

Implications for the East Antarctica – Sri Lanka – southern India geologic connections from the newly proposed geological subdivision of the Lützow–Holm Complex in East Antarctica

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We have summarized all the published U–Pb age data for the Lützow–Holm Complex in East Antarctica and proposed the following six geological subdivisions – INH, RVG, SKV, LHV, EOG, and AKR (see Dunkley et al., in press, and the references therein): INH (the Innhovde Suite, 1070–1040 Ma) composed mainly of felsic orthogneiss; RVG (the Rundvågshetta Suite, 2520–2470 Ma), mostly felsic orthogneiss with minor mafic and metasedimentary gneisses; SKV (the Skallevikshalsen Suite, 1830–1790 Ma), felsic to mafic orthogneiss with abundant dolomitic marbles, calc-silicates and other metasediments; LHV (the Langhovde Suite, 1100–1050 Ma), mostly felsic orthogneiss with minor mafic and calc-silicate gneisses; EOG (the East Ongul Suite, 630 Ma), with various orthogneisses and metasediments; and AKR (the Akarui Suite, 970–800 Ma) with diverse orthogneisses and paragneisses. Our definition is based mainly on the ages of the igneous basement rocks, and we give the above geological subdivision names using ‘Suite’ as a group of orthogneiss and paragneiss that share the similar protolith ages and are distributed in a certain area, based on the thorough consideration among the possible classification names such as Terrane, Block, Domain, Unit, Group, Series, Gneiss or Suite. The oldest crustal components of the Lützow–Holm Complex occur in RVG and SKV, which mostly have late Neoproterozoic to Paleoproterozoic protolith ages. This older crustal slice is surrounded by rocks with late Mesoproterozoic to early Neoproterozoic protolith ages, including INH and LHV. The AKR is slightly younger, and the youngest unit is EOG with protolith ages as young as 630 Ma.

This presentation aims to discuss the regional implications from the above newly proposed geological subdivision of the Lützow–Holm Complex for the East Antarctica – Sri Lanka – southern India geologic connections based also on the currently available regional geological data and on the earlier correlations proposed by Shiraishi et al. (1994) which requires only minor modification.

References

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