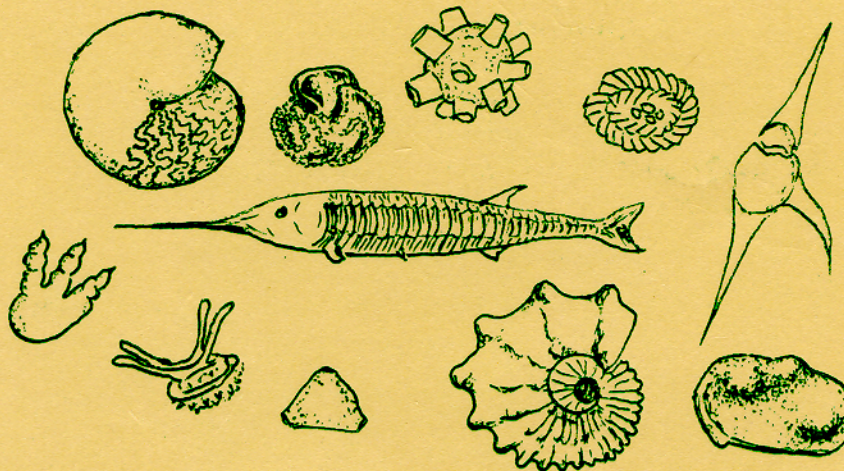


# STRATIGRAPHIC RANGE OF CRETACEOUS MEGA- AND MICROFOSSILS OF BRAZIL

Edited by

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### 3.3. The Sergipe-Alagoas Basin

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CN= Calcareous nannofossils, F= Foraminifers,  
 I= Invertebrates, IC= Ichnofossils, O= Ostracods, P= Palyno-  
 morphs, PR= Plant remains, V= Vertebrates

#### Introduction

The Sergipe-Alagoas Basin is situated in the Northeastern states of the same name. Its onshore area forms a narrow strip, 300 km length and about 30 km wide (Fig. 1).

The Sergipe-Alagoas Basin and the Potiguar Basin at the Equatorial margin are the only Brazilian Cretaceous basins with a complete sedimentary record, comprising since Late Jurassic nonmarine sediments of the pre-rift phase up to Latest Cretaceous marine sediments of the drift phase (Continental to Marine supersequences). As a result, the fossiliferous record of the two basins, except for the famous fish fauna of the interior Araripe basin, may be representative of the Brazilian Cretaceous.

Notwithstanding modern stratigraphic approaches, the stratigraphic framework of the basin did not differ substantially from that established by Petrobrás geologist by the late sixties (91). Its evolution was discussed in sufficient detail in the introduction (chapter 1) as it is representative for most of the Brazilian coastal basins. Thus, it will be enough if the names of the local stratigraphic units are mentioned here (Fig. 2).

The sediments of the nonmarine-transitional section are grouped into the Baixo São Francisco Group. Deposited in a fluvial and lacustrine environment, they are of Early Cretaceous age, comprising since Dom João through Alagoas age (approximately Late Jurassic-Earliest Albian).

The Sergipe Group represents the sediments of the Marine Supersequence deposited during Albian through Recent times. Its lower part comprises the Riachuelo and Cotinguiba formations building up the Carbonate Sequence deposited during Albian-Santonian times. The Piaçabuçu Formation comprises both the Transgressive and the Regressive sequences. The former is predominantly represented by the thick shales of the Calumbi Member, whereas the latter is built-up of coarse clastics and carbonates of the Marituba Member.

## Fossil Assemblages

The first notice on the invertebrate fossils of the basin is so old as 1870 and due to Prof. Hyatt's reports on the ammonite fauna of Maruim published by Hartt (33). Further studies went on up to the late thirties (62, 92), with the taxonomic and stratigraphic study of the molluscs and echinoids of the Riachuelo and Cotinguiba formations.

More recent studies on ammonites (3, 4, 6) and intensive and continue research on microfossils, mainly foraminifers, calcareous nannofossils, and palynomorphs, have been the main component to improve chronostratigraphic knowledge of the marine section. Together with the bivalves, gastropods, and echinoids, vertebrates and plant remains, the Mid-Late Cretaceous fossil assemblage of this basin constitute a diversified assemblage, which is the most complete marine record from Cretaceous Brazilian basins.

In the Early Cretaceous Continental and Transitional-Open Gulf supersequences, ostracods and palynomorphs were the main components in defining biostratigraphy and paleoenvironments. The macrofossil record, besides its scarcity, is not well enough known to provide useful stratigraphic information.

#### The nonmarine Rio da Serra to Alagoas assemblages

The taxonomic and biostratigraphic research on both ostracod and palynomorph assemblages were strongly improved since the beginning of Petrobrás exploratory activities. The tectonostratigraphic and paleoenvironmental evolution of the Continental Supersequence is very close to that of the Recôncavo-Tucano-Jatobá Basin and the same assemblages have been recorded in two basins. The same bio- and chronostratigraphic units were consequently established (91, 97).

The geologic evolution of the Sergipe-Alagoas Basin was not interrupted by the end of the Rift Stage as it occurred in the Recôncavo-Tucano-Jatobá Basin, and sediments of the transitional and marine stages were deposited there. The transitional sediments are characterized by two distinct ostracod faunas, namely *Limnocythere troelsenii* and "Cytheridea" ssp. 201/218 assemblages (65, 91).

Pollen assemblages, although rich, show few guide species. Local stage subdivisions are referred to by characteristic palynomorph species as the gymnosperm pollen *Dicheiropollis etruscus*, common in the South American-African realm during Rio da Serra and Aratú times. Species of the genera *Classopollis*, *Araucariacites*, *Vitreisporites* and *Psilatrilletes* are associated to this species. Two another important palynomorph groups may be characterized by *Clavatipollenites crisopolensis* and species of the genus *Afropollis* group, also common in the South Atlantic realm during Buracica to Early Alagoas and Late Alagoas-Early Albian times, respectively.

The macrofossil record is represented by invertebrates and vertebrates.

The Early Cretaceous nonmarine mollusks were assigned to marine genera in the original descriptions. They are listed with the original name as they have not been revised yet.

Some scales assigned to the genus *Lepidotes* resemble the fish remains from the Recôncavo-Tucano-Jatobá Basin.

#### The marine (Early ?-) Mid Albian to Maastrichtian assemblages

The marine Cretaceous of the Sergipe-Alagoas Basin bears the most diversified and best preserved fauna of the Brazilian Cretaceous.

Among the microfossils, foraminifers, calcareous nannofossils and palynomorphs are the best known groups.

Foraminifera were studied in detail for the first time by Petri, who established the first foraminiferal biostratigraphy comprising six zones (78). Further studies were carried out mainly by Petrobrás. The world-wide *Favusella washitensis* and *Hedbergella planispira* assemblage define the Latest Alagoas-Albian section. The calcareous nannofossil genus *Nannoconus* is restricted to the same interval.

Locally, an older assemblage related to Late Aptian foraminifers may be found, suggesting a Late Aptian age for the first marine transgression in the basin (Beurlen, G., pers. comm.). Calcareous nannofossils related to Aptian forms points to the same conclusion (Freitas, Petrobrás int.rep.).

Among the foraminifers, hedbergellids still prevail up to the Turonian, whereas carinate planktonics, mainly globotruncanids, or a diversified heterohelicid assemblage, characterize the younger assemblages. A diversified and well preserved calcareous nannofossil assemblage allow good correlation in a worldwide scale, except for Cenomanian-Turonian times, without any guide-fossil.

The first elaterate pollen species *Elateropollenites jardinei* appears during Latest Alagoas-Mid Albian times. The elaterates become more diversified just up to the Cenomanian and species such as *Elaterocolpites castelaini*, *Elateroplicites africaensis*, *Elaterosporites protensus*, *Elaterosporites verrucatus* and *Galeacornea causea* are common. The poliporates are represented by *Cretacaeiporites polygonalis*. The Middle Albian may be characterized by the presence of *Hexaporotricolpites emelianovi* and the first appearance of *Hexaporotricolpites coronatus*, whereas *Hexaporotricolpites potonieii*, *Classopollis major*, *Classopollis spinosus* and *Trirites africaensis* are common in Late Albian-Cenomanian strata.

During Turonian-Santonian times palynomorphs are not well preserved. The disappearance of the elaterate pollen grains characterizes this time interval, except for the genus *Hexaporotricolpites* which is still present.

During Campanian and Maastrichtian times tricolpates and tricolporites genera prevail, mainly represented by species such as *Crassitricolporites brasiliensis*, *Retiperiporites piacabucuen-sis*, *Retitricolporites mirabilis*, *Auriculiidites reticulatus*, *Tricornites elongatus* and species of the genus *Aquilapollenites*.

The diversified invertebrate fauna is known since the last century, especially the very conspicuous Albian through Santonian ammonite assemblages. A comprehensive taxonomic and biostratigraphic study of the cephalopods, bivalves, gastropods and echinoids were published by White (1887) in the "Comissão Geológica do Império" collection (98). Maury (1936) redefined mainly the Albian and Turonian species (62).

In order to avoid as much as possible wrong stratigraphic ranges, some of White's species were not included in the range charts, because of doubts in their correct geographic provenance.

More recent studies on the taxonomy and biostratigraphy of the cephalopod assemblages allowed to distinguish several biostratigraphic intervals from Albian through Santonian times. For more detailed information we refer to the papers by Beurlen, K., Beurlen G. (4) concerning the mainly Albian Riachuelo Formation and Beurlen, K., Beurlen, G. (6) and Bengtson (3) for the Turonian-Coniacian (-Santonian ?) Cotinguiba Formation.

The ammonite assemblages are the best known invertebrate group. Recently, the Turonian inoceramids were studied in detail, from both the taxonomic and stratigraphic/paleoecologic point of view (40).

Only few attention has been given to the fish and plant remains of the Riachuelo Formation.

The invertebrate assemblage of the Late Cretaceous Piaçabuçu Formation is similar to that of the Pernambuco-Paraíba Basin. The assemblage is remarkably lesser diversified when compared with the assemblages of the older section.

## TAXONOMIC LIST OF IDENTIFIED SPECIES OF SERGIPE-ALAGOAS BASIN

## 1. Palynomorphs

- Aequitriradites* sp. (83)  
*Aequitriradites spinulosus* Dettman, 1961 (83)  
*Afropollis jardinus* (Brenner) Doyle et alii, 1982 (83)  
*Afropollis operculatus* Doyle et alii, 1982 (27)  
*Afropollis zonatus* Doyle et alii, 1982 (27)  
*Alaticolpites limai* Regali et alii, 1974 (83)  
*Andalusiella mauthei* (Riegel) Riegel & Sarjeant, 1982  
*Applanopsis dampiere* (Balme) Doring, 1961 (42,83)  
*Applanopsis trilobatus* Goubin et alii (83)  
*Aquilapollenites magnus* Regali et alii, 1974 (83)  
*Araucariacites australis* Cookson, 1947 (42,83)  
*Ariadnaesporites spinosus* Hills, 1967 (83)  
*Auriculiidites reticulatus* Elsik, 1965 (83)  
*Buttinia andreevi* Boltenhagen, 1967 (35,83)  
*Canningia colliveri* Cookson & Eisenack, 1960  
*Caytonipollenites* ? sp. 2 (83)  
*Cedripites* ? sp. (83)  
*Ceratiopsis striata* (Drugg) Letin & Williams, 1967 (83)  
*Cicatricosisporites avnmelechi* Horowitz, 1970 (54)  
*Cicatricosisporites nuni* Horowitz, 1975 (54)  
*Cingulatisporites verrucatus* Regali et alii, 1974 (83)  
*Classopollis major* Groot & Groot, 1962 (83)  
*Classopollis spinosus* Herngreen, 1973 (35)  
*Classopolis* spp.  
*Clavatipollenites crisopolensis* (Regali et alii) Regali, 1978  
 (81)  
*Clavatricolpites irregularis* Herngreen, 1975 (36)  
 "Complicatisaccus" cearensis Regali, 1987 (82)  
*Concavissporites variverrucatus* Couper, 1952 (83)  
*Concavissimisorites* sp.  
*Confossia vulgaris* Stough, 1968 (83)  
*Coronifera oceanica* Cookson & Eisenack, 1958  
*Crassitriapertites polymorphus* Herngreen, 1972 (34)  
*Crassitriapertites uesuguii* Herngreen, 1972 (34)  
*Crassitriapertites vanderhammeni* Herngreen, 1972 (34)  
*Crassitricolporites brasiliensis* Herngreen, 1972 (34)  
*Crassitricolporites costatus* Herngreen, 1972 (34)  
*Crassitricolporites subprolatus* Herngreen, 1972 (34)  
*Cretacaeiporites mulleri* Herngreen, 1973 (35)  
*Cretacaeiporites polygonalis* Herngreen, 1973 (35)  
*Cretacaeiporites scabratus* Herngreen, 1973 (35)  
*Cribopteridium* sp.  
*Cricotriporites almadaensis* Regali et alii, 1974 (83)  
*Crybelosporites* sp.  
*Cupanieidites reticularis* Cookson & Pike, 1954 (83)  
*Dicheiropollis etruscus* Trevisan, 1971 (83)  
*Dinogymnium* spp. (83)  
*Elaterocolpites castelaini* Jardiné & Magloire, 1965 (42)  
*Elateroplicites africaensis* Herngreen, 1973 (35,83)  
*Elateropollenites jardinei* Herngreen, 1973 (35)  
*Elaterosporites klaszi* (Jardiné & Magloire) Jardiné, 1967 (83)  
*Elaterosporites protensus* (Stover) Jardiné, 1967 (83)  
*Elaterosporites verrucatus* Jardiné, 1967 (83)  
*Ephedripites pentacostatus* Regali et alii, 1974 (83)  
*Ephedripites subtilis* Regali et alii, 1974 (83)  
*Ephedripites undulatus* Regali et alii, 1974 (83)

- Eucommiidites troeldssonii* (Erdtman) Hughes, 1961 (42)  
*Exesipollenites tumulus* Balme, 1957 (83)  
*Florentinia* sp.  
*Foveotricolpites prolatus* Herngreen, 1975 (36)  
*Foveotricolpites scabratus* Herngreen, 1975 (36)  
*Foveotriletes* sp. (83)  
*Gabonisoris vigourouxii* Boltenhagen, 1967 (83)  
*Galeacornea causea* Stover, 1963 (83)  
*Glaphyrocysta ordinata* Stover & Evitt, 1978  
*Hexaporotricolpites coronatus* Jardiné et alii, 1970 (41)  
*Hexaporotricolpites emelianovi* Boltenhagen, 1967 (83)  
*Hexaporotricolpites lamellaferus* Jardiné et alii, 1970 (41)  
*Hexaporotricolpites mulleri* Herngreen, 1975 (36)  
*Hexaporotricolpites potonieii* Boltenhagen, 1959 (83)  
*"Inaperturopollenites" curvimuratus* Regali et alii, 1974 (83)  
*Inaperturopollenites turbatus* Balme, 1957 (83)  
*Inaperturopollenites simplex* Regali et alii, 1974 (83)  
*Klukisporites variegatus* Couper, 1958 (83)  
*Lithosphaeridium syphonophorum* Davey & Williams, 1966  
*Lycopodiumsporites novomexicanum* Drugg, 1967 (83)  
*Matonisorites* sp. SCI 56 (42)  
*Microfoveolatisporis* sp.  
*Monocolpopollenites sphaerodites* Jardiné & Magloire, 1965 (83)  
*Odontochitina operculata* Deflandre & Cookson, 1957  
*Oligosphaeridium complex* Davey & Williams, 1966  
*Palaeocystodinium* sp. A (83)  
*Palaeohystrichophora infusorioides* Deflandre, 1935  
*Paludites mamelonatus* Lima, 1979 (55)  
*Parvisaccites* sp.  
*Pediastrum* sp. (83)  
*Pemphixipollenites inequixinus* Stover, 1974 (83)  
*Penetetrapites* sp.  
*Perotrilites pannuceus* Brenner, 1963 (83)  
*Pilosisporites* sp. (83)  
*Proteacidites* sp. (83)  
*Proteacidites longispinosus* Jardiné & Magloire, 1965 (83)  
*Psilastephanocolporites brasiliensis* Regali et alii, 1974 (83)  
*Psilastephanocolporites variabilis* Regali et alii, 1974 (83)  
*Psilatrilletes* sp. (83)  
*Raistrikhia obtusispina* Rouse, 1959 (42)  
*Regalipollenites* sp. (56)  
*Retimonocolpites peroreticulatus* (Brenner) Doyle, 1975 (26)  
*Retimonocolpites* sp. 2 (25)  
*Retiperiporites piacabucensis* Herngreen, 1975 (36)  
*Retitricolpites gemmatus* Herngreen, 1973 (35)  
*Retitricolporites mirabilis* Regali et alii, 1974 (83)  
*Reyrea polymorphus* Herngreen, 1973 (35)  
*Rugubivesiculites bahiasulensis* Regali, 1987 (82)  
*Rugutrilletes* sp. (83)  
*Scollardia trapiformis* Srivastava, 1966 (83)  
*Sergipea crassiverrucata* Regali, 1987 (80)  
*Sergipea naviformis* Regali et alii, 1974 (83)  
*Sergipea simplex* Regali, 1987 (80)  
*Sergipea variverrucata* Regali et alii, 1974 (83)  
*Sofrepites legouxae* Jardiné, 1967 (83)  
*Steevesipollenites alatiformis* Regali et alii, 1974 (83)  
*Steevesipollenites binodosus* Stover, 1964 (83)  
*Steevesipollenites nativensis* Regali et alii, 1974 (83)  
*Stellatopollis barghoornii* Doyle et alii, 1975 (26)  
*Striatricolpites reticulatus* Regali et alii, 1974 (83)  
*Striopollenites dubious* Jardiné & Magloire, 1965 (35,42)

- Subtilisphaera* sp.  
*Trichodinium* sp.  
*Tricolpites* sp. SCI 257 (42)  
*Tricolpites microstriatus* Jardiné & Magloire, 1965 (36)  
*Tricolpites tienabaensis* Jardiné & Magloire, 1965 (36)  
*Tricornites elongatus* Regali et alii, 1974 (33)  
*Trilites* sp. (42)  
*Triorites africaensis* Jardiné & Magloire, 1965 (42)  
*Vitreisporites pustulosus* Regali, 1987 (82)  
*Xenascus ceratioides* Letin & Williams, 1973

## 2. Nannofossils

- Ahmuerella octoradiata* (Gorka, 1957) Reinhardt, 1966 (77)  
*Arkhangelskiella cymbiformis* Vekshina, 1959 (29, 95)  
*Aspidolithus parvus constrictus* (Hattner et alii, 1980) Perch-Nielsen, 1984 (77)  
*Aspidolithus parvus parvus* (Stradner, 1953) Noel, 1969 (77)  
*Braarudosphaera africana* Stradner, 1961 (29, 95)  
*Braarudosphaera batiliformis* Troelsen & Quadros, 1971 (29, 95)  
*Braarudosphaera bigelowii* (Gran & Braarud, 1935) Deflandre, 1947 (29, 77, 95)  
*Broinsonia enormis* (Schumenko, 1968) Manivit, 1971 (77)  
*Ceratolithoides aculeus* (Stradner, 1961) Prins & Sissingh in Sissingh, 1977 (29, 77)  
*Ceratolithoides kamptneri* Bramlette & Martini, 1964 (29, 77, 95)  
*Cretarhabdus conicus* Bramlette & Martini, 1964 (29, 77, 95)  
*Cretarhabdus crenulatus* Bramlette & Martini, 1964 (29, 77, 95)  
*Cribrosphaerella ehrenbergii* (Arkhangelsky, 1912) Deflandre in Piveteau, 1952 (77)  
*Eiffelithus eximius* (Stover, 1966) Perch-Nielsen, 1968 (29, 77)  
*Eiffelithus turriseiffelli* (Deflandre in Deflandre & Fert, 1954) Reinhardt, 1965 (29, 77, 95)  
*Gartnerago obliquum* (Stradner, 1963) Noel, 1970 (77)  
*Glaukolithus diplogrammus* (Deflandre, 1954) Reinhardt, 1964 (77)  
*Kamptnerius magnificus* Deflandre, 1959 (29, 95)  
*Lithastrinus floralis* Stradner, 1962 (29, 77, 95)  
*Lithastrinus grillii* Stradner, 1962 (29, 77, 95)  
*Lithraphidites carniolensis* Deflandre, 1963 (29, 95)  
*Lithraphidites quadratus* Bramlette & Martini, 1964 (29, 95)  
*Manivitella pennatoidea* (Deflandre in Deflandre & Fert, 1954) Thierstein, 1959 (77)  
*Marthasterites furcatus* (Deflandre in Deflandre & Fert, 1954) Deflandre, 1959 (29, 77, 95)  
*Microrhabdulus decoratus* Deflandre, 1959 (29, 77, 95)  
*Microrhabdulus primitivus* Troelsen & Quadros, 1971 (29, 95)  
*Micula decussata* Vekshina, 1959 (29, 95)  
*Micula murus* (Martini, 1961) Bukry, 1973 (29, 95)  
*Nannoconus fragilis* Deres & Acheriteguy, 1980 (24, 77)  
*Nannoconus quadriangulus apertus* Deflandre & Deflandre, 1967 (24, 77)  
*Nannoconus truitti truitti* Bronnimann, 1955 (29, 77, 95)  
*Parhabdolithus embergeri* (Noel, 1958) Stradner, 1963 (77)  
*Petrobrasiella venata* Troelsen & Quadros, 1971 (29, 95)  
*Predicosphaera cretacea* (Arkhangelski, 1912) Gartner, 1968 (29, 77, 95)  
*Quadrum nitidum* (Martini, 1961) Prins & Perch-Nielsen in Manivit et alii, 1977 (77)  
*Quadrum trifidum* (Stradner in Stradner & Papp, 1961) Prins & Perch-Nielsen in Manivit et alii, 1977 (77)  
*Watznaueria barnesae* (Black in Black & Barnes, 1959) Perch-



Nielsen, 1968 (29,77,95)  
*Zygodiscus spiralis* Bramlette & Martini, 1964 (77)

### 3. Foraminifers

- Ammobaculites copei* Petri, 1962 (78)  
*Ammobaculites hartti* Petri, 1962 (78)  
*Ammobaculoides* sp. (78)  
*Anomalina calumbiensis* Petri, 1962 (78)  
*Anomalinoides itaitigensis* Petri, 1962 (78)  
*Anomalinoides petrobrasi* Petri, 1962 (78)  
*Bigenerina euzebioi* Petri, 1962 (78)  
*Bolivina incrassata* Reuss, 1851 (78)  
*Bolivina* cf. *B. incrassata* Reuss, 1851 (78)  
*Bolivina plaita* Carsey, 1926 (78)  
*Bolivina tinocoi* Petri, 1962 (78)  
*Bolivinoides hiltermanni* Petri, 1962 (78)  
*Bulimina proluxa* Cushman & Parker, 1935 (78)  
*Cibicides mendesi* Petri, 1962 (78)  
*Cibicidina hoelfeldi* Petri, 1962 (78)  
*Cibicidina sergipana* Petri, 1962 (78)  
*Citharina* ? sp. A (78)  
*Citharina* ? sp. B (78)  
*Citharina* ? sp. C (78)  
*Clavibergella simplex* (Morrow, 1934) (59)  
*Coskinolina* ? sp. (78)  
*Dentalina borgesii* Petri, 1962 (78)  
*Dentalina* cf. *D. megapolitana* Reuss (78)  
*Dentalina mirandai* Petri, 1962 (78)  
*Discorbis lisboa* Petri, 1962 (78)  
*Discorbis minima* Vieaux, 1941 (78)  
*Eoguttulina anderyi* Petri, 1962 (78)  
*Eoguttulina kreidleri* Petri, 1962 (78)  
*Eouvigerina laxistoma* Loeblich & Tappan, 1946 (78)  
*Eponides aracajuensis* Petri, 1962 (78)  
*Eponides leinzi* Petri, 1962 (78)  
*Favusella washitensis* (Carsey, 1926) (20)  
*Gaudryna* sp. (78)  
*Globigerinelloides eaglefordensis* (Moreman, 1927) (57)  
*Globigerinelloides messinae* (Brönnimann, 1952) (18)  
*Globotruncana arca* (Cushman, 1926) (85)  
*Globotruncana calcarata* Cushman, 1927 (85)  
*Globotruncana campbelli* Petri, 1962 (78)  
*Globotruncana coarctata* (Bolli, 1957) (59)  
*Globotruncana contusa* (Cushman, 1926) (85)  
*Globotruncana duwi* Nakkady, 1958 (85)  
*Globotruncana fornicata* Plummer, 1931 (85)  
*Globotruncana fornicata ackermanni* Galdolfi, 1955 (85)  
*Globotruncana fornicata motai* Petri, 1962 (78)  
*Globotruncana gagnebini* Tilev, 1952 (10)  
*Globotruncana gansseri* Bolli, 1951 (85)  
*Globotruncana havannensis* Voorwijk, 1937 (85)  
*Globotruncana inortata* Bolli, 1957 (20)  
*Globotruncana renzi* Gandolfi, 1942 (84)  
*Globotruncana repanda* Bolli, 1957 (10)  
*Globotruncana stuarti* (de Lapparent, 1918) (85)  
*Globotruncana stuartiformis* Balbiez, 1955 (85)  
*Globotruncana wilsoni* Bolli, 1957 (10)  
*Gubkinella graysonensis* (Tappan, 1940) (59)  
*Gublerina robusta* de Klasz, 1953 (59)

- Gublerina glaessneri* Brönnimann & Brown, 1953 (59)  
*Guembelitra kegei* Petri, 1962 (78)  
*Guttulina* sp. (78)  
*Hastigerinoides alexanderi* (Cushman, 1931) (59)  
*Hastigerinoides watersi* (Cushman, 1931) (59)  
*Hedbergella amabilis* Loeblich & Tappan, 1961 (85)  
*Hedbergella clavigera* (91)  
*Hedbergella delrioensis* Carsey, 1926 (forma *ambigira*) (84)  
*Hedbergella delrioensis* Carsey, 1926 (forma *dextrogira*) (84)  
*Hedbergella monmouthensis* (Olsson, 1960) (85)  
*Hedbergella petaloidea* (Gandolfi, 1955)  
*Hedbergella planispira* (Tappan, 1940) (84)  
*Hedbergella carinata* (Cushman, 1938) (59)  
*Heterohelix moremani* (Cushman, 1938) (78)  
*Heterohelix pseudotessera* (Cushman, 1938) (59)  
*Heterohelix reussi* (Cushman, 1938) (91)  
*Heterohelix* cf. *H. striata* (Ehrenberg, 1840) (59)  
*Heterohelix ultimatumba* (White, 1929) (59)  
*Lagena* cf. *L. sulcata* (Wagner & Jacob) (78)  
*Lenticulina benderi* Petri, 1962 (78)  
*Lenticulina gaultina* (Berthelin, 1880) (78)  
*Lenticulina guedesii* Petri, 1962 (78)  
*Lingulina assisi* Petri, 1962 (78)  
*Lingulina kelleri* Petri, 1962 (78)  
*Lingulina* sp. (78)  
*Marginulina gardneri* Petri, 1962 (78)  
*Marginulina loefgreni* Petri, 1962 (78)  
*Marginulina tenuissima* Reuss, 1863 (78)  
*Marginulina* sp. A (78)  
*Marginulina* sp. B (78)  
*Mendesia minuta* Petri, 1962 (78)  
*Nodosaria carltoni* Petri, 1962 (78)  
*Nodosaria mourai* Petri, 1962 (78)  
*Nodosaria* sp. A (78)  
*Nodosaria* sp. B (78)  
*Nodosaria* sp. C (78)  
*Nonionella garai* Petri, 1952 (78)  
*Nonionella leonardosi* Petri, 1962 (78)  
*Patellina subcretacea* Cushman & Alexander, 1930 (78)  
*Planomalina mauryae* Petri, 1962 (78)  
*Planoglobulina acervulinoides* (Egger, 1899) (59)  
*Planoglobulina glabrata* (Cushman, 1938) (59)  
*Planularia derbyi* Petri, 1962 (78)  
*Planularia* sp. A (78)  
*Planularia* sp. B (78)  
*Planulina cotinguibensis* Petri, 1962 (78)  
*Planulina spissicostata* (91)  
*Pleurostomella watersi* Cushman (78)  
*Praeglobotruncana delrioensis* (Plummer, 1931) (84)  
*Praeglobotruncana gautierensis* (Brönnimann, 1952) (18)  
*Pseudoglandulina wanderleyi* Petri, 1962 (78)  
*Pseudoguembelina costulata* (Cushman, 1938) (59)  
*Pseudoguembelina* ? sp. (78)  
*Pseudotextularia difformis* (Kikoine, 1948) (59)  
*Pseudotextularia elegans* (Rzehak, 1891) (59)  
*Pseudovalvulineria sergipana* Petri, 1962 (78)  
*Quinqueloculina avelinoides* Petri, 1962 (78)  
*Quinqueloculina crandalli* Petri, 1962 (78)  
*Quinqueloculina sopei* Petri, 1962 (78)  
*Racemiguembelina fructicosa* (Egger, 1899) (59)  
*Reophax hyatti* Petri, 1962 (78)

- Reophax whitei* Petri, 1962 (78)  
*Reusella moraisi* Petri, 1962 (78)  
*Reusella* sp. (78)  
*Rotalipora evoluta* (Sigal, 1948) (59)  
*Rudoglobigerina macrocephala* Brönnimann, 1952 (85)  
*Rugoglobigerina* cf. *R. reicheli pustulata* Brönnimann, 1952 (85)  
*Rugoglobigerina rugosa* (Plummer, 1927) (85)  
*Siphogenerinoides bramletti* Cushman, 1929 (23)  
*Siphogenerinoides dentata* Chenuad, de Klasz & Meijer, 1960 (23)  
*Spirillina minima* Schancko, 1892 (78)  
*Spirillina* sp. (78)  
*Spirolectamina linki* Petri, 1962 (78)  
*Spirolectamina regoi* Petri, 1962 (78)  
*Textularia* sp. (78)  
*Trinitella cornigera* (91)  
*Trocholina silvai* Petri, 1962 (78)  
*Vaginulina duartei* Petri, 1962 (78)  
*Vaginulina* sp. (78)  
*Valvulineria amarali* Petri, 1962 (78)  
*Valvulineria* cf. *V. koenigswaldi* Drogger, 1952 (78)  
*Verneulina branneri* Petri, 1962 (78)

#### 4. Ostracodes

- Aracajuia benderi* Krömmelbein, 1967 (52)  
*Bisulcocypris forbesi* (Jones, 1885) (43,79,99)  
*Bisulcocypris postangularis postangularis* (Swain, 1946)  
 (66,67,79,94)  
*Bisulcocypris ventrostriata* Moura, 1972 (65)  
*Brachycythere (Brachycythere) sapucariensis* Krömmelbein, 1964  
 (49)  
*Brasacypris ovum* Krömmelbein, 1965 (50)  
*Candona ? condensa* Krömmelbein, 1962 (45)  
*Candona ? gregaria* Krömmelbein, 1962 (45)  
*Candona ? pitangaensis* Krömmelbein, 1964 (47)  
*Clinocypris ? weileri* Krömmelbein, 1965 (50)  
*Coriicina coriacea* Krömmelbein, 1962 (45)  
*Cypridea acicularis* Krömmelbein & Weber, 1971 (53)  
*Cypridea acuta* Moos in Wicher, 1959 (99)  
*Cypridea altilis* Krömmelbein & Weber, 1971 (53)  
*Cypridea ambigua* Krömmelbein, 1962 (45)  
*Cypridea armata* Krömmelbein, 1962 (45)  
*Cypridea bisculpturata* Moos in Wicher, 1959 (99)  
*Cypridea brevicornis* Peck, 1941 (76)  
*Cypridea depressa* Moura, 1972 (64)  
*Cypridea dromedarius* Krömmelbein, 1962 (45)  
*Cypridea eminens* Grekoff & Krömmelbein, 1967 (31)  
*Cypridea heliopolisensis hespera* Krömmelbein & Weber, 1971 (53)  
*Cypridea hystricoides* Krömmelbein, 1962 (45)  
*Cypridea hystrix* Krömmelbein, 1962 (45)  
*Cypridea indiennensis densipunctata* Krömmelbein & Weber, 1971  
 (53)  
*Cypridea insolita* Cunha & Moura, 1979 (22)  
*Cypridea jequiensis* Krömmelbein & Weber, 1971 (53)  
*Cypridea kegei* Wicher, 1959 (76)  
*Cypridae limae* Cunha & Moura, 1979 (22)  
*Cypridea lunula* Krömmelbein, 1962 (45)  
*Cypridea luzi* Moura, 1972 (64)  
*Cypridea maior* Krömmelbein, 1965 (50)  
*Cypridea muelleri* Krömmelbein, 1962 (45)

- Cypridea multipunctata* Cunha & Moura, 1979 (22)  
*Cypridea nannorostrata* Krömmelbein, 1962 (45)  
*Cypridea opifera* Krömmelbein, 1962 (45)  
*Cypridea primaria* Grekoff & Krömmelbein, 1957 (32)  
*Cypridea quadrilateralis* Swain, 1946 (94)  
*Cypridea riojoanensis* Moura, 1972 (64)  
*Cypridea salvadorensis nodifer* Krömmelbein, 1962 (45)  
*Cypridea salvadorensis salvadorensis* Krömmelbein, 1962 (45)  
*Cypridea sellata* Viana, 1966 (96)  
*Cypridea semilunaris* Cunha & Moura, 1979 (22)  
*Cypridea spinata* Moura, 1972 (64)  
*Cypridea subtilis* Krömmelbein, 1965 (50)  
*Cypridea suspecta* Krömmelbein, 1965 (50)  
*Cypridea tchibodaensis* Krömmelbein, 1965 (51)  
*Cypridea trinodosa* Viana, 1966 (96)  
*Cypridea tucanoensis* Krömmelbein, 1965 (50)  
*Cypridea ventronodata* Krömmelbein, 1962 (45)  
*Cypridea ventrospinata* Cunha & Moura, 1979 (22)  
*Cypridea vulgaris* Krömmelbein, 1962 (45)  
*Cypridea (Morinina?) bibullata bibullata* (Wicher, 1959)  
(45,94,99)  
*Cypridea (Morinina?) bibullata tribullata* Krömmelbein, 1962 (45)  
*Cypridea (Morinina?) langei* Krömmelbein, 1962 (45)  
*Cypridea (Morininoides) candeiensis* Krömmelbein, 1962 (45)  
*Cypridea (Morininoides) grekoffi* Krömmelbein, 1965 (50)  
*Cypridea (Morininoides) hadronodosa* Krömmelbein, 1962 (45)  
*Cypridea (Morininoides) variebullata* Krömmelbein & Weber, 1971  
(53)  
*Cypridea (Pseudocypridina) faveolata* Moura, 1972 (64)  
*Cypridea (Sebastianites) devexa* Krömmelbein, 1962 (45)  
*Cypridea (Sebastianites) fida fida* Krömmelbein, 1962 (45,66,67)  
*Cypridea (Sebastianites) fida minor* Moura, 1972 (64)  
*Cypridea (Sebastianites?) kouilouensis* Krömmelbein, 1965 (51)  
*Cypridea (Sebastianites?) mataensis mataensis* Krömmelbein, 1962  
(45)  
*Cypridea (Sebastianites?) mataensis vercellinoi* Krömmelbein, 1962  
(45)  
*Cypridea (Sebastianites?) matinversa* Krömmelbein & Weber, 1971  
(53)  
*Cypridea (Sebastianites?) minima* Moura, 1972 (64)  
*Cypridea (Sebastianites?) mira* Krömmelbein & Weber, 1971 (53)  
*Cypridea (Sebastianites) onusta* Krömmelbein, 1962 (45)  
*Cypridea (Sebastianites?) sostensis granullata* Moura, 1972 (64)  
*Cypridea (Sebastianites?) sostensis sostensis* Krömmelbein, 1962  
(45)  
*Cytheridea* spp. gr. 201/218 n. nud. in Schaller, 1969 (66,67,91)  
*Hourcquia africana africana* Krömmelbein, 1965 (51)  
*Hourcquia africana confluens* Krömmelbein & Weber, 1971 (53)  
*Hourcquia angulata angulata* Krömmelbein & Weber, 1971 (53)  
*Hourcquia angulata sinuata* Krömmelbein & Weber, 1971 (2,53)  
*Hourcquia angulata symmetrica* Krömmelbein & Weber, 1971 (53)  
*Ilhasina amphotera* Krömmelbein, 1963 (46)  
*Ilhasina remanei cuneiformis* Krömmelbein, 1963 (46)  
*Ilhasina remanei glabra* Moura, 1972 (64)  
*Ilhasina remanei remanei* Krömmelbein, 1963 (46)  
*Ilhasina torosa* Krömmelbein, 1963 (46)  
*Ilyocypris* sp. Brady & Norman, 1889 (45)  
*Limnocypridea subquadrata* n. nud. in Schaller, 1969 (66,67)  
*Limnocythere troelseni* Krömmelbein & Weber, 1971 (53,66,67)  
*Looneyellopsis brasiliensis* Krömmelbein & Weber, 1971 (53)  
"Metacypris" sp. 6 Krömmelbein, 1961 (44)

- Paracypridea bicallosa* Krömmelbein, 1964 (48)  
*Paracypridea brasiliensis* Krömmelbein, 1962 (45)  
*Paracypridea elegans elegans* Krömmelbein, 1962 (45)  
*Paracypridea langdoni* Krömmelbein, 1961 (44)  
*Paracypridea maacki* Krömmelbein, 1964 (48)  
*Paracypridea obovata macacoensis* Krömmelbein, 1964 (48)  
*Paracypridea obovata obovata* Krömmelbein, 1962 (45)  
*Paracypridea quadrirugosa quadrirugosa* (Wicher, 1959) (44,99)  
*Paracypridea quadrirugosa weberi* Krömmelbein, 1961 (44)  
*Paracypridea rhomboidalis* Krömmelbein, 1962 (45)  
*Paracypridea similis condylaris* Krömmelbein, 1964 (48)  
*Paracypridea similis similis* Krömmelbein, 1964 (44)  
*Pattersoncypris micropapillosa* Bate, 1972 (2)  
*Petrobrasias badajosensis* Krömmelbein & Weber, 1971 (53)  
*Petrobrasias capivarensis* Krömmelbein & Weber, 1971 (53)  
*Petrobrasias costata* Cunha & Moura, 1979 (22)  
*Petrobrasias diversicostata* Krömmelbein, 1965 (51,66,67)  
*Petrobrasias glabra* Grekoff & Krömmelbein, 1967 (31)  
*Petrobrasias ? gutta* Krömmelbein & Weber, 1971 (53)  
*Petrobrasias marfinensis* (Krömmelbein, 1962) (45,50)  
*Petrobrasias pontanigrensis* Krömmelbein, 1965 (51)  
*Petrobrasias reticulata* Moura, 1972 (64)  
*Petrobrasias tenuistriata longiuscula* Krömmelbein & Weber, 1971  
 (53)  
*Petrobrasias tenuistriata tenuistriata* Krömmelbein, 1965 (50)  
*Petrobrasias vallata* Krömmelbein & Weber, 1971 (53)  
*Petrobrasias zairensis* Krömmelbein, 1965 (51)  
*Reoncavona binodosa* Cunha & Moura, 1972 (22)  
*Reoncavona cancellata* Krömmelbein, 1962 (45)  
*Reoncavona centronodosa* Krömmelbein, 1962 (45)  
*Reoncavona diacantha* Moura, 1972 (64)  
*Reoncavona gastracantha* Krömmelbein, 1964 (47)  
*Reoncavona imitatrix* Krömmelbein, 1965 (50)  
*Reoncavona impar* Krömmelbein, 1964 (47)  
*Reoncavona polita* Viana, 1966 (96)  
*Reoncavona striata* Cunha & Moura, 1979 (22)  
*Reoncavona striatula* (Swain, 1946) (45,94)  
*Reoncavona swaini* Krömmelbein, 1962 (45)  
*Reoncavona triebeli* Krömmelbein, 1964 (47)  
*Reoncavona ? ultima* Krömmelbein, & Weber, 1971 (53)  
*Reoncavona uncinata* Krömmelbein, 1962 (45)  
*Reoncavona uniacantha costulata* Krömmelbein & Weber, 1971 (53)  
*Reoncavona uniacantha uniacantha* Krömmelbein, 1962 (45)  
*Reoncavona verruculosa* Krömmelbein, 1964 (47)  
*Salvadoriella ? acuta* Krömmelbein & Weber, 1971 (53)  
*Salvadoriella ? minuta* Moura, 1972 (64)  
*Salvadoriella redunca redunca* (Krömmelbein, 1963) (46)  
*Sergipella transatlantica* Krömmelbein, 1967 (52)  
*Theriosynoecum dorsocallosum* Cunha & Moura, 1979 (22)  
*Theriosynoecum isoplektum* Krömmelbein & Weber, 1971 (53)  
*Theriosynoecum laciniatum* (Krömmelbein, 1965) (50,53)  
*Theriosynoecum papillaris americanum* Krömmelbein & Weber, 1971  
 (53)  
*Theriosynoecum papillaris papillaris* (Krömmelbein, 1965)  
 (51,53,66,67)  
*Theriosynoecum postangularis binodosum* Krömmelbein & Weber, 1971  
 (53)  
*Theriosynoecum varietuberatum proximum* Moura, 1972 (64)  
*Theriosynoecum varietuberatum varietuberatum* Grekoff &  
 Krömmelbein, 1967 (32)  
*Tucanocypris camposi* Krömmelbein, 1965 (50)

## 5. Invertebrates

## BRACHIOPODA

*Magas sergipensis* Duarte in Oliveira, 1939 (72)

## GASTROPODA

- Akera browni* White, 1887 (62)  
 "Amauropsis" *sergipensis* Maury, 1936 (62)  
*Ampullina* (*Pseudamaura*) *whitei* (Cossmann, 1925) (98)  
*Anchura infortunata* White, 1887 (98)  
*Aptyxiella* (*Nerinoidea*) *itaporangica* Maury, 1936 (3,62)  
*Cerithium riachuelanum* Maury, 1936 (62)  
*Cerithium riachuelanum lirae* Maury, 1936 (62)  
*Cerithium sergipensis* Maury, 1936 (62)  
*Cerithium spiculatum* White, 1887 (62,98)  
*Cerithium thoas* White, 1887 (62,98)  
*Cypraea riachuelana* Maury, 1936 (62)  
 "Epitonium" *pyrene* (White, 1887) (62)  
 "Epitonium" *riachuelanum* Maury, 1936 (62)  
 "Euspira" *sergipensis* Maury, 1936 (62)  
*Fasciolaria lastroensis* Maury, 1936 (62)  
*Fasciolaria urubuensis* Maury, 1936 (62)  
*Lunatia subhumerosa* White, 1887 (62)  
*Mesalia hebe* White, 1887 (62,98)  
*Natica bulbulus* White, 1887 (98)  
*Natica engenholyria* Maury, 1936 (62)  
*Nerinea riachuelana* Maury, 1936 (62)  
*Ostoma* (*Lyosoma*) *squamosa* (White, 1887) (98)  
*Paraglauconia* (*Diglauconia*) *lyrica* Maury, 1936 (62,63)  
*Paraglauconia* (*Diglauconia*) *sergipensis* Maury, 1936 (62,63)  
*Peruviella dolium* (Roemer, 1849) (21)  
*Ringinella pinguiscula* White, 1887 (62)  
*Turbo portentus* White, 1887 (98)  
*Turritella* (*Haustator*) *carregezica* Maury, 1936 (62)  
*Turritella itatigensis* Loeffgren in Loeffgren & Oliveira, 1943 (58)  
*Turritella minima* Oliveira, 1940 (74)  
*Turritella pedrinhensis* Maury, 1936 (62)  
*Tylostoma materinum* White, 1887 (98)  
*Tylostoma minimum* White, 1887 (98)  
*Tylostoma sergipensis* Maury, 1936 (62)  
*Tylostoma whitei* von Ihering, 1907 (62)

## BIVALVIA

- Acesta praetexta* (White, 1887) (62)  
*Aguileria dissita* (White, 1887) (98,102)  
*A. regoi* (Maury, 1936) (62,102)  
*Amphidonte conica* (Sowerby, 1829) (3,62)  
*Amphidonte conica haliotoidea* (Sowerby, 1813) (3,62)  
*Anatina putatoria* White, 1887 (98)  
 "Anodontophora" sp. (73)  
*Anomia* sp. (58)  
*Anomia carregezica* Maury, 1936 (62)  
*Anomia sergipensis* Maury, 1936 (62)  
 "Anoplophora" sp. (28)  
 "Astarte" sp. (73)

- Astarte sergipensis* Maury, 1936 (62)  
*Barbatia disclusa* White, 1887 (98)  
*Camptonectes placitus* White, 1887 (62)  
 "Cardinia" sp. (28)  
*Corbula maroimensis* (White, 1887) (62)  
*Crassatella* (Sublandinia) *ganguararica* (Maury, 1936) (3,62)  
*Crassatella maroimensis* White, 1887 (98)  
*Cremnoceramus* ? *waltersdorfensis* Andert, 1911 (40)  
*Curvostrea castellobrancoi* (Maury, 1936) (3,62)  
 "Cuspidaria" sp. (28)  
 "Decatopecten" sp. (28)  
*Didymotis* aff. *D. variabilis* (Gerhardt, 1903) (40)  
*Exogyra albertolofgreni* Lofegren in Lofegren & Oliveira, 1943 (58)  
*Exogyra ganhamoroba* Maury, 1936 (62)  
*Exogyra mutatoria* White, 1887 (98)  
*Exogyra sergipensis* Maury, 1936 (62)  
*Exogyra truncata* Oliveira, 1940 (74)  
 "Gonodon" sp. (73)  
*Gryphaeostrea duartei* (Oliveira, 1940) (74)  
*Gryphaeostrea euzebioi* (Oliveira, 1940) (74)  
 "Homomya" *bisinuosa* (White, 1887) (62,98)  
 "Homomya" *profunda* White, 1887 (98)  
 "Homomya" *refugium* (White, 1887) (62,98)  
*Inoceramus apicalis* Woods, 1813 (40)  
*Inoceramus calumbiensis* Oliveira, 1940 (74)  
*Inoceramus capulus* Moreman (40)  
*Inoceramus perplexus* Whitfield, 1880 (40)  
*Inoceramus pictus* Sowerby, 1822 (40)  
*Inoceramus tenuistriatus* Nagao & Matsumoto, 1939 (40)  
*Inoceramus* ? *urubuensis* Maury, 1936 (62)  
*Integricardium braziliensis* (White, 1887) (38)  
 "Isocardia" *coutinhoana* White, 1887 (98)  
 "Isocardia" *praecisa* White, 1887 (98)  
*Limatula turgidula* (White, 1887) (98)  
*Liopistha sergipensis* White, 1887 (62)  
*Lopatinia* (*Pseudocucullaea*) *stantoni* (Maury, 1930) (58,61,68)  
*Lopha* (*Lopha*) *aracajuensis* Muniz, 1984 (68)  
*Lopha euzebioi* Maury, 1936 (62)  
*Modiulus declivus* (White, 1887) (62)  
*Modiulus maroimensis* (White, 1887) (62)  
*Modiulus sanharicus* (Maury, 1936) (62)  
 "Myoconcha" sp. (28)  
 "Myophoria" sp. (28)  
*Mytiloides dresdensis* Troger, 1967 (40)  
*Mytiloides fiegei* Troger, 1967 (40)  
*Mytiloides* aff. *M. goppelnensis* (Badillet & Sornay, 1980) (40)  
*Mytiloides hercynicus* (Petraschek, 1904) (40)  
*Mytiloides labiatus* (von Schlotheim, 1813) (40,62)  
*Mytiloides lusatiae* Andert, 1911 (40)  
*Mytiloides modeliaensis* (Sornay, 1981) (40)  
*Mytiloides mytiloides* (Mantell, 1822) (40,62)  
*Mytiloides striatoconcentricus* (Gmbel, 1869) (40)  
*Mytiloides submytiloides* ? (Seitz, 1935) (40)  
*Mytiloides transiens* (Seitz, 1935) (40)  
*Mytiloides winkholdioides* Andert, 1911 (40)  
*Neithea shawi* Pervinquiere, 1912 (8)  
*Neithea sergipensis* White, 1887 (98)  
*Nemocardium brasiliense* (White, 1887) (98)  
 "Nucula" sp. (28,73)  
 "Nuculana" sp. (28)

- "Opis" sp. (28)  
*Ostrea invalida* White, 1887 (98)  
*Ostrea maroimensis* White, 1887 (98)  
 "Pachycardia" sp. (28)  
 "Panopea" sp. (28)  
*Panopea brasiliensis* (White, 1887) (62)  
*Panopea rathbuni* (White, 1887) (62)  
*Pecten collapsus* White, 1887 (98)  
*Pecten nordestensis* Oliveira in Loeffgren & Oliveira, 1943 (58)  
 "Pinna" sp. (28)  
*Plagiostoma derbyi* (White, 1887) (98)  
*Plagiostoma imbirica* (Maury, 1936) (62)  
 "Pleurophorus" sp. (28)  
*Plicatula cedroensis* Maury, 1936 (62)  
*Plicatula modioloides* White, 1887 (98)  
*Plicatula tenuirostrata* White, 1887 (98)  
 "Psammobia" ? sp. (28,73)  
*Pseudolimea sergipica* (Maury, 1936) (3,62)  
*Pteria infelix* White, 1887 (98)  
*Rhysomytiloides alatus* (Hessel, 1985) (39,40)  
*Rhysomytiloides bengtsoni* Hessel, 1988 (40)  
*Rhysomytiloides beurleni* Hessel, 1988 (40)  
*Rhysomytiloides mauryae* (Hessel, 1985) (39,40)  
*Rhysomytiloides retirensis* Hessel, 1988 (40)  
*Rostrocardia branneri* (White, 1887) (3,98)  
*Sergipia hartti* Hessel, 1988 (40)  
*Sergipia posidonomyaformis* (Maury, 1925) (60,62)  
 "Tellina" sp. (28)  
 "Thracia" sp. (28)  
*Trachycardium riachuelense* (Maury, 1936) (62)  
*Trapezium insepultum* White, 1887 (98)  
*Trigonia coqueiroensis* Maury, 1936 (62)  
 "Trigonodus" sp. (28)  
*Veniella erichseni* (Santos & Castro, 1970) (86)

#### CEPHALOPODA

- Acanthoceras folleatum* (White, 1887) (61,62)  
*Anisoceras* sp. (17)  
*Coilopoceras benderi* G. Beurlen, 1969 (6)  
*Coilopoceras brasiliensis* Oliveira & Brito, 1969 (75)  
*Coilopoceras* aff. *C. colleti* Hyatt (6)  
*Coilopoceras duartei* Oliveira & Brito, 1969 (75)  
*Coilopoceras japaratusensis* Magalhães, 1952 (75)  
*Coilopoceras mauryae* Oliveira & Brito, 1969 (75)  
*Coilopoceras sergipensis* Oliveira & Brito, 1969 (75)  
*Damesites petrobrasilia* G. Beurlen, 1969 (6)  
*Douvilleiceras euzebioi* (Maury, 1936) (5)  
*Douvilleiceras offarcinatum* (White, 1887) (17)  
*Douvilleiceras sergipensis* K. Beurlen in G. Beurlen, 1968 (5)  
*Douvilleiceras* sp. A (5)  
*Douvilleiceras* sp. B (5)  
*Elobiceras brasiliense* Brito, 1970 (12)  
*Elobiceras* sp. A (5)  
*Elobiceras* sp. B (5)  
*Euhoplites reesidei* Maury, 1936 (62)  
*Fagesia multiplex* Brito, 1971 (13)  
*Forresteria* ? *tabuaense* G. Beurlen, 1969 (6)  
*Gombeoceras gongilense* cf. *G. gongilense compressum* Barber (6)  
*Hamites* (*Hamitella*) *hystriculus* (White, 1887) (61,62)



- Hoplitoides ? benderi** Oliveira & Brito, 1969 (75)  
**Hoplitoides hasselmanni** Magalhães, 1952 (75)  
**Hoplitoides thomazi** Magalhães, 1953 (75)  
**Kamerunoceras tenuistriata** G. Beurlen, 1969 (6)  
**Kamerunoceras** sp. (70,100)  
**Mammites beurleni** G. Beurlen, 1969 (6)  
**Mammites sergipensis** Oliveira & Brito, 1969 (75)  
**"Metengonoceras" oliveirai** Brito, 1967 (11)  
**Metoicoceras** sp. (6)  
**Mortoniceras aroeiria** (Maury, 1936) (62)  
**Mortoniceras lastroensis** (Maury, 1936) (62)  
**Mortoniceras ? maroimensis** (White, 1887) (61,62)  
**Mortoniceras marrecasia** Maury, 1936 (62)  
**Mortoniceras sergipensis** (White, 1887) (5)  
**Mortoniceras** sp. A. (5)  
**Neokentroceras** cf. **N. tectorium** (White, 1887) (5)  
**Neptychites** sp. (6)  
**Nigericeras ?** sp. (6)  
**Oxytropidoceras aroeirium** Maury, 1936 (62)  
**Oxytropidoceras buarquianum** (White, 1887) (5,61)  
**Oxytropidoceras howei** Maury, 1936 (62)  
**Oxytropidoceras (Manuaniceras) involutum** K. Beurlen, 1952 (5,7)  
**Oxytropidoceras (Androiavites) mauryae** K. Beurlen, 1952 (5,7)  
**Oxytropidoceras** sp. A (5)  
**Pachydesmoceras** sp. (6)  
**Pachyvascoceras hartti** (Hyatt in Hartt, 1870) (75)  
**Parapuzosia ?** sp. (6)  
**Prionocycloceras** cf. **P. hazzardi** Young, 1963 (6)  
**Prionocycloceras** cf. **P. lenti** (Gerhardt) (6)  
**Protexanites troelseni** G. Beurlen, 1969 (6)  
**Protexanites** cf. **P. troelseni** G. Beurlen, 1969 (6)  
**Pseudaspidoceras pedroanum** (White, 1887) (3,61)  
**Pseudocalycoceras** sp. cf. **P. harpax** (Stoliczka, 1864) (70,100)  
**Pseudocalycoceras ?** sp. (100)  
**Pseudotissotia (Bauchioceras) gabonensis** Lombard, 1930 (6)  
**Pseudotissotia** cf. **P. gabonensis** Lombard, 1930 (13)  
**Pseudotissotia** cf. **P. (Bauchioceras) nigeriensis nigeriensis**  
(Wood) (6)  
**Puzosia bistricta** (White, 1887) (61,62)  
**Puzosia (Anapuzosia) brasiliiana** Maury, 1936 (62)  
**Puzosia garajauana** Maury, 1936 (62)  
**Puzosia rosarica** Maury, 1936 (62)  
**Spathites ? simplex** Oliveira & Brito, 1969 (75)  
**Vascoceras** aff. **V. globosum compressum** Barber (6)  
**Vascoceras** aff. **V. globosum globosum** (Reyment) (6)

## POLYCHAETA

- Diploconcha riachueloi** K. Beurlen, 1965 (9)  
**Diploconcha scalata** K. Beurlen, 1965 (9)  
**Pomatoceros ? cretacicus** K. Beurlen, 1965 (9)  
**Serpula sergipensis** K. Beurlen, 1965 (9)

## CRUSTACEA (CONCHOSTRACA)

- Graptoestheriella brasiliensis** (Oliveira, 1953) (19)

## ECHINOIDEA

- Acriaster sergipensis* Smith in Smith & Bengtson, 1991 (101)  
*Cardiaster batnensis* (Cotteau, Peron & Gauthier, 1879) (101)  
*Coenholectypus neocomiensis* (Gras, 1848) (98,101)  
*Coenholectypus* sp. indet. A (101)  
*Coenholectypus* sp. indet. B (101)  
*Colliclypeus neutoanus* (White, 1887) (98,101)  
*Cottaldia* aff. *benettiae* (Konig, 1825) (101)  
*Hemiaster proclivus* Cotteau, Peron & Gauthier, 1878 (15,60,101)  
*Leptosalenia sergipensis* (White, 1887) (98,101)  
*Mecaster africanus* (Coquand, 1862) (101)  
*M. batnensis* (Coquand, 1862) (60,62,101)  
*M. fourneli* (Agassiz & Desor, 1847) (15,101)  
*Micropedina olisiponensis* (Forbes, 1850) (101)  
*Nucleopygus* cf. *similis* (Orbigny, 1856) (101)  
*Orthopsis miliaris* (Archiac, 1835) (14,101)  
 ? *Parapygus* sp. (101)  
*Phalacrocidaris branneri* *Phyllobrissus freitasii* (White, 1887)  
 (62,98,101)  
*Phymosoma baylei* (Cotteau, 1864) (101)  
*P. binexilis* White, 1887 (98)  
 ? *Prionocidaris* sp. (14,101)  
 cf. *Pseudholaster tricarinatus* Lambert, 1924 (101)  
*Temnocidaris* (*Stereocidaris*) *malheiroi* (Loriol, 1888) (101)  
*Tetragramma deshayesi* (Cotteau, 1864) (14,101)  
*T. ? variolare* (Brongniart, 1822) (101)

## ASTEROIDEA

- Asterias janettae* (Maury, 1936) (3,62)

## 6. Vertebrates

## PISCES

- Cladocyclus alagoensis* (Jordan, 1910) (87)  
*Cladocyclus gardneri* Agassiz, 1841 (87)  
*Dastilbe crandalli* Jordan, 1910 (90)  
*Enchodus longipectoralis* (Schaeffer, 1947) (89,90)  
*Enchodus lybicus* (Quaas, 1902) (58)  
*Isistius trituratorus* Winkler (58)  
*Ellimma branneri* (Jordan, 1910) (30,90)  
*Lamna serrata* (Agassiz, 1838) (58)  
*Lepidotes* sp. (28)  
*Leptolepis diasii* Santos, 1958 (87)  
*Notelops brama* (Agassiz, 1841) (87)  
*Palaeobalistum flabellatum* (Cope, 1885) (62)  
 "Proscinetes" *penalvai* Santos, 1970 (87)  
*Rhacolepis buccalis* (Agassiz, 1841) (87)  
*Rhacolepis defiorei* D'Erasmus, 1938 (87)  
*Rhombodus binkhorsti* Dames, 1881 (58)  
*Tharrhias araripis* Jordan & Branner, 1908 (87)  
*Vinctifer comptoni* (Agassiz, 1841) (87)  
*Vinctifer punctatus* Santos, 1985 (88)

**7. Plantae**

- Brachyphyllum corallinum** Heer, 1881 (37)  
**Dadoxylon benderi** Mussa, 1959 (71)  
**Lithothamnion mauryae** Howe in Maury, 1936 (62)  
**Lithothamnion regonis** Howe in Maury, 1936 (62)

**8. Trace Fossils**

- Gyrolithes** sp. (69)  
**Ophiomorpha nodosa** Lundgren, 1891 (69)  
**Thalassinoides** sp. (69)

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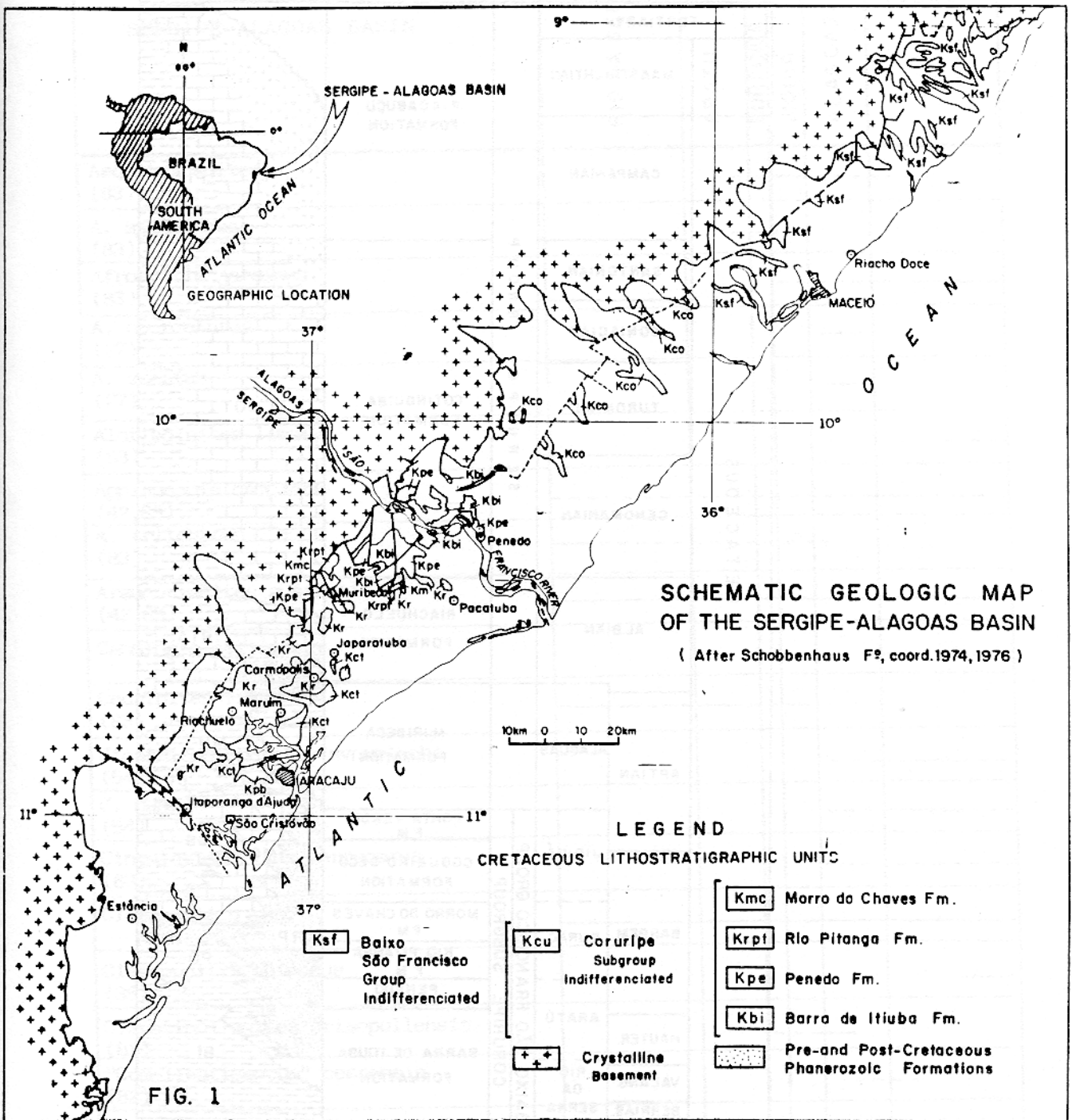
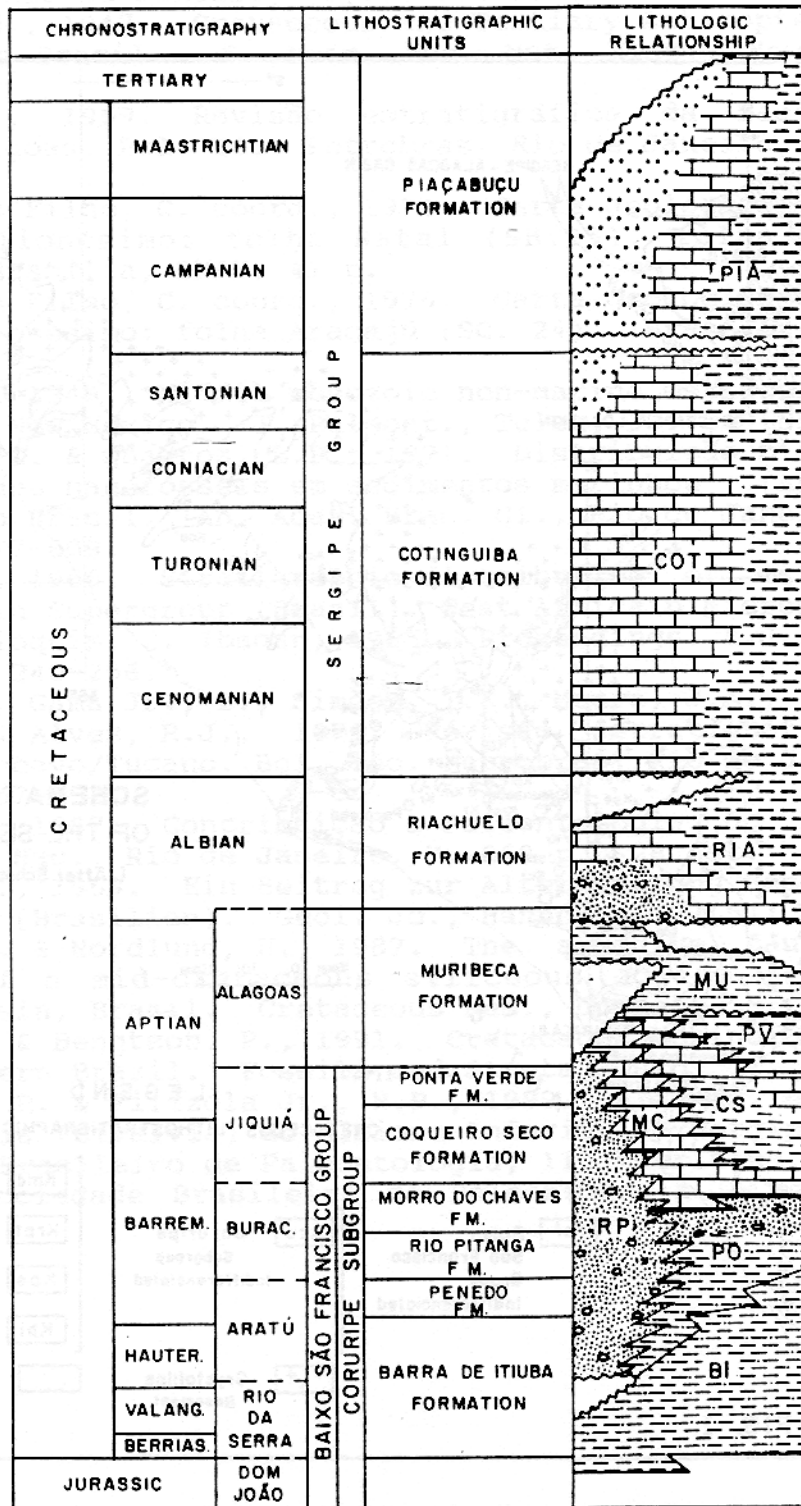


Figure 1- Schematic geologic map of Sergipe-Alagoas basin. (After Schobbenhaus F<sup>o</sup>, coord. 1974, 1976).



SERGIPE-ALAGOAS BASIN

Figure 2 - Stratigraphic Collumn (Modified from Schaller, 1969).

| EARLY CRETACEOUS<br>TAXA<br>PALYNOMORPHS<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|---|------------------------------|-------|----------|-------|---------|--------------------|
|   | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|   | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| <i>Aequitriradites</i><br>(83)                                    |                              | ---   |          |       | ---     |                    |
| <i>A. spinulosus</i><br>(83)                                      |                              | ---   |          |       |         |                    |
| <i>Afropollis jardinus</i><br>(83)                                |                              |       |          | ---   | ---     |                    |
| <i>A. operculatus</i><br>(27)                                     |                              |       |          |       | —       |                    |
| <i>A. zonatus</i><br>(27)   |                              |       |          |       | —       |                    |
| <i>Alaticolpites limai</i><br>(83)                                |                              |       |          |       |         | ---                |
| <i>Applanopsis dampiere</i><br>(42,83)                            | -----                        |       |          |       |         |                    |
| <i>A. trilobatus</i><br>(83)                                      | -----                        |       |          | ---   |         |                    |
| <i>Araucariacites australis</i><br>(42,83)                        |                              |       |          |       |         |                    |
| <i>Canningia colliveri</i>  |                              |       |          |       | —       |                    |
| <i>Cedripites ? sp.</i><br>(83)                                   |                              |       |          | ---   |         |                    |
| <i>Cicatricosisporites avmelechi</i><br>(54)                      |                              |       |          |       | ---     | ---                |
| <i>C. nuni</i><br>(54)  |                              |       |          |       | ---     | ---                |
| <i>Cingulatisporites verrucatus</i><br>(83)                       |                              |       |          |       | ---     | ---                |
| <i>Classopollis</i> spp.  |                              |       |          |       |         |                    |
| <i>Classopollis spinosus</i><br>(35)                              |                              |       |          |       |         | —                  |
| <i>Clavatipollenites crisopollensis</i><br>(81)                   |                              |       |          | ---   | —       |                    |
| " <i>Complicatisaccus</i> " <i>cearensis</i><br>(82)              |                              |       |          |       | ---     | ---                |
| <i>Concavisporites variverrucatus</i><br>(83)                     |                              |       | ---      | ---   |         |                    |
| <p>— common</p> <p>----- rare</p>                                 |                              |       |          |       |         |                    |

| EARLY CRETACEOUS<br>TAXA<br>PALYNOMORPHS<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|---|------------------------------|-------|----------|-------|---------|--------------------|
|   | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|   | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| <i>Concavissimisporites</i> sp.                                   |                              |       |          |       | -----   |                    |
| <i>Coronifera oceanica</i>  |                              |       |          |       |         | -----              |
| <i>Cretacaeiporites polygonalis</i><br>(35)                       |                              |       |          |       |         | -----              |
| <i>Crybelosporites</i> sp.  |                              |       |          |       |         | -----              |
| <i>Cribroperidinium</i> sp.                                       |                              |       |          |       |         | -----              |
| <i>Dicheiopollis etruscus</i><br>(83)                             |                              |       |          |       |         | -----              |
| <i>Elateropollenites jardinei</i><br>(35)                         |                              |       |          |       |         | -----              |
| <i>Elaterocolpites castelaini</i><br>(42)                         |                              |       |          |       |         | -----              |
| <i>Elaterosporites klaszi</i><br>(83)                             |                              |       |          |       |         | -----              |
| <i>E. protensus</i><br>(83)                                       |                              |       |          |       |         | -----              |
| <i>E. verrucatus</i><br>(83)                                      |                              |       |          |       |         | -----              |
| <i>Ephedripites undulatus</i><br>(83)                             |                              |       |          |       |         | -----              |
| <i>Euxommiidites troeldssonii</i><br>(42)                         |                              |       |          |       |         | -----              |
| <i>Exesipollenites tumulus</i><br>(83)                            |                              |       |          |       |         | -----              |
| <i>Foveotriletes</i> sp.<br>(83)                                  |                              |       |          |       |         | -----              |
| <i>Florentinia</i> sp.  |                              |       |          |       |         | -----              |
| <i>Hexaporo-tricolpites emelianovi</i><br>(83)                    |                              |       |          |       |         | -----              |
| <i>H. lemellaferus</i><br>(41)                                    |                              |       |          |       |         | -----              |
| <i>H. potonieii</i><br>(83)                                       |                              |       |          |       |         | -----              |
| <p>----- common</p> <p>----- rare</p>                             |                              |       |          |       |         |                    |

| EARLY CRETACEOUS<br>TAXA<br>PALYNOMORPHS<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |        |         | ALBIAN<br>( PARS ) |
|---|------------------------------|-------|----------|--------|---------|--------------------|
|   | BRAZILIAN LOCAL STAGES       |       |          |        |         |                    |
|   | RIO DA SERRA                 | ARATU | BURACICA | JIQUIÁ | ALAGOAS |                    |
| "Inaperturopollenites" curvimuratus (83)                          |                              |       |          |        | —       |                    |
| Inaperturopollenites (83)   |                              |       |          |        | —       |                    |
| Inaperturopollenites simplex (83)                                 |                              |       |          |        | —————   |                    |
| Klukisporites variegatus (83)                                     |                              |       |          |        | -----   |                    |
| Litosphaeridium syphonophorum                                     |                              |       |          |        |         | -----              |
| Matonisporites sp. SCI 56 (42)                                    |                              |       |          |        | -----   |                    |
| Microfoveolatisporis sp.  |                              |       |          |        | -----   |                    |
| Oligosphaeridium complex  |                              |       |          |        |         | -----              |
| Odontochitina operculata  |                              |       |          |        | —       | -----              |
| Paludites mamelonatus (55)  |                              |       |          |        | -----   |                    |
| Parvisaccites sp.   |                              |       |          |        | -----   |                    |
| Perotrilites pannuceus (83)                                       |                              |       |          |        |         | -----              |
| Penetetrapites sp.  |                              |       |          |        | -----   |                    |
| Pilosporites sp. (83)   |                              | ----- |          |        | —       |                    |
| Psilatriletes sp. (83)  | -----                        |       |          |        |         |                    |
| Raistrikiia obtusispina (42)                                      |                              |       |          |        | -----   |                    |
| Retimonocolpites peroreticulatus (26)                             |                              |       |          |        | -----   | -----              |
| Retimonocolpites sp. 2 (25)                                       |                              |       |          |        | -----   |                    |
| Reyrea polymorphus (35)   |                              |       |          |        | -----   | -----              |
| <p>————— common</p> <p>----- rare</p>                             |                              |       |          |        |         |                    |

| EARLY CRETACEOUS<br>TAXA<br>PALYNOMORPHS<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |        |         | ALBIAN<br>( PARS ) |
|---|------------------------------|-------|----------|--------|---------|--------------------|
|   | BRAZILIAN LOCAL STAGES       |       |          |        |         |                    |
|   | RIO DA SERRA                 | ARATU | BURACICA | JIQUIÁ | ALAGOAS |                    |
| <i>Rugubivesiculites bahiasulensis</i><br>(82)                    |                              |       |          |        | —       |                    |
| <i>Rugutriletes</i> sp.<br>(83)                                   |                              |       |          |        | —       |                    |
| <i>Sergipea crassiverrucata</i><br>(80)                           |                              |       |          |        | —       |                    |
| <i>Sergipea naviformis</i><br>(83)                                |                              | ---   | ---      | ---    | ---     |                    |
| <i>S. simplex</i><br>(80)   |                              | ---   | ---      | ---    | ---     |                    |
| <i>S. variverrucata</i><br>(83)                                   |                              |       |          | ---    | ---     |                    |
| <i>Stellatopollis barghoorni</i><br>(26)                          |                              |       | ---      |        | ---     |                    |
| <i>Steevesipollenites alatifomis</i><br>(83)                      |                              |       |          |        | ---     |                    |
| <i>S. binodosus</i><br>(83)                                       |                              |       |          |        | ---     |                    |
| <i>Striopollenites dubius</i><br>(35)                             |                              |       |          |        | ---     |                    |
| <i>Striatricolpites reticulatus</i><br>(83)                       |                              |       |          |        | ---     |                    |
| <i>Sofrepites legouxæ</i><br>(83)                                 |                              |       |          |        | ---     |                    |
| <i>Subtilisphaera</i> sp.   |                              |       |          |        | ---     |                    |
| <i>Trichodinium</i> sp.   | ---                          | ---   | ---      | ---    | ---     |                    |
| <i>Trilites</i> sp.<br>(42)                                       |                              |       |          |        | ---     |                    |
| <i>Vitreisporites pustulosus</i><br>(82)                          |                              |       |          |        | ---     |                    |
| <i>Xenascus ceratioides</i>                                       |                              |       |          |        | ---     |                    |
|   |                              |       |          |        |         |                    |
|   |                              |       |          |        |         |                    |
| <p>———— common</p> <p>----- rare</p>                              |                              |       |          |        |         |                    |

| LATE CRETACEOUS<br>TAXA<br><br>PALYNOMORPHS<br>SERGIPE-ALAGOAS BASIN | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|--|------------|----------|-----------|-----------|-----------|---------------|
| <i>Afropollis jardinus</i><br>(83)                                   | ---        |          |           |           |           | -             |
| <i>Andalusiella mauthei</i>  |            |          |           |           | ----      |               |
| <i>Aquilapollenites magnus</i><br>(83)                               |            |          |           |           | ---       |               |
| <i>Araucariacites australis</i><br>(42,83)                           |            |          |           | ---       |           |               |
| <i>Ariadnaesporites spinosus</i><br>(83)                             |            |          |           |           | ---       |               |
| <i>Auriculiidites reticulatus</i><br>(83)                            |            |          |           |           |           | ---           |
| <i>Buttinia andreevi</i><br>(35,83)                                  |            |          |           |           | ---       | ---           |
| <i>Caytonipollenites ? sp. 2</i><br>(83)                             |            |          |           |           |           | ---           |
| <i>Ceratiopsis striata</i><br>(83)                                   |            |          |           |           | ---       | ---           |
| <i>Classopollis major</i><br>(83)                                    | -----      |          |           |           |           |               |
| <i>Classopollis</i> spp.   | -----      | -----    | -----     | -----     | -----     |               |
| <i>Clavatricolpites irregularis</i><br>(36)                          |            |          |           |           | ---       |               |
| <i>Confossia vulgaris</i><br>(83)                                    |            |          | ---       | ---       |           |               |
| <i>Crassitriapertites polymorphus</i><br>(34)                        |            |          |           |           | -----     | --            |
| <i>C. uesuguii</i><br>(34)   |            |          |           |           | -----     | --            |
| <i>C. vanderhameni</i><br>(34)                                       |            |          |           |           | -----     | --            |
| <i>Crassitricolporites brasiliensis</i><br>(34)                      |            | ---      | ---       | ---       |           |               |
| <i>C. costatus</i><br>(34)   |            |          |           |           | -----     |               |
| <i>C. subprolatus</i><br>(34)  |            |          |           |           | -----     |               |
| <i>Cretacaeiporites mulleri</i><br>(35)                              |            |          |           |           |           |               |
| <p>----- common</p> <p>----- rare</p>                                |            |          |           |           |           |               |



| LATE CRETACEOUS<br>TAXA<br><br>PALYNOMORPHS<br>SERGIPE-ALAGOAS BASIN | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|--|------------|----------|-----------|-----------|-----------|---------------|
|  |            |          |           |           |           |               |
| <i>Cretacaeiporites polygonalis</i><br>(35)                          |            |          |           |           | —         |               |
| <i>C. scabratus</i><br>(35)  | —          | —        | —         | —         | —         |               |
| <i>Cricotriporites almadaensis</i><br>(83)                           |            |          |           |           | —         |               |
| <i>Cupanieidites reticularis</i><br>(83)                             |            |          | —         |           |           |               |
| <i>Dinogymnium</i> spp.<br>(83)                                      |            |          | —         | —         | —         |               |
| <i>Elaterocolpites castelaini</i><br>(42)                            | —          |          |           |           |           |               |
| <i>Elateroplicites africaensis</i><br>(35,83)                        | —          |          |           |           |           |               |
| <i>Elaterosporites klaszi</i><br>(83)                                | —          |          |           |           |           |               |
| <i>Ephedripites subtilis</i><br>(83)                                 | —          |          |           |           |           |               |
| <i>E. pentacostatus</i><br>(83)                                      | —          |          |           |           |           |               |
| <i>E. undulatus</i><br>(83)  | —          |          |           |           |           |               |
| <i>Foveotricolpites scabratus</i><br>(36)                            |            |          |           |           | —         |               |
| <i>F. prolatus</i><br>(36)   |            |          |           |           | —         |               |
| <i>Gabonisoris vigourouxii</i><br>(83)                               |            |          |           | —         |           |               |
| <i>Galeacornea causea</i><br>(83)                                    | —          |          |           |           |           |               |
| <i>Glaphyrocysta ordinata</i>  |            |          |           |           |           | —             |
| <i>Hexaporotricolpites coronatus</i><br>(41)                         | —          |          |           |           |           |               |
| <i>H. emelianovi</i><br>(83)   |            |          |           | —         | —         |               |
| <i>H. mulleri</i><br>(36)  |            |          |           |           | —         |               |
| <i>H. potonieii</i><br>(83)  | —          |          |           |           |           |               |
| <p>———— common<br/>       ----- rare</p>                             |            |          |           |           |           |               |

| LATE CRETACEOUS<br>TAXA<br><br>PALYNOMORPHS<br>SERGIPE-ALAGOAS BASIN | CENOMANIAN |          |           | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|--|------------|----------|-----------|-----------|-----------|---------------|
|  |            | TURONIAN | CONIACIAN |           |           |               |
| <i>Lycopodiumsporites novomexicanum</i><br>(83)                      |            | ---      | ---       | ---       | ---       |               |
| <i>Monocolpopollenites sphaerodites</i><br>(83)                      |            |          | ---       | ---       |           |               |
| <i>Palaeocystodinium</i> sp. A<br>(83)                               |            |          |           |           | -----     |               |
| <i>Palaeohystrichophora infusorioides</i>                            | -----      | -----    | ---       |           |           |               |
| <i>Pediastrum</i> sp.<br>(83)  |            |          |           | ---       | -----     | -----         |
| <i>Pemphixipollenites inequixinus</i><br>(83)                        | -----      |          |           |           |           |               |
| <i>Psilastephanocolporites variabilis</i><br>(83)                    |            |          |           | ---       | -----     |               |
| <i>P. brasiliensis</i><br>(83)                                       |            |          |           |           | -----     |               |
| <i>Proteacidites longispinosus</i><br>(83)                           |            |          |           |           |           | -----         |
| <i>Proteacidites</i> sp.<br>(26)                                     |            |          |           |           | -----     | -----         |
| <i>Regalipollenites</i> sp.<br>(56)                                  |            |          |           |           | -----     |               |
| <i>Retiperiporites piacabucuensis</i><br>(37)                        |            |          |           | ---       | -----     |               |
| <i>Retitriporites mirabilis</i><br>(83)                              |            |          |           | ---       | -----     |               |
| <i>Retimonocolpites peroreticulatus</i><br>(26)                      | -----      | ---      |           |           |           |               |
| <i>Retitricolpites gemmatus</i><br>(35)                              |            |          |           |           | -----     |               |
| <i>Scollardia trapaformis</i><br>(83)                                |            |          |           |           |           | -----         |
| <i>Steevesipollenites nativensis</i><br>(83)                         |            |          |           | ---       |           |               |
| <i>Striopollenites dubious</i><br>(42)                               | ---        |          |           |           |           |               |
| <i>Tricolpites microstriatus</i><br>(36)                             |            |          |           | ---       | -----     |               |
| <i>T. tienabaensis</i><br>(36)                                       |            |          |           | ---       | -----     |               |

----- common

----- rare



| LATE CRETACEOUS<br>TAXA<br><br>NANNOFOSSILS<br>SERGIPE-ALAGOAS BASIN | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|--|------------|----------|-----------|-----------|-----------|---------------|
|  |            |          |           |           |           |               |
| <i>Ahmuerella octoradiata</i><br>(77)                                |            | .....    |           |           |           |               |
| <i>Arkhangelskiella cymbiformis</i><br>(29,95)                       |            |          |           |           | .....     |               |
| <i>Aspidolithus parvus constrictus</i><br>(77)                       |            |          |           |           | _____     |               |
| <i>Aspidolithus parvus parvus</i><br>(77)                            |            |          |           |           | _____     |               |
| <i>Braarudosphaera bigelowii</i><br>(29,77,95)                       |            | .....    |           |           |           |               |
| <i>Broinsonia enormis</i><br>(77)                                    |            |          |           |           | .....     |               |
| <i>Ceratolithoides aculeus</i><br>(29,77)                            |            |          |           |           | .....     |               |
| <i>Ceratolithoides kampfneri</i><br>(29,77,95)                       |            |          |           |           |           | _____         |
| <i>Cretarhabdus conicus</i><br>(29,77,95)                            |            | .....    |           |           |           |               |
| <i>Cretarhabdus crenulatus</i><br>(29,77,95)                         |            |          | _____     |           |           |               |
| <i>Cribrosphaerella ehrembergi</i><br>(77)                           |            |          |           |           | .....     |               |
| <i>Eiffellithus eximius</i><br>(29,77)                               |            | .....    |           |           |           |               |
| <i>Eiffellithus turriseiffeli</i><br>(29,77)                         |            |          | _____     |           |           |               |
| <i>Gartnerago obliquum</i><br>(77)                                   |            | .....    |           |           |           |               |
| <i>Glaukolithus diplogrammus</i><br>(77)                             |            |          | _____     |           | .....     |               |
| <i>Kampfnerius magnificus</i><br>(29,95)                             |            |          |           |           | .....     |               |
| <i>Lithastrinus floralis</i><br>(29,77,95)                           |            |          | _____     |           |           |               |
| <i>Lithastrinus grillii</i><br>(29,77,95)                            |            |          | _____     |           |           |               |
| <i>Lithraphidites carniolensis</i><br>(29,95)                        |            |          |           |           | .....     |               |
| <i>Lithraphidites quadratus</i><br>(29,95)                           |            |          |           |           | .....     |               |
| <p>_____ common</p> <p>..... rare</p>                                |            |          |           |           |           |               |



| EARLY CRETACEOUS<br>TAXA<br>FORAMINIFERA<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|---|------------------------------|-------|----------|-------|---------|--------------------|
|   | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|   | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| <i>Ammobaculites copei</i><br>(78)                                |                              |       |          |       |         | _____              |
| <i>Ammobaculites hartti</i><br>(78)                               |                              |       |          |       |         | _____              |
| <i>Ammobaculoides</i> sp.<br>(78)                                 |                              |       |          |       |         | _____              |
| <i>Citharina</i> sp. C<br>(78)                                    |                              |       |          |       |         | _____              |
| <i>Coskinolina</i> ? sp.<br>(78)                                  |                              |       |          |       |         | _____              |
| <i>Dentalina mirandai</i><br>(78)                                 |                              |       |          |       |         | _____              |
| <i>Discorbis minima</i><br>(78)                                   |                              |       |          |       |         | _____              |
| <i>Eoguttulina anderyi</i><br>(78)                                |                              |       |          |       |         | _____              |
| <i>Eoguttulina kreidleri</i><br>(78)                              |                              |       |          |       |         | _____              |
| <i>Eouvigerina laxistoma</i><br>(78)                              |                              |       |          |       |         | _____              |
| <i>Eponides leinzi</i><br>(78)                                    |                              |       |          |       |         | _____              |
| <i>Favusella washitensis</i><br>(20)                              |                              |       |          |       |         | _____              |
| <i>Hedbergella planispira</i><br>(84)                             |                              |       |          |       |         | _____              |
| <i>Lagena</i> cf. <i>L. sulcata</i><br>(78)                       |                              |       |          |       |         | _____              |
| <i>Lenticulina gaultina</i><br>(78)                               |                              |       |          |       |         | _____              |
| <i>Lingulina kelleri</i><br>(78)                                  |                              |       |          |       |         | _____              |
| <i>Marginulina tenuissima</i><br>(78)                             |                              |       |          |       |         | _____              |
| <i>marginulina</i> sp. B<br>(78)                                  |                              |       |          |       |         | _____              |
| <i>Nodosaria carltoni</i><br>(78)                                 |                              |       |          |       |         | _____              |
| <p>_____ common</p>   |                              |       |          |       |         |                    |



| LATE CRETACEOUS<br>TAXA<br><br>FORAMINIFERA<br>SERGIPE-ALAGOAS BASIN | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|--|------------|----------|-----------|-----------|-----------|---------------|
| <i>Anomalina calumbiensis</i><br>(78)                                |            |          |           |           |           | —             |
| <i>Anomalinoides itaitigensis</i><br>(78)                            |            |          |           |           |           | —             |
| <i>Anomalinoides petrobasi</i><br>(78)                               |            |          |           |           |           | —             |
| <i>Bigenerina euzebioi</i><br>(78)                                   | —          |          |           |           |           |               |
| <i>Bolivina incrassata</i><br>(78)                                   |            |          |           |           |           | —             |
| <i>Bolivina</i> cf. <i>P. incrassata</i><br>(78)                     |            |          |           |           |           | —             |
| <i>Bolivina plaita</i><br>(78)                                       |            | —        | -----     |           |           | —             |
| <i>Bolivina tinocoi</i><br>(78)                                      |            |          |           |           |           | —             |
| <i>Bolivinooides hiltermanni</i><br>(78)                             |            |          |           |           |           | —             |
| <i>Bulimina prolixa</i><br>(78)                                      |            |          |           |           |           | —             |
| <i>Cibicides mendesi</i><br>(78)                                     |            |          | —         |           |           |               |
| <i>Cibicidina hoelfeldi</i><br>(78)                                  |            |          |           |           |           | —             |
| <i>Cibicidina sergipana</i><br>(78)                                  |            |          |           |           |           | —             |
| <i>Citharina</i> ? sp. A<br>(78)                                     |            |          |           |           |           | —             |
| <i>Citharina</i> ? sp. B<br>(78)                                     |            |          |           |           |           | —             |
| <i>Clavhedbergella simplex</i><br>(59)                               |            | —        | —         |           |           |               |
| <i>Dentalina borgesii</i><br>(78)                                    |            |          | —         |           |           |               |
| <i>Dentalina</i> cf. <i>C. megapolitana</i><br>(78)                  |            |          |           |           |           | —             |
| <i>Discorbis lisboai</i><br>(78)                                     |            |          |           |           |           | —             |
| <i>Eponides aracajuensis</i><br>(78)                                 |            |          |           |           |           | —             |
| <p>————— common</p> <p>----- rare</p>                                |            |          |           |           |           |               |



| LATE CRETACEOUS<br>TAXA<br>—<br>FORAMINIFERA<br>SERGIPE-ALAGOAS BASIN | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|---|------------|----------|-----------|-----------|-----------|---------------|
|   |            |          |           |           |           |               |
| <i>Favusella washitensis</i><br>(20)                                  | —          |          |           |           |           |               |
| <i>Gaudryna</i> sp.<br>(78)   |            |          |           |           |           | —             |
| <i>Globigerinelloides eaglefordensis</i><br>(57)                      | —          |          |           |           |           |               |
| <i>Globigerinelloides messinae</i><br>(18)                            |            |          |           | —         |           |               |
| <i>Globotruncana arca</i><br>(85)                                     |            |          |           |           |           | —             |
| <i>Globotruncana calcarata</i><br>(85)                                | —          |          |           |           | —         |               |
| <i>Globotruncana campbelli</i><br>(78)                                |            |          |           |           |           | —             |
| <i>Globotruncana coarctata</i><br>(59)                                |            |          |           |           | —         |               |
| <i>Globotruncana contusa</i><br>(85)                                  | —          |          |           |           |           | —             |
| <i>Globotruncana duwi</i><br>(85)                                     |            |          | —         |           | —         | —             |
| <i>Globotruncana fomicata</i><br>(85)                                 |            |          |           | —         |           | —             |
| <i>Globotruncana fomicata ackermanni</i><br>(85)                      |            |          | —         |           | —         |               |
| <i>Globotruncana fomicata motai</i><br>(78)                           |            |          |           |           |           | —             |
| <i>Globotruncana gagnebini</i><br>(10)                                |            |          |           |           |           | —             |
| <i>Globotruncana gansseri</i><br>(85)                                 |            |          |           |           |           | —             |
| <i>Globotruncana havannensis</i><br>(85)                              |            |          |           |           |           | —             |
| <i>Globotruncana inornata</i><br>(20)                                 |            | —        |           |           |           |               |
| <i>Globotruncana renzi</i><br>(84)                                    |            |          |           | —         |           |               |
| <i>Globotruncana repanda</i><br>(10)                                  |            |          |           |           | —         | —             |
| <i>Globotruncana stuarti</i><br>(85)                                  |            |          |           |           |           | —             |
| — common  |            |          |           |           |           |               |

| <p style="text-align: center;">LATE CRETACEOUS<br/>TAXA</p> <p style="text-align: center;">—<br/>FORAMINIFERA<br/>SERGIPE-ALAGOAS BASIN</p> | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|---|------------|----------|-----------|-----------|-----------|---------------|
| Globo truncana stuartiformis (85)   |            |          |           |           | —         | —             |
| Globo truncana wilsoni (10)   |            |          |           | —         |           |               |
| Gubkinella graysnensis (59)   | —          |          |           |           |           |               |
| Gublerina robusta (59)  |            |          |           |           |           | —             |
| Gublerina glaessneri (59)   |            |          |           |           |           | —             |
| Guembelina kegeli (78)  |            | —        |           |           |           |               |
| Guttulina sp. (78)  |            |          |           |           |           | —             |
| Hastigerinoides alexanderi (59)   |            |          | —         | —         |           |               |
| Hastigerinoides watersi (59)  |            | —        | —         | —         |           |               |
| Hedbergella amabilis (85)   | —          |          |           |           |           |               |
| Hedbergella clavigera (91)  |            |          |           |           |           | —             |
| Hedbergella delrioensis (ambigira) (84)   |            | —        |           |           |           |               |
| Hedbergella delrioensis (dextrogi-<br>ra) (84)  |            |          | —         | —         |           |               |
| Hedbergella monmouthensis (85)  |            |          |           |           | —         | —             |
| Hedbergella petaloidea  |            |          |           |           | —         | —             |
| Hedbergella planispira (84)   | —          | —        | —         |           |           |               |
| Heterohelix carinata (59)   |            |          |           |           | —         |               |
| Heterohelix moremani (78)   |            | —        | —         | —         |           |               |
| Heterohelix pseudotessera (59)  |            |          |           |           | —         |               |
| Heterohelix reussi (91)   |            | —        |           |           | —         |               |
| <p style="text-align: center;">— common</p>   |            |          |           |           |           |               |

| LATE CRETACEOUS<br>TAXA<br><br>FORAMINIFERA<br>SERGIPE-ALAGOAS BASIN | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|--|------------|----------|-----------|-----------|-----------|---------------|
|  |            |          |           |           |           |               |
| <i>Heterohelix</i> cf. <i>H. striata</i><br>(59)                     |            |          |           |           |           | —             |
| <i>Heterohelix ultimatumida</i><br>(59)                              |            | —        |           |           |           |               |
| <i>Lenticulina guedesi</i><br>(78)                                   |            |          |           |           |           | —             |
| <i>Lenticulina benderi</i><br>(78)                                   |            | —        | —         |           |           |               |
| <i>Lingulina assisi</i><br>(78)                                      |            |          |           |           |           | —             |
| <i>Lingulina</i> sp.<br>(78)   |            |          |           |           |           | —             |
| <i>Marginulina gardneri</i><br>(78)                                  |            |          |           |           |           | —             |
| <i>Marginulina loefgreni</i><br>(78)                                 |            |          |           |           |           | —             |
| <i>Marginulina</i> sp. A<br>(78)                                     |            |          |           |           |           | —             |
| <i>Mendesia minuta</i><br>(78)                                       |            |          |           |           |           | —             |
| <i>Nodosaria mourai</i><br>(78)                                      |            |          | —         |           |           |               |
| <i>Nodosaria</i> sp. A<br>(78)                                       |            |          |           |           |           | —             |
| <i>Nodosaria</i> sp. B<br>(78)                                       |            |          |           |           |           | —             |
| <i>Nodosaria</i> sp. C<br>(78)                                       |            |          |           |           |           | —             |
| <i>Nonionella garai</i><br>(78)                                      |            |          |           |           |           | —             |
| <i>Nonionella leonardosi</i><br>(78)                                 |            |          | —         |           |           | —             |
| <i>Planomalina mauryae</i><br>(78)                                   |            |          |           |           |           | —             |
| <i>Planoglobulina acervulinoides</i><br>(59)                         |            |          |           |           |           | —             |
| <i>Planoglobulina glabrata</i><br>(59)                               |            |          |           | —         | —         |               |
| <i>Planularia</i> sp. A<br>(78)                                      |            |          |           |           |           | —             |
| ————— common   |            |          |           |           |           |               |

| <p style="text-align: center;"><b>LATE CRETACEOUS<br/>TAXA</b></p> <p style="text-align: center;">FORAMINIFERA<br/>SERGIPE-ALAGOAS BASIN</p> | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|--|------------|----------|-----------|-----------|-----------|---------------|
| Planularia sp. B<br>(78)   |            |          |           |           |           |               |
| Planulina cotinguibensis<br>(78)   |            |          |           |           |           |               |
| Planulina spissicostata<br>(91)  |            |          |           |           | —————     |               |
| Pleurostomella watersi<br>(78)   |            |          |           |           |           |               |
| Praeglobotruncana delrioensis<br>(84)  |            |          |           |           |           |               |
| Praeglobotruncana gautierensis<br>(18)   |            |          |           |           |           |               |
| Pseudoguembelina costulata<br>(59)   |            |          |           |           |           |               |
| Pseudoguembelina ? sp.<br>(78)   |            |          |           |           |           |               |
| Pseudotextularia difformis<br>(59)   |            |          |           |           |           |               |
| Pseudotextularia elegans<br>(59)   |            |          |           |           |           |               |
| Pseudovalvulineria sergipana<br>(78)   |            |          |           |           |           |               |
| Reusella sp.<br>(78)   |            |          |           |           |           |               |
| Rotalipora evoluta<br>(59)   |            |          |           |           |           |               |
| Rugoglobigerina macrocephala<br>(85)   |            |          |           |           |           |               |
| Rugoglobigerina cf. R. reicheli<br>pustulata (85)  |            |          |           |           |           |               |
| Rugoglobigerina rugosa<br>(85)   |            |          |           |           |           |               |
| Siphogenerinoides bramletti<br>(23)  |            |          |           |           |           |               |
| Siphogenerinoides dentata<br>(23)  |            |          |           |           |           |               |
| Spirillina sp.<br>(78)   |            |          |           |           |           |               |
| Spiroplectammina regoi<br>(78)   |            |          |           |           |           |               |
| <p>————— common</p>  |            |          |           |           |           |               |



| EARLY CRETACEOUS<br>TAXA<br><br>OSTRACODA<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|-------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| <i>Bisulcocypris forbesi</i><br>(43,79,99)                         | —                            |       |          |       |         |                    |
| <i>Bisulcocypris post. postangularis</i><br>(66,67,79,94)          |                              |       |          | —     |         |                    |
| <i>Bisulcocypris ventrostriata</i><br>(65)                         |                              |       |          | —     |         |                    |
| <i>Brasacypris ovum</i><br>(50)                                    | —                            |       |          |       |         |                    |
| <i>Candona ? condensa</i><br>(45)                                  | —                            |       |          |       |         |                    |
| <i>Candona ? gregaria</i><br>(45)                                  | —                            |       |          |       |         |                    |
| <i>Candona ? pitangaensis</i><br>(47)                              |                              | —     |          |       |         |                    |
| <i>Clinocypris ? weilleri</i><br>(50)                              | —                            |       |          |       |         |                    |
| <i>Coriacina coriacea</i><br>(45)                                  |                              |       |          | —     |         |                    |
| <i>Cypridea acicularis</i><br>(53)                                 | —                            |       |          |       |         |                    |
| <i>Cypridea acuta</i><br>(99)                                      | —                            |       |          |       |         |                    |
| <i>Cypridea attilis</i><br>(53)                                    | —                            |       |          |       |         |                    |
| <i>Cypridea ambigua</i><br>(45)                                    | —                            |       |          |       |         |                    |
| <i>Cypridea armata</i><br>(45)                                     | —                            |       |          |       |         |                    |
| <i>Cypridea bisculpturata</i><br>(99)                              | —                            |       |          |       |         |                    |
| <i>Cypridea brevicornis</i><br>(76)                                | —                            |       |          |       |         |                    |
| <i>Cypridea depressa</i><br>(64)                                   | —                            |       |          |       |         |                    |
| <i>Cypridea dromedarius</i><br>(45)                                | —                            |       |          |       |         |                    |
| <i>Cypridea eminens</i><br>(31)                                    |                              |       |          | —     |         |                    |

REMARK: For the common species to the Sergipe/Alagoas and Recôncavo/Tucano was assumed the same stratigraphic distribution of the last. Probable differences in these distribution must be furtherly studied.

| EARLY CRETACEOUS<br>TAXA<br>OSTRACODA<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|-------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| <i>Cypridea heliopolisensis hespera</i><br>(53)                | —                            |       |          |       |         |                    |
| <i>Cypridea hystericoides</i><br>(45)                          |                              |       | —        |       |         |                    |
| <i>Cypridea hystrix</i><br>(45)                                |                              | —     |          |       |         |                    |
| <i>Cypridea indiennensis densipunctata</i><br>(53)             | —                            |       |          |       |         |                    |
| <i>Cypridea insolita</i><br>(22)                               |                              |       | —        |       |         |                    |
| <i>Cypridea jequiensis</i><br>(53)                             |                              |       |          | —     |         |                    |
| <i>Cypridea kegei</i><br>(76)                                  | —                            |       |          |       |         |                    |
| <i>Cypridea limæ</i><br>(22)                                   |                              |       |          | —     |         |                    |
| <i>Cypridea lunula</i><br>(45)                                 |                              | —     |          |       |         |                    |
| <i>Cypridea luzi</i><br>(64)                                   | —                            |       |          |       |         |                    |
| <i>Cypridea maior</i><br>(50)                                  | —                            |       |          |       |         |                    |
| <i>Cypridea muelleri</i><br>(45)                               |                              | —     |          |       |         |                    |
| <i>Cypridea multipunctata</i><br>(22)                          | —                            |       |          |       |         |                    |
| <i>Cypridea nannorostrata</i><br>(45)                          |                              |       | —        |       |         |                    |
| <i>Cypridea opifera</i><br>(45)                                | —                            |       |          |       |         |                    |
| <i>Cypridea primaria</i><br>(32)                               | —                            |       |          |       |         |                    |
| <i>Cypridea quadrilatera</i> is<br>(94)                        |                              | —     |          |       |         |                    |
| <i>Cypridea riojoanensis</i><br>(64)                           |                              |       | —        |       |         |                    |
| <i>Cypridea salvadorensis nodifer</i><br>(45)                  | —                            |       |          |       |         |                    |
| <p>————— common</p>  |                              |       |          |       |         |                    |

| EARLY CRETACEOUS<br>TAXA<br>OSTRACODA<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |         |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|---------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |         |         |                    |
|  | RIO DA SERRA                 | ARAÍU | BURACICA | JIQUEIA | ALAGOAS |                    |
| <i>Cypridea salvadorensis salvadorensis</i><br>(45)            |                              |       |          |         |         |                    |
| <i>Cypridea sellata</i><br>(96)                                |                              |       |          |         |         |                    |
| <i>Cypridea semilunaris</i><br>(22)                            |                              |       |          |         |         |                    |
| <i>Cypridea spinata</i><br>(64)                                |                              |       |          |         |         |                    |
| <i>Cypridea subtilis</i><br>(50)                               | —                            |       |          |         |         |                    |
| <i>Cypridea suspecta</i><br>(50)                               |                              |       |          |         |         |                    |
| <i>Cypridea tchibodaensis</i><br>(51)                          |                              |       |          |         |         |                    |
| <i>Cypridea trinodosa</i><br>(96)                              |                              |       |          |         |         |                    |
| <i>Cypridea tucanoensis</i><br>(50)                            | —                            |       |          |         |         |                    |
| <i>Cypridea ventronodata</i><br>(45)                           | —                            |       |          |         |         |                    |
| <i>Cypridea ventrospinata</i><br>(22)                          |                              |       |          |         |         |                    |
| <i>Cypridea vulgaris</i><br>(45)                               | —                            | —     |          |         |         |                    |
| <i>Cypr. (Morinina?) bib. bibullata</i><br>(45,94,99)          |                              |       |          |         |         |                    |
| <i>Cypr. (Morinina?) bibullata tribullata</i><br>(45)          |                              |       |          |         |         |                    |
| <i>Cypridea (Morinina?) langei</i><br>(45)                     |                              |       |          |         |         |                    |
| <i>Cypridea (Morininoides) candeiensis</i><br>(45)             | —                            |       |          |         |         |                    |
| <i>Cypridea (Morininoides) grekoffi</i><br>(50)                | —                            |       |          |         |         |                    |
| <i>Cypridea (Morininoides) hadronodosa</i><br>(45)             |                              |       |          |         |         |                    |
| <i>Cypridea (Morininoides) variebullata</i><br>(53)            | —                            |       |          |         |         |                    |
| <p>———— common</p>   |                              |       |          |         |         |                    |



| EARLY CRETACEOUS<br>TAXA<br>OSTRACODA<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|-------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| <i>Paracypridea rhomboidalis</i><br>(45)                       |                              | —     |          |       |         |                    |
| <i>Paracypridea similis condylaris</i><br>(48)                 |                              | —     |          |       |         |                    |
| <i>Paracypridea similis similis</i><br>(44)                    |                              | —     |          |       |         |                    |
| <i>Pattersoncypris micropapillosa</i><br>(2)                   |                              |       |          |       | —       |                    |
| <i>Petrobrasia badajosensis</i><br>(53)                        |                              |       |          | —     |         |                    |
| <i>Petrobrasia costata</i><br>(22)                             |                              |       | —        |       |         |                    |
| <i>Petrobrasia capivarensis</i><br>(53)                        |                              |       | —        |       |         |                    |
| <i>Petrobrasia diversicostata</i><br>(51,66,67)                |                              |       |          | —     |         |                    |
| <i>Petrobrasia glabra</i><br>(31)                              | —                            |       | —        |       |         |                    |
| <i>Petrobrasia ? gutta</i><br>(53)                             |                              |       |          | —     |         |                    |
| <i>Petrobrasia marfinensis</i><br>(45,50)                      |                              |       |          | —     |         |                    |
| <i>Petrobrasia pontanigrensis</i><br>(51)                      |                              |       |          | —     |         |                    |
| <i>Petrobrasia reticulata</i><br>(64)                          |                              | —     | —        |       |         |                    |
| <i>Petrobrasia vallata</i><br>(53)                             |                              |       |          | —     |         |                    |
| <i>Petrobrasia zairensis</i><br>(51)                           |                              |       |          | —     |         |                    |
| <i>Petrobrasia tenuistriata longiuscula</i><br>(53)            |                              |       |          | —     |         |                    |
| <i>Petrobrasia tenuistriata tenuistriata</i><br>(50)           |                              |       |          | —     |         |                    |
| <i>Reoncavona binodosa</i><br>(22)                             |                              | —     |          |       |         |                    |
| <i>Reoncavona cancellata</i><br>(45)                           |                              | —     |          |       |         |                    |
| — common   |                              |       |          |       |         |                    |

| EARLY CRETACEOUS<br>TAXA<br>OSTRACODA<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |         |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|---------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |         |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JIQUEIA | ALAGOAS |                    |
| Cypridea (Pseudocyprinina) faveolata (64)                      |                              |       |          | -       |         |                    |
| Cypridea (Sebastianites) devexa (45)                           |                              |       |          | -       |         |                    |
| Cypridea (Sebastianites) fida fida (45,66,67)                  |                              |       |          | -       |         |                    |
| Cypridea (Sebastianites) fida minor (64)                       |                              |       |          | -       |         |                    |
| Cypridea (Sebastianites?) kouillouensis (51)                   |                              |       |          | -       |         |                    |
| C. (Sebastianites?) mataensis mataensis (45)                   |                              |       |          | -       |         | -                  |
| C. (Sebastianites?) mataensis vercellinoides (45)              |                              |       |          | -       |         |                    |
| Cypridea (Sebastianites?) matinversa (53)                      |                              |       |          | -       |         |                    |
| Cypridea (Sebastianites?) minima (64)                          |                              |       |          | -       |         |                    |
| Cypridea (Sebastianites?) mira (53)                            |                              |       |          | -       |         |                    |
| Cypridea (Sebastianites) onusta (45)                           |                              |       |          | -       |         |                    |
| Cypr. (Sebastianites?) sostensis granulata (64)                |                              |       |          | -       |         |                    |
| Cypr. (Sebastianites?) sostensis sosten-sis (45)               |                              |       |          | -       |         |                    |
| "Cytheridea?" spp. gr. 201/218 (66,67,91)                      |                              |       |          |         | -       |                    |
| Hourcquia africana africana (51)                               |                              |       |          |         | -       |                    |
| Hourcquia africana confluens (53)                              |                              |       |          |         | -       |                    |
| Hourcquia angulata angulata (53)                               |                              |       |          |         | -       |                    |
| Hourcquia angulata sinuata (2,53)                              |                              |       |          |         | -       |                    |
| Hourcquia angulata symmetrica (53)                             |                              |       |          |         | -       |                    |
| <p>————— common</p>  |                              |       |          |         |         |                    |

| EARLY CRETACEOUS<br>TAXA<br>OSTRACODA<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |         |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|---------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |         |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JIQUEIA | ALAGOAS |                    |
| <i>Ilhasina amphotera</i><br>(46)                              |                              | —     |          |         |         |                    |
| <i>Ilhasina remanei cuneiformis</i><br>(46)                    |                              | —     |          |         |         |                    |
| <i>Ilhasina remanei glabra</i><br>(64)                         | —                            |       |          |         |         |                    |
| <i>Ilhasina remanei remanei</i><br>(46)                        |                              | —     |          |         |         |                    |
| <i>Ilhasina torosa</i><br>(46)                                 |                              | —     |          |         |         |                    |
| <i>Ilyocypris</i> sp.<br>(45)                                  | —                            |       |          |         |         |                    |
| <i>Limnocypridea subquadrata</i><br>(66,67)                    |                              |       |          | —       |         |                    |
| <i>Limnocythere troelseni</i><br>(53,66,67)                    |                              |       |          | —       |         |                    |
| <i>Looneyellopsis brasiliensis</i><br>(53)                     | —                            |       |          |         |         |                    |
| " <i>Metacypris</i> " sp. 6<br>(44)                            |                              |       | —        |         |         |                    |
| <i>Paracypridea bicallosa</i><br>(48)                          | —                            |       |          |         |         |                    |
| <i>Paracypridea brasiliensis</i><br>(45)                       | —                            |       |          |         |         |                    |
| <i>Paracypridea elegans elegans</i><br>(45)                    |                              | —     |          |         |         |                    |
| <i>Paracypridea langdoni</i><br>(44)                           |                              | —     |          |         |         |                    |
| <i>Paracypridea maacki</i><br>(48)                             | —                            |       |          |         |         |                    |
| <i>Paracypridea obovata macacoensis</i><br>(48)                |                              | —     |          |         |         |                    |
| <i>Paracypridea obovata obovata</i><br>(45)                    |                              | —     |          |         |         |                    |
| <i>Paracypridea quadrirugosa quadrirugosa</i><br>(44,99)       |                              | —     |          |         |         |                    |
| <i>Paracypridea quadrirugosa weberi</i><br>(44)                |                              | —     |          |         |         |                    |
| — common   |                              |       |          |         |         |                    |

| EARLY CRETACEOUS<br>TAXA<br>OSTRACODA<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|-------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| <i>Reoncavona centronodosa</i><br>(45)                         |                              |       |          |       |         |                    |
| <i>Reoncavona diacantha</i><br>(64)                            |                              |       |          |       |         |                    |
| <i>Reoncavona gastracantha</i><br>(47)                         |                              |       |          |       |         |                    |
| <i>Reoncavona imitatrix</i><br>(50)                            | -                            |       |          |       |         |                    |
| <i>Reoncavona impar</i><br>(47)                                |                              |       |          |       |         |                    |
| <i>Reoncavona polita</i><br>(96)                               | —                            |       |          |       |         |                    |
| <i>Reoncavona striata</i><br>(22)                              |                              |       |          |       |         |                    |
| <i>Reoncavona striatula</i><br>(45,94)                         |                              | —     |          |       |         |                    |
| <i>Reoncavona swaini</i><br>(45)                               |                              |       |          |       |         |                    |
| <i>Reoncavona triebeli</i><br>(47)                             |                              |       |          |       |         |                    |
| <i>Reoncavona ? ultima</i><br>(53)                             |                              |       |          |       |         |                    |
| <i>Reoncavona uncinata</i><br>(45)                             |                              |       |          |       |         |                    |
| <i>Reoncavona uniacantha costulata</i><br>(53)                 |                              |       |          |       |         |                    |
| <i>Reoncavona uniacantha uniacantha</i><br>(45)                |                              |       |          |       |         |                    |
| <i>Reoncavona verruculosa</i><br>(47)                          |                              |       |          |       |         |                    |
| <i>Salvadoriella ? acuta</i><br>(53)                           |                              |       |          |       |         |                    |
| <i>Salvadoriella ? minuta</i><br>(64)                          |                              |       |          |       |         |                    |
| <i>Salvadoriella redunca redunca</i><br>(46)                   |                              |       |          |       |         |                    |
| <i>Theriosynoecum dorsocallosum</i><br>(22)                    |                              |       |          |       |         |                    |
| <p>———— common</p>   |                              |       |          |       |         |                    |



**LATE CRETACEOUS  
TAXA**

OSTRACODA  
SERGIPE-ALAGOAS BASIN

CENOMANIAN

TURONIAN

CONIACIAN

SANTONIAN

CAMPANIAN

MAASTRICHTIAN

Brachycythere (B.) sapucariensis  
(49)

—— common

| EARLY CRETACEOUS<br>—<br>TAXA<br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |         |         | ALBIAN<br>( PARS ) |
|---|------------------------------|-------|----------|---------|---------|--------------------|
|   | BRAZILIAN LOCAL STAGES       |       |          |         |         |                    |
|   | RIO DA SERRA                 | ARATU | BURACICA | JIQUEIA | ALAGOAS |                    |
| BRACHIOPODA   |                              |       |          |         |         |                    |
| <i>Magas sergipensis</i><br>(72)  |                              |       |          |         |         |                    |
| GASTROPODA  |                              |       |          |         |         |                    |
| <i>Akera browni</i><br>(62)   |                              |       |          |         |         |                    |
| " <i>Amauropsis</i> " <i>sergipensis</i><br>(62)                        |                              |       |          |         |         |                    |
| <i>Ampullina</i> ( <i>Pseudamaura</i> ) <i>whitei</i><br>(98)           |                              |       |          |         |         |                    |
| <i>Anchura infortunata</i><br>(98)                                      |                              |       |          |         |         |                    |
| <i>Cerithium riachuelanum</i><br>(62)                                   |                              |       |          |         |         |                    |
| <i>C. riachuelanum lirae</i><br>(62)                                    |                              |       |          |         |         |                    |
| <i>C. sergipensis</i><br>(62)   |                              |       |          |         |         |                    |
| <i>C. spiculatum</i><br>(62,98)   |                              |       |          |         |         |                    |
| <i>C. thoas</i><br>(62,98)  |                              |       |          |         |         |                    |
| <i>Cypraea riachuelana</i><br>(62)                                      |                              |       |          |         |         |                    |
| " <i>Epitonium</i> " <i>pyrene</i><br>(62)                              |                              |       |          |         |         |                    |
| " <i>Epitonium</i> " <i>riachuelanum</i><br>(62)                        |                              |       |          |         |         |                    |
| " <i>Euspira</i> " <i>sergipensis</i><br>(62)                           |                              |       |          |         |         |                    |
| <i>Fasciolaria lastroensis</i><br>(62)                                  |                              |       |          |         |         |                    |
| <i>F. urubuensis</i><br>(62)  |                              |       |          |         |         |                    |
| <i>Lunatia subhumerosa</i><br>(62)                                      |                              |       |          |         |         |                    |
| —— common   |                              |       |          |         |         |                    |

| EARLY CRETACEOUS<br>TAXA<br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|-------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| <i>Mesalia hebe</i><br>(62,98)                                     |                              |       |          |       |         |                    |
| <i>Natica bulbulus</i><br>(98)                                     |                              |       |          |       |         |                    |
| <i>N. engerholyria</i><br>(62)                                     |                              |       |          |       |         |                    |
| <i>Nerinea riachuelana</i><br>(62)                                 |                              |       |          |       |         |                    |
| <i>Otostoma (Lyosoma) squamosa</i><br>(98)                         |                              |       |          |       |         |                    |
| <i>Paraglauconia (Diglauconia) lyrica</i><br>(62,63)               |                              |       |          |       |         |                    |
| <i>P. (D.) sergipensis</i><br>(62,63)                              |                              |       |          |       |         |                    |
| <i>Peruviella dolium</i><br>(21)                                   |                              |       |          |       |         |                    |
| <i>Ringinella pinguiscula</i><br>(62)                              |                              |       |          |       |         |                    |
| <i>Turbo portentus</i><br>(98)                                     |                              |       |          |       |         |                    |
| <i>Turritella (Haustator) carregozica</i><br>(62)                  |                              |       |          |       |         |                    |
| <i>T. pedrinhensis</i><br>(62)                                     |                              |       |          |       |         |                    |
| <i>Tylostoma materinum</i><br>(98)                                 |                              |       |          |       |         |                    |
| <i>T. minimum</i><br>(98)  |                              |       |          |       |         |                    |
| <i>T. sergipensis</i><br>(62)                                      |                              |       |          |       |         |                    |
| <i>T. whitei</i><br>(62)   |                              |       |          |       |         |                    |
| BIVALVIA   |                              |       |          |       |         |                    |
| <i>Acesta praetexta</i><br>(62)                                    |                              |       |          |       |         |                    |
| <i>Aguileria dissita</i><br>(98,102)                               |                              |       |          |       |         |                    |
| —— common  |                              |       |          |       |         |                    |



| EARLY CRETACEOUS<br>TAXA<br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|-------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| <i>A. regoi</i><br>(62,102)  |                              |       |          |       |         |                    |
| <i>Amphidonte conica haliotoidea</i><br>(3,62)                     |                              |       |          |       |         |                    |
| <i>Anatina putatoria</i><br>(98)                                   |                              |       |          |       |         |                    |
| " <i>Anodontophora</i> " sp.<br>(73)                               | ?                            |       |          |       | ?       |                    |
| <i>Anomia carregozica</i><br>(62)                                  |                              |       |          |       |         |                    |
| <i>A. sergipensis</i><br>(62)                                      |                              |       |          |       |         |                    |
| " <i>Anoplophora</i> " sp.<br>(28)                                 | ?                            |       |          |       | ?       |                    |
| " <i>Astarte</i> " sp.<br>(73)                                     | ?                            |       |          |       | ?       |                    |
| <i>Astarte sergipensis</i><br>(62)                                 |                              |       |          |       |         |                    |
| <i>Barbatia disclusa</i><br>(98)                                   |                              |       |          |       |         |                    |
| <i>Camponectes placitus</i><br>(62)                                |                              |       |          |       |         |                    |
| " <i>Cardinia</i> " sp.<br>(28)                                    | ?                            |       |          |       | ?       |                    |
| <i>Crassatella maroimensis</i><br>(98)                             |                              |       |          |       |         |                    |
| " <i>Cuspidaria</i> " sp.<br>(28)                                  | ?                            |       |          |       | ?       |                    |
| " <i>Decatopecten</i> " sp.<br>(28)                                | ?                            |       |          |       | ?       |                    |
| <i>Exogyra ganhamoroba</i><br>(62)                                 |                              |       |          |       |         |                    |
| <i>E. mutatoria</i><br>(98)  |                              |       |          |       |         |                    |
| <i>E. sergipensis</i><br>(62)                                      |                              |       |          |       |         |                    |
| " <i>Gonodon</i> " sp.<br>(73)                                     | ?                            |       |          |       | ?       |                    |
| ————— common   |                              |       |          |       |         |                    |

| EARLY CRETACEOUS<br>TAXA<br><br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|-------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| "Homomya" bisinuosa<br>(62,98)   |                              |       |          |       |         |                    |
| "Homomya" profunda<br>(98)   |                              |       |          |       |         |                    |
| "Homomya" refugium<br>(62,98)  |                              |       |          |       |         |                    |
| Inoceramus ? urubuensis<br>(62)  |                              |       |          |       |         |                    |
| Integricardium braziliensis<br>(38)                                    |                              |       |          |       |         |                    |
| "Isocardia" coutinhoana<br>(98)  |                              |       |          |       |         |                    |
| "Isocardia" praecisa<br>(98)   |                              |       |          |       |         |                    |
| Limatula turgidula<br>(98)   |                              |       |          |       |         |                    |
| Liopistha sergipensis<br>(62)  |                              |       |          |       |         |                    |
| Lopha euzebioi<br>(62)   |                              |       |          |       |         |                    |
| Modiolus declivus<br>(62)  |                              |       |          |       |         |                    |
| M. maroimensis<br>(62)   |                              |       |          |       |         |                    |
| M. sanharicus<br>(62)  |                              |       |          |       |         |                    |
| "Myoconcha" sp.<br>(28)  | ? —————                      |       |          |       | — ?     |                    |
| "Myophoria" sp.<br>(28)  | ? —————                      |       |          |       | — ?     |                    |
| Neithea shawi<br>(8)   |                              |       |          |       |         |                    |
| N. sergipensis<br>(98)   |                              |       |          |       |         |                    |
| Nemocardium brasiliense<br>(98)  |                              |       |          |       |         |                    |
| "Nucula" sp.<br>(28,73)  | ? —————                      |       |          |       | — ?     |                    |
| ————— common   |                              |       |          |       |         |                    |

| EARLY CRETACEOUS<br>TAXA<br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|-------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| "Nuculana" sp.<br>(28)   | ? ————— ?                    |       |          |       |         |                    |
| "Opis" sp.<br>(28)   | ? ————— ?                    |       |          |       |         |                    |
| Ostrea invalida<br>(98)  |                              |       |          |       |         | —————              |
| O. maroimensis<br>(98)   |                              |       |          |       |         | —————              |
| "Pachycardia" sp.<br>(28)  | ? ————— ?                    |       |          |       |         |                    |
| "Panoepa" sp.<br>(28)  | ? ————— ?                    |       |          |       |         |                    |
| Panoepa brasiliensis<br>(62)                                       |                              |       |          |       |         | —————              |
| P. rathbuni<br>(62)  |                              |       |          |       |         | —————              |
| Pecten collapsus<br>(98)   |                              |       |          |       |         | —————              |
| "Pirna" sp.<br>(28)  | ? ————— ?                    |       |          |       |         |                    |
| Plagiostoma derbyi<br>(98)   |                              |       |          |       |         | —————              |
| P. imbirica<br>(62)  |                              |       |          |       |         | —————              |
| "Pleurophorus" sp.<br>(28)   | ? ————— ?                    |       |          |       |         |                    |
| Plicatula modioloides<br>(98)                                      |                              |       |          |       |         | —————              |
| "Psammobia" sp.<br>(28,73)   | ? ————— ?                    |       |          |       |         |                    |
| Pseudolimea sergipica<br>(3,62)                                    |                              |       |          |       |         | —————              |
| Pteria infelix<br>(98)   |                              |       |          |       |         | —————              |
| Rostrocardia branneri<br>(3,98)                                    |                              |       |          |       |         | —————              |
| "Tellina" sp.<br>(28)  | ? ————— ?                    |       |          |       |         |                    |

————— common

| EARLY CRETACEOUS<br>TAXA<br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |         |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|---------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |         |         |                    |
|  | RIO DA SERRA                 | APATU | BURACICA | JIQUEIA | ALAGOAS |                    |
| "Thracia" sp.<br>(28)  | ?                            |       |          |         | ?       |                    |
| Trachycardium riachuelense<br>(62)                                 |                              |       |          |         |         |                    |
| Trapezium insepultum<br>(98)                                       |                              |       |          |         |         |                    |
| "Trigonodus" sp.<br>(28)   | ?                            |       |          |         | ?       |                    |
| CEPHALOPODA  |                              |       |          |         |         |                    |
| Anisoceras sp.<br>(17)   |                              |       |          |         |         | —                  |
| Douvilleiceras euzebioi<br>(5)                                     |                              |       |          |         |         | —                  |
| D. offarcinatum<br>(17)  |                              |       |          |         |         | —                  |
| D. sergipensis<br>(8)  |                              |       |          |         |         | —                  |
| Douvilleiceras sp. A<br>(5)  |                              |       |          |         |         | —                  |
| Douvilleiceras sp. B<br>(5)  |                              |       |          |         |         | —                  |
| Elobiceras brasiliense<br>(12)                                     |                              |       |          |         |         | —                  |
| Elobiceras sp. A<br>(5)  |                              |       |          |         |         | —                  |
| Elobiceras sp. B<br>(5)  |                              |       |          |         |         | —                  |
| Euhoplites reesidei<br>(62)  |                              |       |          |         |         | —                  |
| Hamites (Hamitella) hystriculus<br>(61,62)                         |                              |       |          |         |         | —                  |
| Mortoniceras arceiria<br>(62)                                      |                              |       |          |         |         | —                  |
| M. lastroensis<br>(62)   |                              |       |          |         |         | —                  |
| M. ? maroimensis<br>(61,62)  |                              |       |          |         |         | —                  |
| —— common  |                              |       |          |         |         |                    |

| EARLY CRETACEOUS<br>TAXA<br><br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |                     |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|---------------------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |                     |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA<br>JIQUEIA | ALAGOAS |                    |
| <i>M. marrecasia</i><br>(62)   |                              |       |                     |         | —                  |
| <i>M. sergipensis</i><br>(5)   |                              |       |                     |         | —                  |
| <i>Mortonicerias</i> sp. A<br>(5)                                      |                              |       |                     |         | —                  |
| <i>Neokentroceras</i> cf. <i>N. tectorium</i><br>(5)                   |                              |       |                     |         | —                  |
| <i>Oxytropidoceras arceirium</i><br>(62)                               |                              |       |                     |         | —                  |
| <i>O. buarquianum</i><br>(5,61)  |                              |       |                     |         | —                  |
| <i>O. howei</i><br>(62)  |                              |       |                     |         | —                  |
| <i>O. (Maurianicerias) involutum</i><br>(5,7)                          |                              |       |                     |         | —                  |
| <i>O. (Androiavites) mauryae</i><br>(5,7)                              |                              |       |                     |         | —                  |
| <i>Oxytropidoceras</i> sp. A.<br>(5)                                   |                              |       |                     |         | —                  |
| <i>Puzosia bistricta</i><br>(61,62)                                    |                              |       |                     |         | —                  |
| <i>P. (Anapuzosia) brasiliiana</i><br>(62)                             |                              |       |                     |         | —                  |
| <i>P. garajauana</i><br>(62)   |                              |       |                     |         | —                  |
| <i>P. rosarica</i><br>(62)   |                              |       |                     |         | —                  |
| POLYCHAETA   |                              |       |                     |         |                    |
| <i>Diploconcha riachueloi</i><br>(9)                                   |                              |       |                     |         | —                  |
| <i>D. scalata</i><br>(9)   |                              |       |                     |         | —                  |
| <i>Pomatoceros ? cretaceus</i><br>(9)                                  |                              |       |                     |         | —                  |
| <i>Serpula sergipensis</i><br>(9)                                      |                              |       |                     |         | —                  |
| ——— common   |                              |       |                     |         |                    |

| EARLY CRETACEOUS<br>—<br>TAXA<br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|---|------------------------------|-------|----------|-------|---------|--------------------|
|   | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|   | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| CRUSTACEA (CONCHOSTRACA)  |                              |       |          |       |         |                    |
| <i>Grptoestheriella brasiliensis</i><br>(19)                            | ?                            | —     | —        | —     | —       | ?                  |
| ECHINOIDEA  |                              |       |          |       |         |                    |
| <i>Acriaster sergipensis</i><br>(101)                                   |                              |       |          |       |         | —                  |
| <i>Coenholectypus neocomiensis</i><br>(98,101)                          |                              |       |          |       |         | —                  |
| <i>Colliclypeus nettoanus</i><br>(98,101)                               |                              |       |          |       |         | —                  |
| <i>Hemiaster proclivus</i><br>(15,60,101)                               |                              |       |          |       |         | —                  |
| <i>Leptosalenia sergipensis</i><br>(98,101)                             |                              |       |          |       |         | —                  |
| <i>Nucleopygus cf. similis</i><br>(101)                                 |                              |       |          |       |         | —                  |
| <i>Orthopsis miliaris</i><br>(14,101)                                   |                              |       |          |       |         | —                  |
| ? <i>Parapygus</i> sp.<br>(101)   |                              |       |          |       |         | —                  |
| <i>Phalacrocidaris branneri</i><br>(14,62,101)                          |                              |       |          |       |         | —                  |
| <i>Phyllobrissus freitasii</i><br>(62,98,101)                           |                              |       |          |       |         | —                  |
| <i>Phymosoma binexilis</i><br>(98)                                      |                              |       |          |       |         | —                  |
| cf. <i>Pseudholaster tricarinatus</i><br>(101)                          |                              |       |          |       |         | —                  |
| <i>Temnocidaris (Stereocidaris) malheiroi</i><br>(101)                  |                              |       |          |       |         | —                  |
|   |                              |       |          |       |         |                    |
|   |                              |       |          |       |         |                    |
|   |                              |       |          |       |         |                    |
| —— common   |                              |       |          |       |         |                    |

| EARLY CRETACEOUS<br>TAXA<br>VERTEBRATES<br>SERGIPE-ALAGOAS BASIN | NEOCOMIAN TO EARLIEST ALBIAN |       |          |       |         | ALBIAN<br>( PARS ) |
|--|------------------------------|-------|----------|-------|---------|--------------------|
|  | BRAZILIAN LOCAL STAGES       |       |          |       |         |                    |
|  | RIO DA SERRA                 | ARATU | BURACICA | JQUIÁ | ALAGOAS |                    |
| PISCES   |                              |       |          |       |         |                    |
| <i>Cladocycclus alagoensis</i><br>(87)                           |                              |       |          |       |         |                    |
| <i>C. gardneri</i><br>(87)                                       |                              |       |          |       |         |                    |
| <i>Dastilbe crandalli</i><br>(90)                                |                              |       |          |       |         |                    |
| <i>Elimma branneri</i><br>(30,90)                                |                              |       |          |       |         |                    |
| <i>Lepidotes</i> sp.<br>(28)                                     | ?                            |       |          |       | ?       |                    |
| <i>Leptolepis diasii</i><br>(87)                                 |                              |       |          |       |         |                    |
| <i>Notelops brama</i><br>(87)                                    |                              |       |          |       |         |                    |
| <i>Palaeobalistum flabellatum</i><br>(62)                        |                              |       |          |       |         |                    |
| " <i>Proscinetes</i> " <i>penalvai</i><br>(87)                   |                              |       |          |       |         |                    |
| <i>Rhacolepis buccalis</i><br>(87)                               |                              |       |          |       |         |                    |
| <i>R. defiorei</i><br>(87)                                       |                              |       |          |       |         |                    |
| <i>Tharrhias araripis</i><br>(87)                                |                              |       |          |       |         |                    |
| <i>Vinctifer comptoni</i><br>(87)                                |                              |       |          |       |         |                    |
| <i>V. punctatus</i><br>(88)                                      |                              |       |          |       |         |                    |
|  |                              |       |          |       |         |                    |
|  |                              |       |          |       |         |                    |
|  |                              |       |          |       |         |                    |
|  |                              |       |          |       |         |                    |
| <p>———— common</p>   |                              |       |          |       |         |                    |

| LATE CRETACEOUS<br>TAXA<br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|---|------------|----------|-----------|-----------|-----------|---------------|
| GASTROPODA  |            |          |           |           |           |               |
| Aptyxiella (Nerinoidea) itaporan-<br>gica (3,62)                  | —          |          |           |           |           |               |
| Turritella itatigensis<br>(58)                                    |            |          |           |           |           |               |
| T. minima<br>(74)   |            |          |           |           |           |               |
| BIVALVIA  |            |          |           |           |           |               |
| Amphidonte conica<br>(3,62)                                       | —          |          |           |           |           |               |
| Anomia sp.<br>(58)  |            |          |           |           |           |               |
| Corbula maroimensis<br>(62)                                       | —          |          |           |           |           |               |
| Crassatella (Sublandinia) gangua-<br>rarica (3,62)                | —          |          |           |           |           |               |
| Cremnoceramus ? waltersdorfensis<br>(40)                          |            |          | —         |           |           |               |
| Curvostrea castellobrancoi<br>(3,62)                              | —          |          |           |           |           |               |
| Didymotis aff. D. variabilis<br>(40)                              |            |          | —         |           |           |               |
| Exogyra albertolofgreni<br>(58)                                   |            |          |           |           | —         |               |
| E. truncata<br>(74)   |            |          |           |           | —         |               |
| Gryphaeostrea duartei<br>(74)                                     |            |          |           |           | —         |               |
| G. euzebioi<br>(74)   |            |          |           |           | —         |               |
| Inoceramus apicalis<br>(40)                                       |            |          | —         |           |           |               |
| I. calumbiensis<br>(74)   |            |          |           |           | —         |               |
| I. capulus<br>(40)  | —          |          |           |           |           |               |
| I. perplexus<br>(40)  |            |          | —         |           |           |               |
| — common  |            |          |           |           |           |               |



| LATE CRETACEOUS<br>TAXA<br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|---|------------|----------|-----------|-----------|-----------|---------------|
|   |            |          |           |           |           |               |
| <i>Inoceramus pictus</i><br>(40)                                  | —          |          |           |           |           |               |
| <i>I. tenuistriatus</i><br>(40)                                   | —          |          |           |           |           |               |
| <i>Lopatinia (Pseudocucullaea) stantoni</i> (58,61,68)            |            |          |           |           |           |               |
| <i>Lopha (Lopha) aracajuensis</i><br>(68)                         |            |          |           |           |           |               |
| <i>Mytiloides dresdensis</i><br>(40)                              |            |          | —         |           |           |               |
| <i>M. fiegei</i><br>(40)  |            |          | —         |           |           |               |
| <i>M. aff. M. goppelnensis</i><br>(40)                            |            |          | —         |           |           |               |
| <i>M. hereynicus</i><br>(40)                                      |            |          | —         |           |           |               |
| <i>M. labiatus</i><br>(40,62)                                     |            |          | —         |           |           |               |
| <i>M. lusatiae</i><br>(40)  |            |          | —         |           |           |               |
| <i>M. modeliaensis</i><br>(40)                                    |            |          | —         |           |           |               |
| <i>M. mytiloides</i><br>(40,62)                                   |            |          | —         |           |           |               |
| <i>M. striatoconcentricus</i><br>(40)                             |            |          | —         |           |           |               |
| <i>M. submytiloides ?</i><br>(40)                                 |            |          | —         |           |           |               |
| <i>M. transiens</i><br>(40)                                       |            |          | —         |           |           |               |
| <i>M. winkholdioides</i><br>(40)                                  |            |          | —         |           |           |               |
| <i>Pecten nordestensis</i><br>(58)                                |            |          |           |           |           |               |
| <i>Plicatula cedroensis</i><br>(62)                               |            |          | —         |           |           |               |
| <i>P. tenuirostrata</i><br>(98)                                   | —          |          |           |           |           |               |
| <i>Rhysomytiloides alatus</i><br>(39,40)                          |            |          | —         |           |           |               |
| <p>———— common</p>  |            |          |           |           |           |               |

| <p style="text-align: center;"><b>LATE CRETACEOUS<br/>TAXA</b></p> <p style="text-align: center;"><b>INVERTEBRATES</b></p> <p style="text-align: center;"><b>SERGIPE-ALAGOAS BASIN</b></p> | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|--|------------|----------|-----------|-----------|-----------|---------------|
| <i>Rhyssomytiloides bengtsoni</i><br>(40)  |            |          |           |           |           |               |
| <i>R. beurleni</i><br>(40)   |            |          |           |           |           |               |
| <i>R. mauryae</i><br>(39,40)   |            |          |           |           |           |               |
| <i>R. retirensis</i><br>(40)   |            |          |           |           |           |               |
| <i>Sergipia hartii</i><br>(40)   |            |          |           |           |           |               |
| <i>S. posidonomyaformis</i><br>(60,62)   |            |          |           |           |           |               |
| <i>Trigonia coqueiroensis</i><br>(62)  |            |          |           |           |           |               |
| <i>Veniella erichseni</i><br>(86)  |            |          |           |           |           |               |
| CEPHALOPODA  |            |          |           |           |           |               |
| <i>Acanthoceras folleatum</i><br>(61,62)   |            |          |           |           |           |               |
| <i>Coilopoceras benderi</i><br>(6)   |            |          |           |           |           |               |
| <i>C. brasiliensis</i><br>(75)   |            |          |           |           |           |               |
| <i>C. aff. C. colleti</i><br>(6)   |            |          |           |           |           |               |
| <i>C. quartei</i><br>(75)  |            |          |           |           |           |               |
| <i>C. japatubensis</i><br>(75)   |            |          |           |           |           |               |
| <i>C. mauryae</i><br>(75)  |            |          |           |           |           |               |
| <i>C. sergipensis</i><br>(75)  |            |          |           |           |           |               |
| <i>Danesites petrobrasilia</i><br>(6)  |            |          |           |           |           |               |
| <i>Fagesia multiplex</i><br>(13)   |            |          |           |           |           |               |
| <i>Forresteria ? tabuaense</i><br>(6)  |            |          |           |           |           |               |
| <p>————— common</p>  |            |          |           |           |           |               |

| LATE CRETACEOUS<br>TAXA<br>INVERTEBRATES<br>SERGIPE-ALAGOAS BASIN | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|---|------------|----------|-----------|-----------|-----------|---------------|
|   |            |          |           |           |           |               |
| Gombeoceras gongilense cf. G. gongilense compressum (6)           |            | —        |           |           |           |               |
| Hoplitoides ? benderi (75)  |            | —        |           |           |           |               |
| H. hasselmanni (75)   |            | —        |           |           |           |               |
| H. thomazi (75)   |            | —        |           |           |           |               |
| Kamerunoceras tenuistriata (6)                                    |            | —        |           |           |           |               |
| Kamerunoceras sp. (70,100)  | —          |          |           |           |           |               |
| Mammites beurleni (6)   |            | —        |           |           |           |               |
| M. sergipensis (75)   |            | —        |           |           |           |               |
| "Metengoceras" oliveirai (11)                                     | ? — ?      |          |           |           |           |               |
| Metoicoceras sp. (6)  | —          |          |           |           |           |               |
| Neoptychites sp. (6)  |            | —        |           |           |           |               |
| Nigericeras ? sp. (6)   |            | —        |           |           |           |               |
| Pachydesmoceras sp. (6)   | —          |          |           |           |           |               |
| Pachyvascoceras hartti (75)                                       |            | —        |           |           |           |               |
| Parapuzosia ? sp. (6)   |            | — ?      |           |           |           |               |
| Prionocycloceras cf. P. hazzardi (6)                              |            |          | —         |           |           |               |
| P. cf. P. lenti (6)   |            |          | —         |           |           |               |
| Protexanites troelseni (6)  |            |          | —         |           |           |               |
| P. cf. P. troelseni (6)   |            |          | —         |           |           |               |
| Pseudaspidoceras pedroarum (3,61)                                 |            | —        |           |           |           |               |
| <p>———— common</p>  |            |          |           |           |           |               |

| <p style="text-align: center;"><b>LATE CRETACEOUS<br/>TAXA</b></p> <p style="text-align: center;">INVERTEBRATES<br/>SERGIPE-ALAGOAS BASIN</p> | CENOMANIAN | TURONIAN | CONIACIAN | SANTONIAN | CAMPANIAN | MAASTRICHTIAN |
|---|------------|----------|-----------|-----------|-----------|---------------|
| Pseudocalycoceras sp. cf. <i>P. harpax</i> (70,100)   | —          |          |           |           |           |               |
| Pseudocalycoceras ? sp. (100)   | —          |          |           |           |           |               |
| Pseudotissotia ( <i>Bauchioceras</i> ) <i>gabonensis</i> (6)  |            | —        |           |           |           |               |
| Pseudotissotia cf. <i>P. gabonensis</i> (13)  |            | —        |           |           |           |               |
| <i>P.</i> cf. <i>P.</i> ( <i>Bauchioceras</i> ) <i>nigeriensis nigeriensis</i> (6)  |            | —        |           |           |           |               |
| Spathites simplex (75)  |            | —        |           |           |           |               |
| Vascoceras aff. <i>V. globosum compressum</i> (6)   |            | —        |           |           |           |               |
| <i>V.</i> aff. <i>V. globosum globosum</i> (6)  |            | —        |           |           |           |               |
| ECHINOIDEA  | —          |          |           |           |           |               |
| <i>Cardiaster batnensis</i> (101)   |            | —        |           |           |           |               |
| <i>Coerholectypus neocomiensis</i> (98,101)   | —          |          |           |           |           |               |
| <i>Coerholectypus</i> sp. indet. A (101)  |            | —        |           |           |           |               |
| ? <i>Coerholectypus</i> sp. indet. B (101)  |            | —        |           | —         |           |               |
| <i>Cottaldia</i> aff. <i>benettiae</i> (101)  | —          |          |           |           |           |               |
| <i>Leptosalenia sergipensis</i> (98,101)  | —          |          |           |           |           |               |
| <i>Mecaster africanus</i> (101)   |            | —        |           |           |           |               |
| <i>M. batnensis</i> (60,62,101)   | —          | —        |           |           |           |               |
| <i>M. fourneli</i> (15,101)   |            | —        |           |           |           |               |
| <i>Micropedina olisiponensis</i> (101)  | —          |          |           |           |           |               |
| <i>Orthopsis miliaris</i> (14,101)  | —          |          |           |           |           |               |
| <p>———— common</p>  |            |          |           |           |           |               |

| <p style="text-align: center;"><b>LATE CRETACEOUS<br/>TAXA</b></p> <p style="text-align: center;"><b>INVERTEBRATES</b></p> <p style="text-align: center;"><b>SERGIPE-ALAGOAS BASIN</b></p> | <p><b>CENOMANIAN</b></p> | <p><b>TURONIAN</b></p> | <p><b>CONIACIAN</b></p> | <p><b>SANTONIAN</b></p> | <p><b>CAMPANIAN</b></p> | <p><b>MAASTRICHTIAN</b></p> |
|--|--------------------------|------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|
| <p><i>Phymosoma baylei</i><br/>(101)</p>   |                          | —                      |                         |                         |                         |                             |
| <p>? <i>Prionocidaris</i> sp.<br/>(14,101)</p>   |                          | —                      |                         |                         |                         |                             |
| <p>cf. <i>Pseudholaster tricarinatus</i><br/>(101)</p>   | —                        |                        |                         |                         |                         |                             |
| <p><i>Tetragramma deshayesi</i><br/>(14,101)</p>   | —                        |                        |                         |                         |                         |                             |
| <p><i>T. ? variolare</i><br/>(101)</p>   | —                        |                        |                         |                         |                         |                             |
| <p style="text-align: center;"><b>ASTEROIDEA</b></p>   |                          |                        |                         |                         |                         |                             |
| <p><i>Asterias janettae</i><br/>(3,62)</p>   |                          | —                      |                         |                         |                         |                             |
|  |                          |                        |                         |                         |                         |                             |
|  |                          |                        |                         |                         |                         |                             |
|  |                          |                        |                         |                         |                         |                             |
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|  |                          |                        |                         |                         |                         |                             |
|  |                          |                        |                         |                         |                         |                             |
| <p style="text-align: center;">——— common</p>  |                          |                        |                         |                         |                         |                             |





