PREFACE

This Memoirs reports on a collaborative Japan–South Africa geological study conducted in 1997–1999. The study, entitled "Pan-African event and Gondwana" was funded by Grant-in-Aid for General Scientific Research from the Ministry of Education, Science and Culture to K. Shiraishi (No. 09041116). The aim of the collaborative study, which was planned by Antarctic geologists of both countries, was to compare the crustal evolution of East Antarctica and South Africa during Neoproterozoic to early Palaeozoic time.

There have been many studies that indicate the formation of Gondwana resulted from the collision of East and West Gondwana. However the age of the collision is still unclear and the position of the suture between East and West Gondwana is controversial. This study aimed to elucidate the crustal processes which occurred after break-up of Rodinia until the formation of Gondwana, for which a tectonic model has not been established.

The program was initiated in Japan in response to the SCAR (Scientific Committee on Antarctic Research) international program entitled "Characterization of the Mesoproterozoic to Paleozoic crustal evolution of western Dronning Maud Land" (Principal Investigator: Dr. J. Krynauw, University of Natal). Most of the participants in this program have conducted research in various parts of Gondwana, especially Dronning Maud Land and Enderby Land in East Antarctica, Sri Lanka and Southern India as well as South Africa.

A summary of the activities and participants during FY1997–FY1999 are shown in the table below. In addition to the field surveys, two small workshops were held. The first was held at University of Natal in August 1997 to review the previous studies and the second at National Institute of Polar Research in March 2000 to summarize the joint studies. As a result, much emphasis was put upon the petrography and geochemistry of the Namaqualand-Natal Belt and the original purpose of this study to reveal the Pan African event was only partially successful because the joint survey in Dronning Maud Land, the key area for studying the Pan African event in Antarctica, was not realized. Consequently the joint field work concentrated on South Africa whereas those in Antarctica were conducted in Enderby Land in conjunction with the Japanese Antarctic Research Expedition (JARE). The study of continental crust has been a major program in JARE and the importance of comparative studies with other Gondwana fragments was shown in the Japan–Sri Lanka joint geological study, led by Prof. Y. Hiroi in 1988–89. The present study is a continuation and development of such initiatives and I wish to propose to extend additional international collaborative comparative studies of other Gondwana fragments such as between the Mozambique belt and Dronning Maud Land in the near future.

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The sample locality maps and lists of samples collected during this program are available from the principal investigator (shiraishi@nipr.ac.jp) upon request.

Summary of field trips in collaboration with South Africa and Japan.

Period	Members	Research areas
August 1997	K. Shiraishi, Y. Hiroi, M. Arima, Y. Motoyoshi, N. Tsuchiya, J. Krynauw, C. Jackson, S. Johnston, G. Grantham	Workshop at Univ. Natal, Northern Natal, Southern Limpopo Belt, Phalabowra, Barberton area, Vredefort, Kimberley
December 1997–February 1998	Y. Osanai, T. Hokada	Lützow-Holm Bay, Amundsen Bay
March 1998	M. Arima, S. Kawate, K. Tani, S. McCourt, S. Johnston	Northern Natal
	K. Shiraishi, Y. Hiroi, Y. Motoyoshi, G. Grantham	Southern Natal
July 1998	Y. Osanai, T. Ando, G. Grantham, R.J. Thomas	South-eastern Zimbabwe and western central Mozambique (Geocongress '98 Excursion)
August 1998	Y. Hiroi, N. Tsuchiya, H. Kagami, M. Yuhara, G. Grantham, C. Jackson	Marchison Belt, Namaqualand
	M. Arima, S. Kawate, K. Tani, S. McCourt, S. Johnston	Northern Natal
August 1999	Y. Hiroi, Y. Motoyoshi, M. Yuhara, T. Shimura, T. Hokada, G. Grantham	Namaqualand
March 2000	K. Shiraishi, Y. Hiroi, M. Arima, T. Hokada, S. Baba, S. Saito, S. McCourt, G. Grantham	Bushveld, Natal