nana (10)	—					
Paranomia macedoi (9)	—					
Plicatula sp. (10)	—					
Pterotrigonia (Scabrotrigonia) sp. (10)	—					
<p>— common</p>						

EARLY CRETACEOUS TAXA VERTEBRATES PARNAÍBA BASIN	NEOCOMIAN TO EARLIEST ALBIAN					ALBIAN (PARS)
	BRAZILIAN LOCAL STAGES					
	RIO DA SERRA	ARATU	BURACICA	JQUIÁ	ALAGOAS	
PISCES						
<i>Brannerion vestitum</i> (28)						
<i>Cladocycclus gardneri</i> (28)						
<i>Dastibe elongatus</i> (8)						
<i>Enneles audax</i> (28)						
<i>Knightia</i> sp. (28)						
<i>Lepidotes piauyensis</i> (24,25)						
<i>Araripelepidotes tenuis</i> (28,30)						
<i>Lepidotes</i> sp. (1)						
Macrosemiidae indet. (27)						
Pleuropholidae indet. (27)						
Semionotidae indet. (27)						
<i>Tharrias araripis</i> (28)						
<i>Vinctifer comptoni</i> (28)						
INCERTAE SEDIS						
<i>Candidodon itapecuruense</i> (6)						
———— common						

EARLY CRETACEOUS TAXA VERTEBRATES PARNAÍBA BASIN	NEOCOMIAN TO EARLIEST ALBIAN					ALBIAN (PARS)
	BRAZILIAN LOCAL STAGES					
	RIO DA SERRA	ARATU	BURACICA	JIQUEIA	ALAGOAS	
PISCES						
Actinopterygii indet. (23)	———					
? Ceratodus africanus (7)	———					
Ceratodus brasiliensis (7)	———					
Dipnoi indet. (23)	———					
Elasmobranchii indet. (23)	———					
REPTILIA						
Chelonia indet. (23)	———					
Crocodylia indet. (23)	———					
Sauropoda indet. (23)	———					
Theropoda indet. (23)	———					
———— common						