Arcs, ophiolites, basins and continental fragments: the assembly of the SE Asian continental crust

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SE Asian continental crust comprises a heterogeneous collage of continental blocks, derived from the India-west Australian margin of eastern Gondwana, and subduction related volcanic arcs assembled by the closure of multiple Tethyan and back-arc ocean basins now represented by suture zones containing ophiolites and accretionary complexes. The continental core, Sundaland, comprises a western Sibumasu block and an eastern Indochina-East Malaya block with an island arc terrane, the Sukhothai Island Arc System, sandwiched between. This island arc formed on the margin of Indochina-East Malaya, and then separated by back-arc spreading in the Permian. The Jinghong, Nan-Uttaradit and Sra Kaeo Sutures represent this closed back-arc basin. The Palaeo-Tethys is represented to the west by the Changning-Menglian, Chiang Mai/Inthanon and Bentong-Raub Suture Zones. The Cathaysian West Sumatra and West Burma blocks, rifted and separated from Gondwana, along with Indochina and East Malaya in the Devonian and were accreted to the Sundaland core in the Triassic. South West Borneo and East Java-West Sulawesi are now identified as the missing Banda and “Argoland” blocks which must have separated from NW Australia in the Jurassic by opening of the Ceno-Tethys and accreted to SE Sundaland by subduction of the Meso-Tethys in the Cretaceous. Palaeogeographic reconstructions illustrating long-term subduction and terrane accretion orogenesis in SE Asia and adjacent regions are presented.