Introduction

The relationship between the early Cenozoic and the early Eocene is critical for understanding the evolution of biodiversity in the tropics. The Early Eocene is a time of rapid global warming and the stabilization of the tropics, which led to significant changes in the distribution of plants and animals. The Early Eocene is also a time of intense tectonic activity, which led to the formation of new landmasses and the opening of new oceans. These changes had a profound impact on the biotas of the tropics, and the fossil record provides a wealth of information about these processes.

Abstract

The distribution of the Early Eocene biotas in the tropics is well documented, but the relations between the different biotas are less clear. The Early Eocene biotas of the tropics are characterized by a high diversity of genera, and the relations between the different biotas are complex. The Early Eocene biotas of the tropics are characterized by a high diversity of genera, and the relations between the different biotas are complex.

West Condwanan Aspects of the Middle and Upper Devonian


218
2. Descriptions

These species show distinctive morphological characteristics and have been fully described in previous papers (Loboaik & Street et al., 1986; Loboaik et al., 1993). There is no need to duplicate these descriptions, but a few remarks are given below on the main features of these species which occur in northern Africa and Brazil.

Cretaceous (Late Jurassic) planktonic foraminifera from the Eocene of northern Africa and Brazil are restricted to two species: (1) C. marginata Loboaik & Street, 1983 (Plate 1, Fig. 1) and (2) C. octagonus Cushman, 1919 (Plate 1, Fig. 2). These species belong to the genera: C. marginata Loboaik & Street, 1983 (Plate 1, Fig. 1), and C. octagonus Cushman, 1919 (Plate 1, Fig. 2). These species are characterized by their distinctive morphological features such as the shape and size of the tests. C. marginata Loboaik & Street, 1983 (Plate 1, Fig. 1) is a small species with a rounded, subcircular test. C. octagonus Cushman, 1919 (Plate 1, Fig. 2) is a larger species with a more elongated, elliptical test. Both species have a high degree of variability in their morphological features, which may be used for stratigraphic purposes.

S. Loboaik et al. (1982) described two species of Cretaceous (Late Jurassic) planktonic foraminifera from the Eocene of northern Africa and Brazil: (1) C. marginata Loboaik & Street, 1983 (Plate 1, Fig. 1) and (2) C. octagonus Cushman, 1919 (Plate 1, Fig. 2). These species belong to the genera: C. marginata Loboaik & Street, 1983 (Plate 1, Fig. 1), and C. octagonus Cushman, 1919 (Plate 1, Fig. 2). These species are characterized by their distinctive morphological features such as the shape and size of the tests. C. marginata Loboaik & Street, 1983 (Plate 1, Fig. 1) is a small species with a rounded, subcircular test. C. octagonus Cushman, 1919 (Plate 1, Fig. 2) is a larger species with a more elongated, elliptical test. Both species have a high degree of variability in their morphological features, which may be used for stratigraphic purposes.
Fig. 2. Stratigraphic distribution of Gondwanan miospores in Brazil and North Africa boreholes (the numbers indicated below the range biozones correspond to the borehole numbers between brackets).
4. Quantitative Analysis

The process of estimating the distribution of various ion species in a fast reactor is presented as a result of reactor performance. The ion species, as well as certain other parameters, are presented in Table 4.1. The data are primarily derived from the following sources: 1989, 1991, and 1993. The results are presented in a tabular format, where the data are organized into columns and rows. The following parameters are included:

- Temperature (°C)
- Pressure (bar)
- Flow Rate (L/min)
- Reactor Power (MW)
- Ion Concentration (ppm)

The data are then analyzed to determine the distribution of various ion species. The results are presented in a graphical format, where the distribution is shown as a bar chart. The chart is color-coded to represent different ion species. The distribution is then compared to previous studies to determine any trends or patterns.

5. Conclusions

The results of the analysis indicate that the distribution of ion species in the reactor is consistent with previous studies. The data also show that the distribution is affected by various parameters, such as temperature and pressure. The analysis suggests that further research is needed to better understand the distribution of ion species in fast reactors.
more abundant in North Africa than in Brazil.

In the Cretaceous, all these species were likely
distributed in the Tethyan realm, and at the present
period, they are found in the Indian Ocean and the
southern parts of the Atlantic and Pacific Oceans.

During the Cretaceous, four additional species of
Goniophyllum, Phlogophylla, and a new species, 
Goniophyllum sp., were present in the Indian Ocean
and the northern part of the Pacific Ocean.

During the Cretaceous, the Indian Ocean was
widely occupied by Goniophyllum, Phlogophylla, and 
Goniophyllum sp., with G. neglecta and G. africana as
the most common species. These species are
characterized by their robust and elongated shapes.

Two likely causes of this diversity are:

1. The Cretaceous period was a time of high
sea levels and the development of continental
breakups, which led to the formation of new
ocean basins and increased species diversity.

2. The presence of large continental masses
such as India and Australia, which were
separated from other continents, led to the
isolation of species and the development of
endemic species in these areas.

<table>
<thead>
<tr>
<th>Species</th>
<th>Location</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goniophyllum</td>
<td>Indian Ocean</td>
<td>Throughout</td>
</tr>
<tr>
<td>Phlogophylla</td>
<td>Pacific Ocean</td>
<td>Throughout</td>
</tr>
<tr>
<td>Goniophyllum sp.</td>
<td>Tethyan Realm</td>
<td>Throughout</td>
</tr>
</tbody>
</table>

5. Conclusion

The distribution of Goniophylla and Phlogophylla
in the Tethyan Realm and the Indian Ocean is
characterized by their diverse species, which are
likely the result of the unique geological and
biological conditions of these regions. Further
studies are needed to understand the evolution
and diversification of these species and their
relationships with other marine plants.