

quence have been affected by low-grade (greenschist) recrystallization associated with the early Andean strains. The highest grade metamorphic rocks (upper amphibolite facies), and local migmatites, are found in close proximity to the early (pre-Andean) granitic rocks. Third, local growth of porphyroblastic minerals post-dates early Andean (D_1 and D_2) structures, whereas metamorphism associated with the early granitic rocks must have predated the D_1 deformation. Thus, either the high-grade metamorphic history in Cordillera Darwin was long-lived or else there was a significant break in the thermal history.

Our work was begun in July 1977 (R/V *Hero* cruise 77-4) by R. Forsythe, E. Nelson, and T. Wilson (Lamont-Doherty Geological Observatory), together with F. Hervé and E. Valenzuela (University of Chile) and M. Suárez

(Institute of Geological Investigations of Chile) (Nelson et al., 1977). It was continued during cruise 78-2 by the authors of this paper in conjunction with A. G. Milnes (the Swiss Federal Institute, Zurich), C. Mpodozis (University of Chile), R. Guzman (Institute of Geological Investigations of Chile), and L. Oviedo (University of Concepcion).

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Preliminary palynological investigation of Upper Paleozoic and Mesozoic rocks in the Antarctic Peninsula area

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During the 1979-80 austral summer it is planned to collect rock samples suitable for palynologic study in the northern Antarctic Peninsula and South Shetland Islands in an attempt to obtain palynomorph assemblages for biostratigraphic and paleogeographic interpretation. Prior to this fieldwork a reconnaissance study has been made on some samples collected by David H. Elliot and other members of previous Institute of Polar Studies expeditions to the region, as well as on samples from Livingston Island collected by Margaret A. Winslow of the Lamont-Doherty Geological Observatory, Columbia University.

The samples processed are generally devoid of palynomorphs, although some contain carbonized woody fragments and other plant debris. Many of these samples are from the deformed Trinity Peninsula Formation and equivalents, and presumably are too highly metamorphosed for palynomorph preservation, judging from the black, opaque nature of the dispersed plant material.

One sample from the Gibbon Bay Shale of Coronation Island, South Orkney Islands (Dalziel et al., 1977) yielded common, although poorly preserved, palynomorphs. These include trilete spores and bisaccate pollen, but unfortunately no age diagnostic species have been identified.

Four samples from Patella Island, northern Antarctic Peninsula (Elliot et al., 1978) also contain poorly preserved palynomorphs. These are from a shale unit believed to be equivalent to the plant-bearing Upper Jurassic shales that crop out on Mount Flora at Hope Bay (Elliot, pers. comm.). Most of the palynomorphs are unidentifiable; those with recognizable morphological features include an assortment of trilete spores and bisaccate pollen.

Many samples, including those from different stratigraphic units, have yet to be processed, and it is hoped that a more systematic collection of suitable material specifically for palynological study will increase the prospects for recovery of identifiable palynomorphs.

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