

放散虫化石群集に基づいた中期—後期中新世の北太平洋亜熱帯循環の変遷史

Reconstruction of the North Pacific subtropical gyre from the Middle to Late Miocene as inferred from radiolarian assemblages

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A major objective of the present study is to reconstruct gyral circulation patterns of the subtropical North Pacific from the middle to late Miocene based on the radiolarian assemblages. We collected the mudstones from ODP Site 1021 of the California margin in the northern area of the California Current, and from outcrops of the Boso Peninsula (Japan) in the northern area of the Kuroshio.

The middle Miocene subtropical Pacific was dominated by warm-water taxa, and similar taxa in the eastern and western areas. The distribution pattern of radiolarian faunas in the subtropical North Pacific was due to be similar in the surface water structure and temperature, and indicates that the general gyral circulation system was only weakly developed in the middle Miocene. During the late Miocene the cool-water taxa increased and the warm-water taxa declined overall in the subtropical Pacific. At the same time the east-west faunal provincialism increased. This faunal change has been associated with the resultant strengthening of the general gyral circulation in the subtropical Pacific due to the significant high latitude cooling and the closing of the Indo-Pacific Seaway at that time.

キーワード：北太平洋亜熱帯循環、中新世、放散虫群集

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