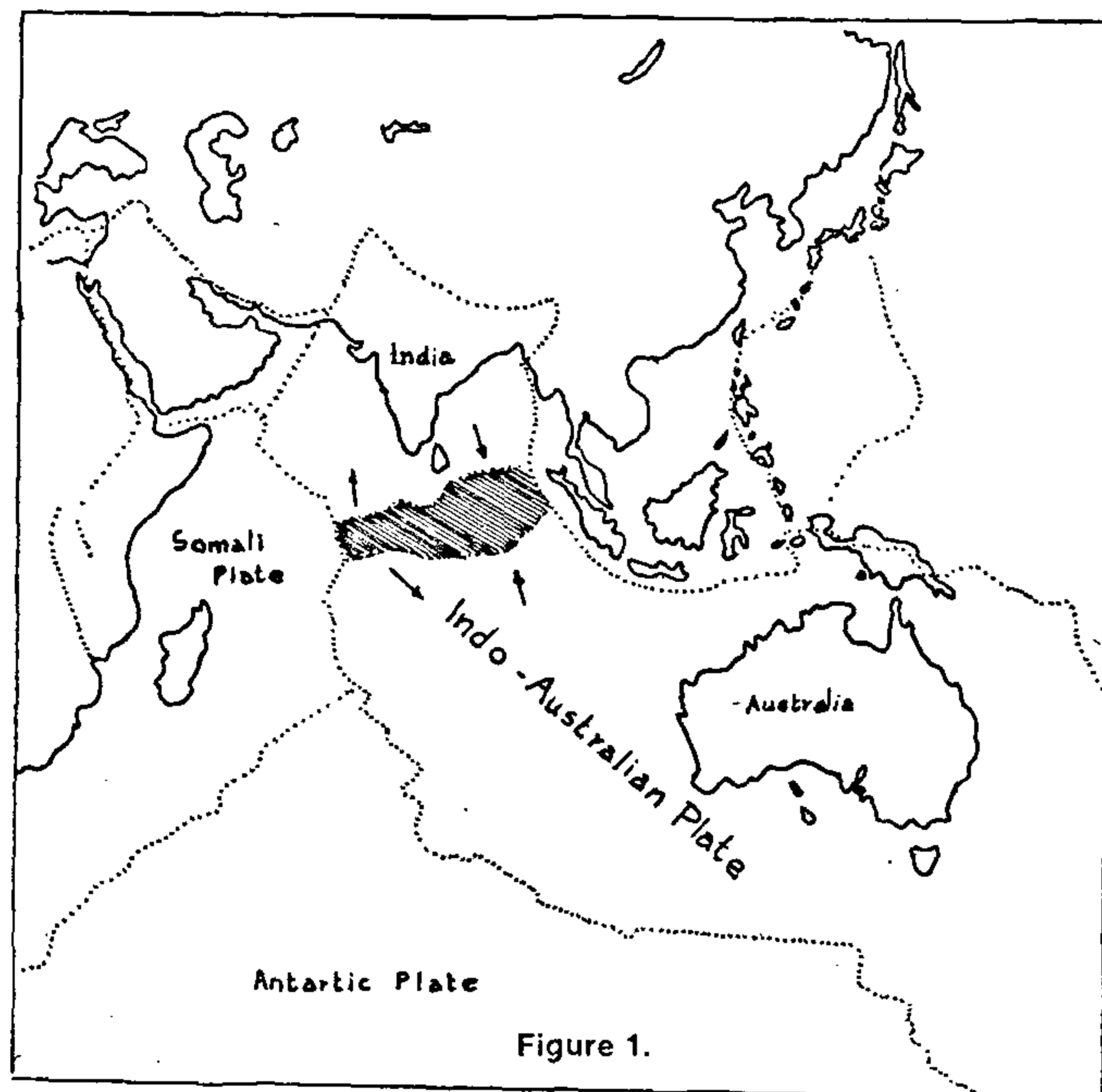


Research Snippets (compiled by A. V. Sankaran)

The parting of Indo-Australian plate

In the past two decades, scientists have been noticing certain abnormalities in the lithosphere south of India which forms part of the northward drifting

Indo-Australian plate. This area, which is almost in the central portions of this plate, was exhibiting signs of deformation or crumpling – a feature normally associated with tectonic plate edges only (Figure 1). A team of workers – James R. Cochran (now in MIT), J. K. Weissel of Lamont-Doherty Earth Observatory and Florence Jestin of Ecole Normale Supérieure (Paris) investigated data¹ gathered during oceanographic expeditions in 1986 and 1991 and from a study of faults in the ocean bottom, they have calculated that India and Australia are currently moving in different directions and hence must be sitting on separate plates. They have even calculated that the deformed lithosphere is nearly 900 km across – wider than the borders between other tectonic plates and that the split was formed during the last 8 million years. If confirmed, the new studies would bring the number of major plates to 17.



1. Lamont-Doherty, *Sci. News*, 1995, 148, 123.

Archaeopteryx – No more oldest known bird

Some new finds of avian fossils from Liaoning Province (NE China) and nearby Korea dating back to the Jurassic have shed fresh light on trends in bird evolution. These fossil finds described¹ by Chinese and US palaeontologists, are believed to pre-date *Archaeopteryx*, the oldest bird fossil discovered in 1861 from shales in Bavaria (Germany). The new fossil bird, about the size of a pigeon, named *Confuciusornis sanctus* has features which are a blend of modern and Jurassic times. Its toothless, horny beak, feather-covered legs which are short above and long below the

knee – features that were thought to have developed in birds only during Cretaceous and later times – make this Chinese fossil find closer to modern birds. But the design of the forelegs and long recurved claws on the feet suggestive of its arboreal habit are more allied to *Archaeopteryx*. These discoveries are considered to be very exciting inasmuch as they have questioned existing views of *Archaeopteryx* ancestry to modern birds and have pointed to possibilities for other side branches to the avian tree of which *Archaeopteryx* branch, perhaps, is one, but which apparently met

with a dead end. These finds lead to an obvious conclusion that if birds were already diverse in Jurassic, the still more primitive of the species must have taken to wings as early as late Triassic – some 60 million years before *Archaeopteryx* flapped in the Jurassic skies.

1. Lian-Hai Hou, Zhonghe Zhou, Martin, L. D. and Feduccia, A., *Nature*, 1995, 377, 616.

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