

# Index

Page numbers in *italics* refer to Figures. Page numbers in **bold** refer to Tables.

- Ahlmannryggen Group 64  
Ajmer–Shrinagar section *see* South Delhi Fold Belt  
Alwar Sub-basin 293  
amphibolite facies metamorphism 166  
  Angul Domain 95  
  Banded Gneiss Complex 293  
  Eastern Ghats Province 344  
  Rengali Province 96, 173  
  Thala Hills 9  
Angul Domain 95–96  
anorthosite massifs 106  
anorthosites 90  
Antarctica  
  geography 343  
  importance of understanding 1  
  Neoproterozoic tectonothermal events 24–27  
Araku–Anatagiri sapphirine–spinel granulite study  
  mineral assemblage 151, 152, 153, 154, 155  
  mineral chemistry 147, **147**, **148**, **149**, 149–150  
  monazite dating 158–159  
  petrography 143, 145–147  
  results discussed 159–162  
  metamorphic pathway 162–163  
Aravalli Fold Belt 320  
Aravalli Supergroup 292, 293, 321, **321**  
Aravalli–Delhi Fold (Mobile) Belt 198, 198, 235, 248,  
  291, 292, 319, 336, 341  
Assam–Meghalaya Plateau *see* Shillong–Meghalaya  
  Plateau  
Axial Group 255  
  
Baalsrudfjellet 39, 40, 40  
  geological setting 40, 41  
  methods of study  
  garnet analysis 50, **51**, 52  
  monazite analysis 45, 48–49, 50  
  petrographic analysis 42  
  high-melt metapelite 45, 46, **47**  
  low-melt metapelite 45, 46, **47**  
  mafic granulite 42, 42, **43**, 44  
  quartzofeldspathic gneiss 44–45, **44**  
  summary 55–56  
  metamorphic evolution 50, 52–53, 55  
  thermobarometric conditions 53, **54**, 55  
back-scattered electron (BSE) microscopy 48, 49, 159,  
  144, 145, 160  
Banded Gneiss Complex 293, 321, 339  
  age **321**  
  maps 3, 198, 292, 320  
Bastar craton 106, 233, 339, 341  
  collision 172  
  maps 3, 26, 88, 89, 106, 174, 235, 248, 341  
Bathani Volcano–Sedimentary Sequence 234, 235  
  analytical techniques  
  geochemistry  
  methods of analysis 236  
  results  
  major elements 236, **237**, 238, 239, 240  
  rare earth elements **237**, 240  
  trace elements **237**, 240  
  geochronology  
  methods of analysis 241–242  
  results 242, **243**  
  petrography 234, 236  
  results discussed  
  fractional crystallization 244, 246  
  petrogenetic model 246–249  
  petrogenetic type 244  
  zircon saturation geothermometry 242, 244  
Berach Granite 292  
Bhilwara Belt 292  
Bhopalpatnam Granulite Belt 341  
blueschists-facies metamorphism 293  
Borgmassivet Intrusion 62, 63, 64  
  compared with Straumnutane lavas 79–80  
  geological setting 64–66  
Brahmaputra Rift 254  
Bundelkhand craton 233, 339, 341  
  maps 198, 235, 248, 341  
Bundelkhand Gneissic Complex 319  
Bunger Hills 8  
  
Casey Bay 8, 24  
cathodoluminescence  
  zircons 14, 18, 19 183, 241, 241  
Central Indian Suture 341  
Central Indian Tectonic Zone 198, 233, 291, 339,  
  341, 346  
  maps 3, 26, 174, 198, 235, 248  
Central Migmatite zone 88, 88, 142  
charnockite 92  
chemical analyses *see* geochemical studies  
Chhattisgarh Basin 341  
Chilka Lake 136, 345  
  anorthosite 346  
Chotanagpur Granite Gneiss Complex 198, 198, 233, 235,  
  248, 291, 345  
  geochemistry  
  methods of analysis 205  
  results 205–208, **209**, **210**, **211**, **212**, **213**, **214**  
  results discussed 222–223  
  geochronology  
  grain morphology 219–220, 220  
  methods of analysis 219  
  results 220, **221**  
  geological setting 199–200, 199  
  metamorphic conditions  
  methods of analysis 208, 212  
  results 212, 215, 217–219  
  results discussed 224–225  
  mineralogy 202–205, **203**, 204  
  results discussed 223–224  
  petrography 201, 202  
  structural elements 200–202, 203  
Chotanagpur Granite Gneiss Craton 2, 3  
Circum-East Antarctic Mobile Belt 7, 8

- Closepet Granite 235, 341
- Columbia (Nuna)  
 assembly 249  
 disintegration 197  
 East Ghats Province evidence 93  
 Ongole Domain evidence 92, 96, 100  
 reconstruction 339, 340  
 supercontinent 1, 2, 87, 106, 171
- Commonwealth Bay Complex 342, 343
- Condon Hills 25
- Cuddapah Basin 341
- Dalma Volcanics 199
- Damara Orogen 174
- Dauki Lineament 255
- Dauki Thrust 254
- decompression events 136
- Delhi Fold Belt 319, 320, 341
- Delhi Orogeny 293, 319
- Delhi Supergroup 292, 293, 321, 332–333
- Denman Glacier Complex 342, 343
- Dhansiri Lineament 255
- Dharwar craton 106, 233, 339, 342  
 maps 3, 26, 88, 89, 106, 174, 235, 248
- Dhubri–Jamuna Lineament 254
- Disang Lineament 255
- Dronning Maud Land 2, 3, 8, 9, 27, 30, 340  
 central 38  
 geological setting 38, 40  
*see also* Baalsrudfjellet  
 western *see* Straumnsnutane
- dykes, ages 62, 346, 347
- East African Orogen 28, 37–38, 174
- East Antarctic Rift 174
- East Gondwana 37, 98, 342, 344
- Eastern Dharwar Domain 341
- Eastern Ghats Boundary Shear Zone (Eastern Ghats  
 Frontal Thrust; Terrain Boundary Shear  
 Zone) 89, 106, 108
- Eastern Ghats (Mobile) Belt 2, 26, 27–28, 87, 106, 141,  
 235, 345  
 geochronology study  
 methods  
 chemical analysis 109  
 monazite analysis 113  
 sampling 108  
 zircon analysis 110  
 results **111, 112**  
 mineralogy/texture  
 charnockite 114–115  
 gneiss 115  
 mafic granulite 113–114  
 pelitic granulite 115–116  
 monazite 125, **126, 127, 128, 129, 130, 131, 132**  
 zircons 116, **117, 118, 119, 120, 121, 122–125,**  
 122, 123  
 results discussed 132–135  
 summary of orogenesis 135–136  
 geological setting 88–90, 107–108, 142–143  
 isotopic domains 142–143  
 map 3, 88, 89
- Eastern Ghats Orogenic Cycle 339
- Eastern Ghats Orogeny 347
- Eastern Ghats Province 141, 142, 171, 174, 341, 342  
 Araku–Anatagiri sapphirine–spinel granulite study  
 mineral assemblage 151, 152, 153, 154, 155  
 mineral chemistry 147, **147, 148, 149**, 149–150  
 monazite dating 158–159  
 petrography 143, 145–147  
 results discussed 159–162  
 metamorphic pathway 162–163  
 correlation with Rayner Province 172  
 electron backscatter diffraction studies 179–181,  
 183, 186  
 discussion of results 187  
 geochronology studies 181–183, **184, 185**, 186–187  
 isotopic domains  
 classification 107–108  
 (1A), Ongole Domain 88, 89, 90–92, 96, 100  
 (1B), Jeypore Province 88, 89, 106, 142, 143  
 (2) 92–94, 96–97, 98, 143  
 (3) 95, 98–99, 99, 143  
 (4), Rengali Province 88, 96, 98, 100, 143  
 collision 172  
 maps 89, 106, 142, 174  
*see also* Rauer–Rengali connection  
 metamorphic phases 94–95, 108, 135–136  
 microstructure 177–179, 179  
 relation to supercontinent assembly 96–99  
 structural evolution 173, 176  
 tectonic evolution 164, 165–166
- Eastern Indian Tectonic Zone 345, 346
- Eastern Khondalite Zone 88, 142, 346
- Elan Bank 345, 346
- electron backscatter diffraction (EBSD), studies  
 Eastern Ghats Province and Singhbhum–Rengali  
 Province 179–181, 183, 186
- electron-probe micro-analysis (EPMA), Sirohi Group  
 321–322
- enclave evidence, South Khasi granitoids 254  
 analytical methods 257  
 field evidence 256  
 geochronology 273–274  
 mineral chemistry 257, **258, 259, 260, 261, 265**  
 major elements 267, 273  
 results discussed 277–278  
 field evidence 274–275, 276  
 geochemistry 278–281  
 geochronology 281–282  
 magma development 274  
 modelling evolution 282–284
- enderbite 92, 173
- Enderby Land 2, 3, 8, 9, 24, **25, 171**
- Erinpura granite 320, 321, **321, 325, 333**  
 monazite age **332, 333**
- Espungabera Formation 62, 72, 79–80, 82
- Foreland Lineament 255
- fossil thermometer 155–156
- fractionation, Straumnsnutane lavas 81–82
- Gamburtsev Subglacial Mountains 174
- garnet, Baalsrudfjellet, chemical analyses 50, **51, 52**  
 geochemical studies  
 Baalsrudfjellet  
 mineral analysis 42  
 garnets 50, **51, 52**

- high-melt metapelite 45, 46, **47**
- low-melt metapelite 45, 46, **47**
- mafic granulite 42, 42, **43**, 44
- quartzofeldspathic gneiss 44–45, **44**
- summary 55–56
  - metamorphic evolution 50, 52–53, 55
  - thermobarometric conditions 53, **54**, 55
- Bathani Volcano-Sedimentary Sequence
  - methods of analysis 236
  - results
    - major elements 236, **237**, 238, 239, 240
    - rare earth elements **237**, 240
    - trace elements **237**, 240
- Sirohi Group
  - laboratory analysis
    - EPMA 321–322
    - REE 323
  - results
    - monazite chemistry 329–330
    - REE 326–328, **327**, 328, **328**
  - results discussed 332–336
- South Khasi granulitoids
  - methods of analysis 264, 266
  - results
    - major elements 267, **269**, **270**, 272
    - microgranular enclave 256, 256, 257
    - mineral chemistry 257, **258**, 259, **260**, **261**, **262**, **263**, **265**, **266**
    - REE **271**, 272–273, 272
    - trace elements **270**, **271**, 272–273, 272
  - results discussed 279–281
    - enclave evidence 277–278
    - equilibration, mixing and mingling 278–279
- Straumnsnutane
  - methods of analysis 71
  - results **68**, **69**, 71–72, 72, 73, 74, 74
  - results discussed
    - major elements 74, 75–77
    - trace elements 77–80
- Thala Hills
  - methods of analysis 11
  - results **12**, **13**, 15, 18–19
  - results discussed 19–22, **21**
- geochronology
  - Eastern Ghats Province 181–183, **184**, **185**, 186–187
  - Rauer–Rengali connection 181–183, **184**, **185**, 186–187
  - Thala Hills 10–11
    - methods of analysis 11
    - results 14–15, **16**, **17**
    - results discussed 19–22, **21**
- geothermobarometry
  - charnockite 208, **216**
  - sapphirine–spinel 155
  - South Delhi Fold Belt 304–305
- geothermometry, Bathani Volcano-Sedimentary Sequence granites 242, 244, 244
- gneiss
  - Baalsrudfjellet 44–45, **44**
  - Eastern Ghats Belt 115
  - South Delhi Fold Belt 297
- Godavari Rift 3, 106, 106
- Godvari Basin 235
- Gondwana
  - assembly 1, 2, 8, 342
  - map 174
  - reconstruction 9, 26, 171, 340, 345
- granite types, Bathani Volcano-Sedimentary Sequence 244, 246
- granitoids, South Khasi 254
  - geochemistry
    - methods of analysis 264, 266
    - results
      - major elements 267, **269**, **270**, 272
      - REE **271**, 272–273, 272
      - trace elements **270**, **271**, 272–273, 272
  - geochronology
    - methods of analysis 273–274
    - results 274, **275**
  - geological setting 256
  - microgranular enclave 256, 256, 257
  - mineral chemistry 257, **258**, 259, **260**, **261**, **262**, **263**, **265**, **266**
  - pluton emplacement evidence 259, 264
  - results discussed
    - enclave evidence 277–278
    - equilibration, mixing and mingling 278–279
    - field evidence 274, 276–277
    - geochemistry 279–281
    - geochronology 281–284
- granulite
  - Baalsrudfjellet 42, 42, **43**, 44
  - sapphirine–spinel 141, 143
    - geochemistry 147, **147**, **148**, **149**, 150
    - metamorphic conditions 155–158
    - mineral phase evolution 151–155
    - petrography 143–147
- granulite facies metamorphism 166
  - Angul Domain 95
  - Eastern Ghats Belt 87, 94, 108, 344
  - Eastern Ghats Province 173
  - Eastern Khondalite Zone 346
  - Jeypore Province 108
  - Rengali Province 96
  - South Delhi Fold Belt 293
  - Thala Hills 9
- Greater India, formation 341
- greenschist facies metamorphism 166
  - Lalsot-Bayana Sub-basin 293
  - Singhbhum craton 173
  - Thala Hills 9
- Grenvillian Orogeny 1, 38
  - Dronning Maud Land 38
  - Eastern Ghats Belt 100, 346
  - Rodinia 197, 291, 319
  - South Delhi Fold Belt 313–314
- Gruber Mts 38, 39
- Grunehogna Crustal Province 62, 342, 343
- Guruve dykes 62
- Highland Complex 26
- Hjornehorna Ridge 38
- Humboldt Mts 38, 39
- India 341
  - cratonic blocks 106
  - crystalline basement 198
- Indravati Basin 341

- Irumide Belt 26  
 isotopic domains, Eastern Ghats Province  
   classification 107–108  
   (1A), Ongole Domain 88, 89, 90–92, 96, 100  
   (1B), Jeypore Province 88, 89, 106, 142, 143  
   (2) 92–94, 96–97, 98, 143  
   (3) 95, 98–99, 99, 143  
   (4) Rengali Province 88, 96, 98, 100, 143  
     collision 172  
     maps 89, 106, 142, 174  
     *see also* Rauer–Rengali connection  
 Itremo region 26
- Jaswantpura granite 321, 325  
 Jeypore Province (domain 1B) 88, 89, 106, 142, 143  
 Jharol Group 292  
 Jutulstraumen Group 64
- Kaladgi Bhima Basin 341  
 Kalahari Craton 61, 64  
 Kandra ophiolite 90  
 Kanigiri ophiolite 90  
 Karbi–Anglong Hills 254  
 Karimnagar Granulite Belt 341  
 Kemp Land 8, 26, 26, 27  
 Kerajang Shear Zone 171, 172, 173  
 Kerguelen Plateau 136  
 Khasi Group 255  
 Khetri Sub-basin 293  
 khondalite 173  
 Khondalite zone 88, 88  
 Kondapalle Complex 88, 90, 96  
 Koraput Shear Zone 89, 106  
 Krishna Province (domain 1A) 88, 89, 106, 142, 143
- Lalsot–Bayana Sub-basin 293  
 Lambert Rift/Graben 171, 342, 345  
 leptynite 92  
 Lützow–Holm Bay 8, 9, 26, 27, 29
- MacRobertson Land 8, 26, 29  
 Madagascar 28, 30  
 Madurai Province 136  
 Mahakoshal (Munger) Mobile Belt 233, 248  
 Mahanadi Basin 235  
 Mahanadi Lineament 108  
 Mahanadi Rift (Graben) 3, 106, 171, 198, 339, 341, 345  
 Mahanadi Shear Zone 89, 106  
 Malani Igneous Suite 320, 321, 321, 334, 342  
 Manni Complex 26  
 Marwar Basin 321, 341  
 Marwar Craton/Block 198, 198, 341  
 Marwar Supergroup 320, 321  
 Maud Province 8, 29  
 Mawson Coast 8  
 Meghalaya Plateau  
   geological setting 254, 255, 256–257  
   *see also* Shillong–Meghalaya Plateau  
 Mesoproterozoic events  
   Grenvillian Orogeny 1, 38  
     Dronning Maud Land 38  
     Eastern Ghats Belt 100, 346  
     Rodinia 197, 291, 319  
     South Delhi Fold Belt 313–314  
   metapelite, Baalsrudfjellet 45, 46, 47  
   microgranular enclaves, South Khasi granitoids 254  
     analytical methods 257  
     field evidence 256  
     geochronology 273–274  
     mineral chemistry 257, 258, 259, 260, 261, 265  
     major elements 267, 273  
     results discussed 277–278  
       field evidence 274–275, 276  
       geochemistry 278–281  
       geochronology 281–282  
       magma development 274  
       modelling evolution 282–284  
   Mikir Hills 254  
   mineralogy  
     Chotanagpur Granite Gneiss 202–205, 203, 204  
       results discussed 223–224  
     Eastern Ghats Belt  
       charnockite 114–115  
       gneiss 115  
       mafic granulite 113–114  
       pelitic granulite 115–116  
     Straumnsnutane Formation 67  
   Mohlig–Hofmann Mts 39  
   monazite 92  
     Baalsrudfjellet 45, 48–49, 48, 49, 50, 50  
     Eastern Ghats Province 158–159, 159, 160, 161  
     South Delhi Fold Belt 307–308, 310, 311  
   Moyar Bhavani Shear Zone 198  
   Moyar–Bhavani–Cauvery Suture Zone 136  
   Mozambique Belt 26, 30, 37  
   Mozambique Ocean 37  
   Mundine Wells dyke swarm 342  
   Munger (Mahakoshal) Mobile Belt 233  
   Mutare dykes 62
- Naga Lineament 255  
 Nagavalli Shear Zone 89, 106  
 Napier Complex 26, 174, 198, 340, 342, 343  
   dykes 346  
 Narmada Son Lineament 341  
 Nd ratios, Straumnsnutane lavas 74, 77–79  
 Neoproterozoic tectonothermal events 28–29, 30, 31  
   Thala Hills study 24–27  
   Wilson cycle 37  
 Nimrod Complex 342, 343  
 North Delhi Fold Belt 292, 293, 321, 321, 332  
 North Indian Block 198, 233, 248, 291, 341, 341  
   formation 342  
   *see also* Bundelkhand craton *also* Marwar Block  
 North Singhbhum Fold Belt 199, 199  
 North Singhbhum Mobile Belt 234, 345  
 Nuna *see* Columbia  
 Nye Mountains 8, 24, 25
- Ongole Domain 88, 89, 90–92, 96, 100  
 orogenic belt, craton-margin 105  
 Orvin Mts 39  
 osumilite 94  
 Oygarden Group 345  
 Oygarden Islands 8
- P–T metamorphic conditions and facies 166  
 P–T paths

- Chotanagpur Granite Gneiss Complex 226  
 Eastern Ghats Belt 87, 91, 93, 141, 143  
 South Delhi Fold Belt 313
- P–T pseudosection analysis 208  
 South Delhi Fold Belt 305–307
- Palghat-Cauvery Shear Zone 341
- Pallapye Group 62
- Pan-African Orogeny 98
- Pan African–Brasiliano orogenic cycle 282
- Pandyan Mobile Belt 3
- Pauer Group 3
- Petermann Ranges 38, 39
- Phulad ophiolite mélange 293
- Pranhita–Godavari Basin 198, 341
- Pranhita–Godavari Rift 339, 341, 345
- Precambrian palaeogeography 171
- Prince Charles Mountains 8, 26, 27, 29
- Princess Elizabeth Land 3, 8, 26, 26
- Prydz Bay 98, 100, 136, 171  
 maps 8, 26, 174, 198, 345
- Punagarh Group 320, 321, **321**
- Rajgir Group 234
- Rajmahal Traps 198, 199, 199, 341
- rare earth element (REE) analysis  
 Bathani Volcano-Sedimentary Sequence 234, 235, **237**, 240  
 Sirohi Group 320, 321, **321**, 323, 326–328, **327**, 328, **328**  
 South Khasi granitoids **271**, 272–273, 272  
 Thala Hills 12, 15, 18–19
- Rauer Group 171, 172, 174, 187–188
- Rauer Islands 171
- Rauer–Rengali connection  
 electron backscatter diffraction study 179–181, 183, 186  
 geochronology 181–183, **184**, **185**, 186–187  
 microstructure 177–179  
 significance of results 187–188, 190  
 structural studies 173, 176–177
- Rayner Complex (Zone/Province) 7, 8, 24, 26, 29, 100, 108, 136, 171, 174, 345, 346  
 correlation with Eastern Ghats Province 172
- Rayner orogenic belt 197
- Rayner Structural Episode 26
- Rayner–Eastern Ghats orogenic belt 291
- Rengali Province (domain 4) 88, 96, 98, 100, 143  
 collision 172  
 maps 89, 106, 142, 174  
*see also* Rauer–Rengali connection
- retrograde metamorphism, Eastern Ghats Province 344
- Revdar metasediments 321, 325–326
- Ritscheflya Supergroup 62, 64
- Robert Glacier Rift 342, 345
- Rodinia 1, 2, 8, 87, 98, 100, 141, 171, 172, 197  
 assembly 291, 313, 319  
 reconstruction 339  
 role of India in evolution 225, 226, 227
- Ruker Complex 342, 343
- sapphirine–spinel granulite study, Araku-Anatagiri  
 mineral assemblage 151, 152, 153, 154, 155  
 mineral chemistry 147, **147**, **148**, **149**, 149–150  
 monazite dating 158–159  
 petrography 143, 145–147  
 results discussed 159–162  
 metamorphic pathway 162–163
- Satpura Mobile Belt 341
- Sausar Mobile Belt 233
- Schirmacher Hills 8, 26
- Schirmacher Oasis 38, 39
- Schuppen Belt 254
- sensitive high-resolution ion mass spectrometer (SHRIMP)  
 South Khasi granitoids 273–274, **275**  
 Thala Hills, geochronology study 10–11  
 methods of analysis 11  
 results 14–15, **16**, **17**  
 results discussed 19–22, **21**  
 sampling 10, 11, **11**, 12–14
- Shackleton Complex 342, 343
- Shcherbakov Range 39
- shear zones 345
- Shillong Group 254
- Shillong–Meghalaya Gneissic Complex 198, 235, 248
- SHRIMP *see* sensitive high-resolution ion mass spectrometer
- Shrinagar granite 293, 293
- Sileru Shear Zone 89, 106
- Sindreth Group 320, 321, **321**, 336
- Singhbhum craton 3, 88, 89, 106, 106, 174, 198, 199, 233, 235, 248, 339, 345  
 collision 172
- Singhbhum–Rengali Province  
 electron backscatter diffraction study 179–181, 183, 186  
 microstructure 177–178, 181  
 significance of results 187–188, 190  
 structural evolution 173, 176, 177
- Sirohi Group 320, 321, **321**  
 laboratory analysis  
 EPMA 321–322  
 monazite dating 322–323  
 petrography 323, 325  
 REE 323  
 results  
 monazite age 330–332, **330**, **331**  
 monazite chemistry 329–330  
 REE 326–328, **327**, 328, **328**  
 results discussed 332–336
- Sirohi Orogeny 334
- Snokallen 63, 68, 69
- Snokjerringa 63
- Son-Mahanadi Basin 198
- Son-Narmada lineament 235
- Sonpur Shear Zone 106
- Sør Rondane Mountains 8, 9, 26, 27, 29
- South Delhi Fold Belt 292, 293, 319, 321, **321**, 332  
 cover sequence metamorphism  
 mineral chemistry  
 calc-silicate granofels **300**, **301**  
 staurolite schists **298**, **299**  
 mineral reaction history 303–304  
 monazite U–Th–Pb analysis 307–308, **310**, **311**  
 P–T conditions 304–305  
 P–T pseudosection 305–307  
 petrography 294, 296, 302

- South Delhi Fold Belt (*Continued*)  
 calc-silicate gneiss 297  
 calc-silicate granofels 297  
 micaceous quartzite 297, 302  
 Shrinagar granite 302–303  
 staurolite schists 294, 295–296  
 results discussed  
 metamorphic age 313–314  
 metamorphic evolution 308–309  
 style of metamorphism 309, 312–313  
 rock types and sampling 294
- South Indian Block 198, 233, 248, 291, 341, 341  
 dykes **346**  
 formation 342  
*see also* Bastar, Dharwar, Singhbhum cratons
- South Khasi granitoids 254  
 geochemistry  
 methods of analysis 264, 266  
 results  
 major elements 267, **269**, **270**, 272  
 REE **271**, 272–273, 272  
 trace elements **270**, **271**, 272–273, 272  
 geochronology  
 methods of analysis 273–274  
 results 274, **275**  
 geological setting 256  
 microgranular enclaves 256, 256, 257  
 mineral chemistry 257, **258**, 259, **260**, **261**, **262**, **263**,  
**265**, **266**  
 pluton emplacement evidence 259, 264  
 results discussed  
 enclave evidence 277–278  
 equilibration, mixing and mingling 278–279  
 field evidence 274, 276–277  
 geochemistry 279–281  
 geochronology 281–282  
 modelling evolution 282–284
- Southern Granulite Terrane 26, 29, **30**, 136, 174, 198,  
 339, 342
- Soutpansberg Group 62
- Sr isotope ratios, Strausnutane lavas 74, 77–79
- Sri Lanka 28, **30**
- Strausnutane Formation 63, 64, 68  
 field relationships 65, 68–70  
 geochemistry 64  
 methods of analysis 71  
 results **68**, **69**, 71–72, 72, 73, 74, 74  
 results discussed  
 major elements 74, 75–77  
 trace elements 77–80  
 geological setting 64–66  
 lava genesis 81–83  
 mineralogy **67**  
 petrography 66, 70–71
- Sub-Himalayan Lineament 255  
 subduction zone, Neoproterozoic 9
- Sukinda Thrust 172
- Sylhet Traps 255
- Terrain Boundary Shear Zone *see* Eastern Ghats  
 Boundary Shear Zone
- Thala Hills 3, 8, 9, 10  
 geochemical studies  
 methods of analysis 11  
 results **12**, 13, 15, 18–19  
 results discussed 19–22, **21**  
 geochronological studies 10–11  
 methods of analysis 11  
 results 14–15, **16**, **17**  
 results discussed 19–22, **21**  
 sampling 10, 11, **11**, 12–14  
 geological setting 9  
 metamorphic history 9–10  
 tectonothermal history 22–24  
 summary of Neoproterozoic events 24–27, **30**
- thermobarometry *see* geothermobarometry
- Timbavati Gabbro 62
- trace element analysis  
 Bathani Volcano-Sedimentary Sequence 234, 235,  
**237**, 240  
 South Khasi granitoids **270**, **271**, 272–273, 272  
 Thala Hills 11, **12**, 15, 21
- Transition Zone 88, 142
- Trollkjel Group 64
- Trollkjelpiggen 63, 68
- Tshane Complex 62
- Tyrad–Barapani Lineament 255
- U–Pb zircon dating  
 Bathani Volcano Sedimentary Sequence granites 241,  
 241, 242, **243**  
 Chotanagpur Granite Gneiss 219–220, 220, **221**  
 Eastern Ghats Province 93  
 South Khasi granitoids 273–274, **275**  
 Thala Hills 11
- U–Th–Pb monazite 92, 158–159  
 Baalsrudfjellet 45, 48–49, 48, 49, 50, 50  
 Eastern Ghats Province 158–159, 159, 160, **161**  
 South Delhi Fold Belt 307–308, **310**, **311**
- Udayagiri Domain 89
- ultrahigh-temperature granulite facies metamorphism  
 Eastern Ghats Province 87, 93, 141, 143,  
 342, 344  
 Ongole Domain 91
- Umkondo Group 61–62, 62
- Umkondo Large Igneous Province 61, 62, 83–84
- Ur, reconstruction 339, 340
- Utkikken 63, 68
- Vamshadhara Shear Zone 89, 106
- Vechernyaya, Mt 345
- Vestfold Hills 174, 340, 342, 343  
 dykes **346**
- Vestfold Hills Block 172
- Vijayan Complex 26
- Vindhyan Basin 341
- Vinjamuru Domain 89
- Visakhapatnam domain 89, 143
- Vostok Subglacial Hills 174
- Waterberg Group 62
- West Gondwana 37
- Western Charnockite Zone 88, 88, 142, 346
- Western Dharwar Domain 341
- Western Khondalite zone 88, 142
- Wilkes Province 8
- Willing, Mt 26, 27
- Wilson cycle, Neoproterozoic 37

- Windmill Islands 8  
Wohlthat Massif 8, 26, 38
- X-ray diffraction (XRD), Straumsnutane Formation  
67, 71
- Xade Complex 62
- Yamato Mountains 8, 27, 29  
Yamuna Lineament 255
- zircon dating, U–Pb 92  
  Bathani Volcano Sedimentary Sequence granites 241,  
  241, 242, **243**  
  Chotanagpur Granite Gneiss 219–220, 220, **221**  
  Eastern Ghats Province 93  
  South Khasi granitoids 273–274, **275**  
  Thala Hills 11
- zircon geochemistry, Thala Hills 15, 18–19  
zircon saturation geothermometer 242, 244, 244