



XX GENERAL ASSEMBLY

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Program and Abstracts

GAM 1.18 August 16

14:30 - 14:45

PALEOMAGNETISM OF FLOOD BASALTS FROM CENTRAL WESTERN BRAZIL
(ANARI AND TAPIRAPUÁ FORMATIONS)PACCO, L.G.¹, Montes-Lavar, C.R.¹, Piccirillo, E.M.² and Molli, A.J.¹

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The tholeiitic basalts of Anari (Middle Jurassic) and Tapirapuá (Lower Cretaceous) outcrop at the NW edge of the Paraná basin (SE Brazil). These basalts are believed to be correlated to the tholeiitic basalts of the Paraná basin (Serra Geral formation, Lower Cretaceous) which preceded the S. Atlantic opening.

A detailed paleomagnetic study showed that the Anari and Tapirapuá poles are statistically coincident (247.1°UC , 65.4°A_{95} - Tapirapuá, 254.0°UC , 66.4°A_{95} - Anari) are different from those of the Lower Cretaceous Paraná basin volcanics, as well as from that of the Maranhão (NE-Brazil) Jurassic tholeiitic basalts.

The Anari and Tapirapuá basalts are very similar in major and trace element composition but differ significantly from those of the Paraná (Lower Cretaceous) and Maranhão (Jurassic) basins.

A discussion is presented on a possible relationship between the Jurassic-Lower Cretaceous tholeiitic volcanism and Upper Cretaceous-Tertiary alkaline magmatism possibly related to hot spot activity.

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GAM 1.18 August 16

14:45 - 15:00

A CRITIQUE AND APPRAISAL OF THE ALLOCORNICUS TERRANE MODEL FOR MEXICO

Urrutia-Fucugauchi, H. Bohnel, D.J. Moran-Zenteno (Instituto de Geofísica, UNAM, 04510 Mexico; Fax 52-5-550-2486) & H. Lohr (Universität München, Germany)

Previous analyses of the tectonics and stratigraphy of Mexico have suggested that most of its territory, except a small region in the north, is composed of 'suspect' terranes. Models imply an allochthonous character for some terranes and accretion and collision histories at a convergent plate boundary, so that the southern part of the North American plate has grown up by addition of material to the continent. The terrane concept is attractive, particularly for southern Mexico, because, e.g. accretion and large-scale translation help solving the overlap problem of South America in western Pangea paleoreconstruction. In this paper we attempt a critical second look at the suspect nature of terranes and accretion histories, with emphasis on paleomagnetic and isotope geochemistry data for southern Mexico. There are no paleomagnetic indications concerning large scale latitudinal movements of terranes located along the present active margin or along post-Miocene Cretaceous accretions. Sr and Nd isotope data document genetic relations among the Oaxaca, Mixteca and Xolapa terranes.

GAM 1.18 August 16

15:00 - 15:15

PRELIMINARY PALEOMAGNETIC STUDY OF THE ANTARCTIC PENINSULA VOLCANIC GROUP: THE JURASSIC POSITION OF THE ANTARCTIC PENINSULA IN GONDWANALAND

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The paleomagnetic data obtained from a study of 100 samples collected from Antarctic Peninsula Volcanic Group are introduced. This geologic unit is overlying the Flora Formation and outcropping in Botany Bay (Lat. $63^\circ 41' \text{ S}$, Long. $57^\circ 34' \text{ W}$), Antarctic Peninsula. The paleomagnetic pole confirms the data available for the Upper Jurassic until now. The age of the rocks under study was obtained using the K-Ar method and it was estimated in $146 \pm 5 \text{ my}$. Based on geological and geochronological data and the vector analysis of the magnetic directions it is concluded that magnetization of the Antarctic Peninsula Volcanic Group was virtually syn-tectonic (approx. 146 my.). The paleomagnetic pole position obtained suggests that the Antarctic Peninsula was placed in Gondwanaland with its longitudinal axis parallel and southwards the Malvinas Plateau as a southern extension of South America.

GAM 1.18 August 16

15:15 - 15:30

PALEOMAGNETIC CONSTRAINTS ON THE MESOZOIC TECTONIC EVOLUTION OF THE EASTERN ASIA

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A Paleomagnetic study was carried out in wide area of the Northern and Northeastern China. After detailed demagnetization experiments, the primary paleomagnetic directions were obtained from middle Jurassic and late Cretaceous sedimentary rocks and Cenozoic volcanic rocks in the stable part of the North China Block (NCB), and from Carboniferous to Cretaceous sedimentary rocks in the Northeastern China. Comparisons with reliable paleomagnetic results obtained in Siberia, the South China Block (SCB) and those terranes in the continental margin of Asia suggest the successive stages of the Mesozoic tectonic evolution of the eastern Asia as follows: (1) The Triassic amalgamation of the NCB and the SCB was almost complete in the middle Jurassic, (2) while the narrow sea between Siberia and the northeastern Chinese continent was completely closed in early Cretaceous, (3) just after, or along with the closure of the narrow sea, an accretionary process began to develop along the continent margin of eastern Asia due to the Cretaceous stretch of the Pacific plate, and finally (4) the Japan sea opened in Neogene time.