INDEX TO VOLUME 48

prepared by

A. S. HOWARD

General Index
Boreholes
Chronostratigraphy
Lithostratigraphy
Localities
Minerals
New taxa

GENERAL INDEX

Alston Block, Namurian sedimentation 325ff.
amino acid dating, Quaternary bivalves and gastropods 418-419,463
amino acid dating, Quaternary bivalves, North Yorkshire 224, 463
Anglesey, late Dinantian karstification and pedogenesis 297-321
Annual Report 1989 115-116
Annual Report 1990 339-341
Askrigg Block, shallow marine sedimentation 149-162
bentonites, U. Silurian, mineralogy and geochemistry 280-285
brachiopods, Dinantian, Derbyshire 287-295
breccias, solution and collapse, Triassic 17-20
bryozoans, U. Permian 33-40
calccrete, late Dinantian, Anglesey 302
carbonate mounds, late Dinantian, Derbyshire 23-32
carbonate mounds, macrofaunal taphonomy and preservation 25-32
clay mineralogy, L. Cretaceous, Southern North Sea Basin 257-260
clay mineralogy, bentonites, U. Silurian 280-282
calccrine planning, methods of fault projection 209-219
County Durham, Quaternary stratigraphy and sedimentation 415-420
Craven Basin, Dinantian stratigraphy and sedimentation 163-187
Cumbria, Coal Measures field meeting 119-120
cyclic sedimentation, Namurian, Northern England 325-328
dacites, petrography, geochemistry and genesis 393-408
Derbyshire Dome, structure 265-276
Derbyshire, Namurian megaspores 143-147
Derbyshire, late Dinantian carbonate mounds 23-32
Derbyshire, late Dinantian sedimentation 23-32, 189-196
Derbyshire, Dinantian brachiopods 287-295
Devon, Dinantian stratigraphy and structure 447-460
Easington Raised Beach, Co. Durham 415-420
East Irish Sea Basin, Triassic 1-22
East Midland Shelf, Lower Jurassic correlation 137-141
echinoid, U. Permian, tooth structure and phylogeny 47-60
faults, geometry 209-219
faults, methods of projection for coalmine planning 209-219
Fearnside Prize 344
field meeting 1989 119-120
gastropods, U. Permian 347-365
geochemistry, Ordovician dacites 400-404
GOOSSENS, R. F., Sorby medallist 343
graptolites, late Silurian, southern Australia 41-46
Great Cyclothem 323-327
halites, Triassic, East Irish Sea Basin 6-17
heavy metals, Humber estuary 75-80
Humber estuary, heavy metals, Scrobicularia clay 75-80
ichnology, limulid trace fossil 221
Isle of Man, Carboniferous Limestone, syn-sedimentary deformation 99-113
John Phillips Medal 343-344
Knox, R. W. O'B., discussion of paper 461-462
Lake District, Ordovician dacites 393-408
LEEDER, M. R., John Phillips medallist 343-344
megaspores, Namurian 143-147
micropalaeontology, L. Cretaceous nanofossils 428-434
mineral stratigraphy, L. Cretaceous 255-264, 461-462
mineralisation, Northern Pennine Orefields 335
MITCHELL, S. F., Moore medallist 343
Moore Medal 343, 344
nanofossils, L. Cretaceous, Southern North Sea 421-434
North Yorkshire, early Namurian sedimentation 149-162
North Yorkshire, M. Jurassic stratigraphy and sedimentation 375-392
North Yorkshire, M. Jurassic pedogenesis, diagenesis and sedimentation 61-74
North Yorkshire, Quaternary stratigraphy 223-226, 463-465
North Yorkshire, U. Silurian bentonites 277-285
North Yorkshire, late Triassic to early Jurassic stratigraphy 367-374
North-east England, Permian bryozoans 33-40
North-east England, U. Permian echinoid 47-60
North-east England, U. Permian gastropods 347-365
North-east England, U. Permian sandstone petrography 409-414
North-east England, U. Cretaceous stratigraphy and fauna 227-254
North-west England, Dinantian stratigraphy and sedimentation 163-187
North-west England, Trias 1-22
northern England, Namurian sedimentation 322-334
Northumberland Trough, Namurian sedimentation 327ff.
Northumberland Trough, Visean sedimentation 435-446
palaeoecology, U. Jurassic, South Humberside 197-208
palaeoecology, Scarborough Formation (M. Jurassic) 375-387
palaeoecology, U. Permian echinoid, 48-50
palaeoecology, U. Permian gastropods 349-351
paleoemas, late Dinantian, Derbyshire 192ff.
paleoemas, late Dinantian, Anglesey 300-302
palaeoecology, U. Permian bryozoans 33-40
palaeoecology, U. Permian gastropods 347-365
palaeoecology, echinoid, U. Permian 47-60
palaeoecology, graptolites, late Silurian 41-46
palaeosols (terra-rossa), late Dinantian, Anglesey, 302
palynology, Namurian megaspores 143-147
palynology, M. Jurassic, North Yorkshire 375-392
palynology, U. Carboniferous, Titterstone Clee Coalfield 83-98
pedogenesis, M. Jurassic, North Yorkshire 61-74
pedogenesis, late Dinantian, Anglesey 297-321
petrography, Ordovician dacites 399-400
petrography, U. Permian sandstone 409-414
petrography, late Dinantian calccrete, 303-315
pollen, Quaternary, North Yorkshire 224-225
Presidential Address 1987, A. A. Wilson 1-22
quartz overgrowths, in U. Permian sandstone 409-414
radiometric dating, Ordovician dacites 404-405
raised beach deposits, Quaternary, Co. Durham 415-420
rhizoliths, late Dinantian, Anglesey, 303-305
salt dissolution 17-20
sand wave complex, early Namurian, Askrigg Block 149-162
sedimentology, Namurian shallow marine sand wave complex 149-162
sedimentology, late Dinantian shallow marine carbonates 189-196
sedimentology, M. Jurassic shallow marine shelf deposits 375-387
sedimentology, Viséan fluvo-deltaic, lacustrine and tidal deposits 435-446
seismic refraction study, Derbyshire Dome 265-276
Shropshire, Coal Measures palynostratigraphy 81-98
SMITH, E. G., obituary 466
Society activities 1989, 117-118
Society activities 1990, 342
Sorby Medal 343
South Humberside, U. Jurassic, palaeoecology, sedimentation 197-208
Southern North Sea Basin, L. Cretaceous mineral stratigraphy 255-264, 421-434
Southern North Sea, L. Cretaceous stratigraphy and nannofossils 421-434
spheruliths, sideritic, electron microprobe analyses 66-67
stable isotope analyses, M. Jurassic, North Yorkshire 67-70
syn-sedimentary deformation, Carboniferous Limestone, Isle of Man 99-113
THOMPSON, J., Moore medalist 344
Titterstone Clee Coalfield, palynostratigraphy 81-98
trace fossil, limulid, M. Jurassic, North Yorkshire 221
TURNER, N., Fearnside Prize presentation 344
VERSEY, H. C., obituary 345
WILSON, S. J., discussion of paper 463-465
WOODLAND, A. W., obituary 345-346

BORHOLES
BGS 81/43 (southern North Sea) 255-264, 421-434
Churchtown 10ff.
Coat Walls 16ff.
Felixkirk 367-374
Fulbeck 121ff.
Kirrkham 5ff.
Mythop 7ff.
Stonehaugh 435-446
Thorton Cleveleys 7ff.
Walney Island 7ff.
Weeton Camp 5ff.

CHRONOSTRATIGRAPHY
Carboniferous, Arnsbergian 149-162
Carboniferous, Brigantian 23-32, 99-113, 189-196
Carboniferous, Marsdenian 143-147
Carboniferous, Namurian 323-337
Carboniferous, Viséan 435-446
Carboniferous, Westphalian 81-98, 119-120
Cretaceous, Lower 255-264, 421-434, 461-462
Cretaceous, Upper 227-254
Jurassic, Aalenian 370ff.
Jurassic, Bajocian 221, 375-392
Jurassic, Lower 121-141, 367ff.
Jurassic, Middle 61-74
Jurassic, Oxfordian-Kimmeridgian 197-208
Ordovician 393-408
Permian, Zechstein 33-40, 47-60, 347-365, 409-414
Quaternary, Holocene 75-80
Quaternary, Hoxnian-Ipswichian 223-226, 415-420, 463-465
Silurian, Ludlovian 277-285
Silurian, Pridoli 41-46
Triassic 1-22
Triassic, Rhaetian 367

LITHOSTRATIGRAPHICAL INDEX
(* denotes newly defined names)
Amphill Clay 197-200
Barnby Member 128ff. *
Barnstone Member 127ff. *
Beckingham Member 129ff. *
Bee Low Limestones 189-196
Bellman Limestone Member 170ff. *
Birker Fell Formation 394ff.
Bogmire Gill Member 385ff. *
Borrowdale Volcanic Group 393-408.
Brant Mudstone Formation 133ff. *
Breckells Mudstones 17ff.
Buckbanks Sandstone Member 173ff. *
Burnham Formation 227-254
Carstone Formation 232
Chagley Limestone Member 174ff. *
Chalk Group 227-254
Chatsworth Grit 143
Cinder Bed 261, 461-462
Cleveland Ironstone Formation 372ff.
Clitheroe Limestone Formation 167ff.
Close-ny-Chollagh Formation 103ff.
Coal Measures 81-98, 119-120
Coat Walls Mudstones 16ff.
Codden Hill Group 447-460
Coplow Limestone Member 169ff. *
Coprolite Bed 256, 461
Crowhow End Dacite 399ff.
Dogger Formation 372ff.
Dunbarella Bed 174ff. *
Embasy Limestone Member 174ff.
Eyam Limestones Formation 23-32
Ferraby Formation 227-254
Ford Formation 33-40, 47-60, 347ff.
Fossil Sandstone 149-162
Foston Member 130ff. *
Granby Member 128ff. *
Great Limestone 323ff.
Great Whinscale Dacite 393-408
Gristhorpe Member 65ff.
Hambleton Mudstones 4ff.
Hearson Formation 451ff. *
Heddon Member 450 *
Helsby Sandstone 4
Helwath Beck Member 376ff.
Hetton Beck Limestone Member 173ff.
High Coal 328ff.
Hodder Mudstone Formation 170ff.
Hodderense Limestone Formation 176ff.
Holy Well Member 450ff.
Horton Formation 277-285
Humevele Formation 41-46
Hundale Sandstone Member 381ff.
Hundal Shale Member 381ff.
Hunstanton Formation 227-232
Hydraulic Limestones 127
Inconstans Bed 206-207
Kimmeridge Clay 197-208, 259
Landkey Formation 449ff.
Leagram Clay Member 173ff.
Lias Group 121-141, 367-374
Lillstoke Formation 367
Limekiln Wood Limestone Member 170ff.
Little Limestone 328ff.
Long Nab Member 63ff.
Low Coal 328ff.
Marlstone Rock Bed 136ff.
Mercia Mudstone Group 1-22
Middle Border Group 435-446
Millepore Bed 65ff.
Mythop Salts 6ff.
Nidderdale Shales 150
Northwich Halite 16ff.
Park Gate Member 450ff.
Peach Quarry Limestone Member 169ff.
Pendleside Limestone Formation 176ff.
Phynis Mudstone Member 171ff.
Pilton Shales 447ff.
Plenus Marls 235-236
Poyllvaaish Formation 102ff.
Presessall Salt 16ff.
Rad Brook Mudstone Member 176ff.
Ran Gill Limestone Member 174ff.
Raisby Formation 409-414
Ravenscar Group 372ff., 375-392
Ravenscar Shale Member 61-74, 383ff.
Redcar Mudstone Formation 367ff.
Rossall Salts 6ff.
Ruddle Hills Formation 451ff.
Saltwick Formation 67ff., 372ff.
Scalby Formation 63ff., 387
Scarborough Formation 221, 375-392
Scunthorpe Mudstone Formation 125ff.
Singleton Mudstones 6ff.
Speeton Clay 255-264, 421-434, 461-462
Speeton Shell Bed 223-226, 463-465
Spindle Thorn Limestone Member 383ff.
Staithes Sandstone Formation 371ff.
Station Quarry Beds 189-196
Stockdale Rhyolite 405-406
Tawstock Formation 449ff.
Thornton Limestone Member 169ff.
Thornton Mudstones 11ff.
Titterstone Clee Dolerite 92ff.
Tongue House Member 393ff.
Twiston Sandstone Member 175ff.
Upper Border Group 435-446
Waterstones Formation 6ff.

Welton Formation 227-254
Westbury Formation 367
Whitby Mudstone Formation 372ff.
White Hazle 328ff.
White Nab Ironstone Member 384ff.
Whitmore Limestone Member 173ff.
Wilkesley Halite 16ff.
Worston Shale Group 163-187

LOCALITIES

Bainton Balk, N. Humberside 250ff.
Clee Hill, Shropshire 84ff.
Cotgrave Colliery, Nottinghamshire 218
Crich, Derbyshire 143-147
Crook Ness, N. Yorkshire coast 63ff.
Easington, Co. Durham 415-420
Easington, N. Humberside 75ff.
Enthorpe Railway Cutting, N. Humberside 241ff.
Eppleworth Quarry, N. Humberside 247ff.
Eskdale, Cumbria 394ff.
Filey Bay, N. Yorkshire 223-226, 463-465
Flamborough Head, N. Humberside 249ff.
Fremington, Devon 452ff.
Ghin Ghin, Victoria, Australia 43
Horton-in-Ribblesdale, N. Yorkshire 277-285
Hunstant Point, N. Yorkshire coast 375-392
Keele Open Cast Site, Cumbria 119
Kilnwick Percy, N. Humberside 239ff.
Langtoft Quarry, N. Humberside 250ff.
Little Weighton Quarry, N. Humberside 244ff.
Mallerstang Edge, N. Yorkshire 153ff.
Markham Colliery, Derbyshire 216-217
Melton Bottoms, N. Humberside 233ff.
Middleton-on-the-Wolds Quarry, N. Humberside 248ff.
Miller's Dale Station Quarry, Derbyshire 190ff.
Moelfrey, Anglesey 297-321
Monyash, Derbyshire 23-32
Newbald Wold, N. Humberside 239ff.
Nook Colliery, Lancashire 218
Poyllvaaish, Isle of Man 99ff.
Royston Colliery, S. Yorkshire 214-216
South Ferriby, S. Humberside 197-208
Treak Cliff, Derbyshire 287-295
Tynemouth Castle Cliff, Co. Durham 410ff.
Welton Wood Quarry, N. Humberside 235ff.
Whitby West Cliff, N. Yorkshire 67ff.
Whitehaven, Cumbria 119-120
Willerby Railway Quarry, N. Humberside 244ff.
Yons Nab, N. Yorkshire coast 65ff.

MINERALS

calcite 303ff.
ilite 257ff., 280ff.
kaolinite 257ff.
quartz 409-414
siderite 65ff.
smectite 257ff.
NEW TAXA

Penniretepora waltheri nodata 36-39
Ryhopora delicata 35-36
Ryhopora gen. nov. 35
Selenichnites gen. nov. 221
Tricontactispora gen. nov. 144
Tricontactispora hirsuta 144-147
Tricontactispora tuberculata 147
Tunstallia gen. nov. 358-359
YORKSHIRE GEOLOGICAL SOCIETY
OCCASIONAL PUBLICATIONS

ISSN 0143 — 6635


No. 2. The Geology and Mineral Resources of Yorkshire

No. 3. The Geology of the Lake District
Editor: F. Moseley. 1978. (Out of print).

No. 4. The Carboniferous of the U.S.S.R.
Reports presented to the I.U.G.S. Subcommission on Carboniferous Stratigraphy at
the 8th International Congress on Carboniferous Stratigraphy and Geology held at
Moscow, 1975.

No. 5. Andros Island, Chalk and Oceanic Oozes
Unpublished work of Maurice Black.

Occasional Publications Nos. 1, 4, 5 and back numbers of the Society Proceedings
are available from Mr P. S. Valois, Edward Boyle Library, The University,
Leeds LS2 9JT.

No. 6. The Role of Tectonics in Devonian and Carboniferous Sedimentation in the
British Isles.

Occasional Publication No. 6 is available from the Geological Society Publishing House,
Unit 7 Brassmill Enterprise Centre, Brassmill Lane, Bath BA1 3JN
Instructions to Authors

The Proceedings of the Yorkshire Geological Society is a biannual publication that caters for original research papers on all aspects of geology. Emphasis is placed on palaeontology, particularly relating to the geology of the north of England (but including aspects of more local interest) and (ii) papers of general geological interest. Papers should normally be between 3000 and 15000 words in length, including allowances made for references and text-figures (a full printed page consists of c. 900 words). Shorter contributions will be published as 'Short Communications'; longer contributions should not be submitted without prior consultation with the Editors. Review papers are normally published by invitation only, but ideas for a review paper may be submitted to the Editors for assessment by the Publications Committee.

1. SUBMISSION OF PAPERS

Papers are welcome from Society members and non-members alike. Three complete copies of papers should be submitted to the Editors. Typescripts should be in their final form, and should be arranged according to the layout used in the latest issue of the Proceedings (see below for details). Typescripts that deviate excessively from the standard layout will be returned to the authors for modification. Copies of all illustrations should be at anticipated final publication size and of sufficient quality to allow proper assessment of their composition and reproducibility. Copies of half-tones must be photographic prints not photocopied. One set of camera-ready photographic prints of all line drawings will be requested on submission of the revised manuscript; these will be reproduced directly by the printer and should be at final publication size (e.g. single column, page width or full page size — see 2.6). Originals of line drawings should therefore be retained by the authors; they will be requested in exceptional circumstances only.

2. PREPARATION OF PAPERS

2.1. Typescripts

Typescripts should be double-spaced throughout (including references and figure captions), with each page numbered serially; A4 size is preferred. Only the first order headings should be typed in capitals. The typescripts should be arranged as follows:

1. Title, which should be concise yet informative. The title should be typed in lower case.
2. Summary. This should not exceed 250 words, and should be a self-contained summary of the main achievements of the paper and not a mere statement of the scope and contents of the paper.
3. Main text. This should be organised according to the system of headings described in section 2.2. Reference to text-figures may be made thus: Figure 1 (or Fig. 1). References to the literature take the following forms: Young and Bird (1822), Young & Bird (1822) or (Young & Bird 1822), depending on the context. Where the reference involves three or more authors, the first author only should be given, followed by et al. (or the word et al. may be written thus: et al. 1978). Words in the text should be related to the relevant numbered section, rather than to a page number. Words to be printed in italics should be underlined.
4. Appendices, if necessary.
5. References (see section 2.5).
6. Name and full postal address of authors.
7. Tables, each typed on a separate sheet, together with its caption.
8. List of figure captions, typed on a separate sheet.
9. A list of contents should be provided on an unnumbered sheet.

2.2. Headings

Four grades of headings are normally used in the Proceedings:

1. FIRST-ORDER HEADING

1.1. Second-order heading. Text follows on next line.
1.1.1. Third-order heading. Text follows on next line.
Fourth-order heading. Text follows on same line.

In certain circumstances (e.g. where there are frequent short sections) it may be decided to vary this arrangement. The introductory section should not be numbered; the heading 'Introduction' may, for clarity, be used on the typescript, although it will not be used in the printed paper. The first line of the first paragraph following each heading should be set at the left-hand margin (no indent).

2.3. Systematic palaeontology

The layout for palaeontological systematics should follow the usual conventions. Examples of house style may be found in previous volumes (from Vol. 45 onwards), e.g. Vol. 45, pp. 113-120, 179-182, 220-223; Vol. 46, pp. 1-10, 57-75. There is no rigid rule concerning the system of sub-headings used, except that each paper should be internally consistent.

2.4. Systematic lithostratigraphy

Any new lithostratigraphic terms should be rigorously defined to conform to the various codes for lithostratigraphic nomenclature. Examples of house style may be found in previous volumes (from Vol. 45 onwards), e.g. Vol. 45, pp. 52-57, 103-106; Vol. 46, pp. 57-75.

2.5. Reference list

The accuracy of references is the responsibility of the authors. Periodical titles should be quoted in full, and follow the wording on the title sheet. Where indication of the country or region of origin would assist in the identification of the periodical, additional wording should be included in parentheses, using Roman characters: e.g. Nature (London); Journal of the Geological Society (London). In book titles, capital letters should be used for proper nouns only (except in German titles, where all nouns should possess capital letters). Accents should be included in all foreign book and serial titles.


Many titles (e.g. special publications, conference proceedings) are ambiguous in terms of periodical or book classifications. If in doubt, give the entire reference in Roman characters, without underlining. Unpublished reports are not usually included in the reference list, but an exception is made for postgraduate theses, which are treated as books. Examples of house style are:


2.6. Illustrations

Illustrations may be prepared to fit a printed column width of 85mm or a page width of 176mm. The printed page height is 250mm. If it is intended that the caption be placed beneath a full-page illustration, the height of the latter will need to be modified accordingly. Line drawings should be draughted at 1½ times the final printed size, on good quality white paper or plastic tracing paper. Lettering should be no less than 1mm high on reduction. Half-tone illustrations should be high-quality glossy prints with good contrast. Remember that screen printing has the effect of reducing contrast and generally lightening the tone, so that areas intended to be black (such as artificial backgrounds or areas of deep shadow) should be truly black and not dark grey. Magnification should be indicated by means of a scale bar on the photograph or, if this is not possible, in the figure caption. All half-tone illustrations are referred to as Figures, not Plates. In composite illustrations the individual photographs should be labelled 1, 2, 3, etc. or A, B, C, etc. Where possible, labels should be on the photographs, not in the space between.

2.7. Tables

These should be designed to column width (85mm) or page width (176mm) and should be submitted, with captions, on separate sheets.

3. OFFPRINTS

25 free offprints per paper are provided: additional copies may be purchased and should be ordered at page proof stage.

Acknowledgement. Some figures published in the Proceedings display the National Grid, taken from the Ordnance Survey map with the permission of the Controller of Her Majesty's Stationery Office.

PRINTED BY A. WIGLEY & SONS LIMITED, CANAL ROAD, BRADFORD, ENGLAND
PROCEEDINGS OF THE
Yorkshire Geological Society
VOLUME 48           PART 4           OCTOBER 1991

CONTENTS

N. T. J. Hollingworth and M. J. Barker 347
Gastropods from the Upper Permian Zechstein (Cycle 1) reef of north-east England

H. C. Ivimey-Cook and J. H. Powell 367
Late Triassic and early Jurassic biostratigraphy of the Felixkirk Borehole, North Yorkshire

S. Gowland and J. B. Riding 375
Stratigraphy, Sedimentology and palaeontology of the Scarborough Formation (Middle Jurassic) at Hundale Point, North Yorkshire

R. Kanaris-Sotiriou, D. Millward and C. C. Rundle 393
The Great Whinscale Dacite - an enigmatic lava flow from the Borrowdale Volcanic Group, English Lake District

M. S. Benzagouta and M. R. Lee 409
New evidence for the origin of distinctive quartz overgrowth textures in the Raisby Formation (Zechstein carbonate), north-east England

D. Q. Bowen, D. B. Smith and G. A. Sykes 415
The age of the Easington Raised Beach, County Durham

T. J. Bralower 421
Lower Cretaceous calcareous nannofossil biostratigraphy of a North Sea borehole: implications for Boreal Cretaceous stratigraphy

S. A. Smith and D. W. Holliday 435
The sedimentology of the Middle and Upper Border Groups (Viséan) of the Stonehaugh Borehole, Northumberland

P. C. Jackson 447
The Dinantian stratigraphy of north-west Devon

Discussion contributions and replies by authors to papers previously published 461

Obituary 466

Index 467

ISSN 0044-0604
Price: £20.00