

THE
GEOLOGICAL MAGAZINE.

VOL. LXIII OF WHOLE SERIES.

JANUARY—DECEMBER, 1926.

THE
GEOLOGICAL MAGAZINE

OR
Monthly Journal of Geology.

WITH WHICH IS INCORPORATED
THE GEOLOGIST.

FOUNDED IN 1864 BY THE LATE DR. HENRY WOODWARD, F.R.S.

EDITED BY
R. H. RASTALL, Sc.D., M.Inst.M.M.,
UNIVERSITY LECTURER IN ECONOMIC GEOLOGY, CAMBRIDGE.

ASSISTED BY
PROFESSOR W. S. BOULTON, D.Sc.
PROFESSOR J. W. GREGORY, D.Sc., F.R.S.
F. H. HATCH, Ph.D., M.Inst.M.M.
SIR T. H. HOLLAND, K.C.S.I., D.Sc., F.R.S.
PROFESSOR J. E. MARR, Sc.D., F.R.S.
PROFESSOR W. W. WATTS, Sc.D., LL.D., M.Sc., F.R.S.
HENRY WOODS, M.A., F.R.S.
ARTHUR SMITH WOODWARD, LL.D., F.R.S.

VOL. LXIII OF WHOLE SERIES.
JANUARY—DECEMBER, 1926.

LONDON:
DULAU & CO., LTD., 34-36 MARGARET STREET,
CAVENDISH SQUARE, W.1.

1926.

HERTFORD
STEPHEN AUSTIN AND SONS, LTD.

LIST OF PLATES.

PLATE	FACING PAGE
I. Photograph of Cliff about 200 yards N. of Salterfen Rocks	8
II. Gorge at Piantravigne, near San Giovanni, in the Val d'Arno	32
III. <i>Encope Peruviana</i> sp. nov.	64
IV. " " "	64
V. " " "	64
VI. <i>Palaeocharinus</i> sp. Carapace with Lateral and Medium Eyes	70
VII. <i>Rhyniella praecursor</i> gen. and sp. nov. <i>Crania rhyniensis</i> gen. and sp. nov.	70
VIII. Riebeckite-Granophyre and Altered Orthoclase Phenocryst	77
IX. West Indian (Barbados) Tertiary Decapods	108
X. Nummulites, Siderolites, and Assilina	120
XI. Operculina and Dietyoconoides	120
XII. Photograph 1. From Pen-y-Billies, looking East	125
XIII. Photograph 2. Third Cove North of Penbryn Sands. Photograph 3. View across the Syncline, from Morfa Banc	128
XIV. The Bala-Silurian Junction in Traeth yr Ysland	128
XV. <i>Eupachyrinus calyx</i> MacCoy	160
XVI. <i>Zecrinus konincki</i> Bather	160
XVII. <i>Zecrinus</i> and <i>Eupachyrinus</i>	164
XVIII. Dr. B. N. Peach and Dr. J. Horne in the N.W. Highlands, 1912	188
XIX. Corallian Limidae. <i>Lima (Piagiostoma) laeviuscula</i> Sow.	208
XX. Corallian Limidae. <i>Lima (Piagiostoma) mutabilis</i> nov.	208
XXI. Corallian Limidae. <i>Lima (Piagiostoma) rigida</i> Sow. <i>Lima (Piagiostoma) highworthensis</i> nov. <i>Lima (Limatula) elliptica</i> Whit.	208
XXII. Corallian Limidae. <i>Lima (Piagiostoma) zonata</i> nov. <i>Lima subantiquata</i> Roem	208
XXIII. Columnar Structure in Nubian Sandstone, Wadi Kreiga	272
XXIV. The Kailpot, Ullswater	340
XXV. Photographs of Marks on a Rock-Surface near Borth	342
XXVI. Echinoids, N.W. Peru	371
XXVII. Veins of Muscovite Pegmatite in Black Micaceous Shales Lit-par-lit Intrusion of Granite Aplite into Hornblende-Mica Schists	408
XXVIII. Summit of Mt. Catogne in Winter	477
XXIX. Heavy Minerals of the Old Red Sandstone	516
XXX. <i>Lepidesthes howsei</i> sp. nov.	533
XXXI. Corallian Lamellibranchs	544
XXXII. " "	544
XXXIII. " "	544
XXXIV. " "	544

LIST OF ILLUSTRATIONS IN THE TEXT.

	PAGE
Section along cliff South side of promontory at Salterfen Rocks	2
Sections from south to north at points along coast showing variations in deposits	4
Wickersley Rock, Silverwood	15
Ackworth Rock	17
Brincliffe Edge Rock, Brincliffe	18
Loxley Edge Rock, Walkley	18
Quartz grains, Wickersley, Ackworth, Brincliffe, and Walkley grindstone	20
Map showing Post-Pliocene denudation of the Val d'Arno deposits	29
Gorges near Gallicano, E. of Rome	31
Hercynian and Tertiary Mountain Fronts—Belgium and Upper Silesia	58
<i>E. peruviana</i> sp. nov.	62
<i>E. peruviana</i> sp. nov.	65
<i>E. peruviana</i> sp. nov.	66
Transverse section of <i>Crania rhyniensis</i>	70
Altered phenocryst in granophyre	73
Another phenocryst	74
Fossil plant from Samburn Grits, Duruma Sandstone, Kenya Colony	84
<i>Caenophyllum varians</i> gen. et sp. nov.	86
<i>Nammulites planulatus</i> and <i>guettardi</i> and <i>Siderolites miscella</i>	115
Sketch-map of the Llangranog district	124
Plan and Sketch-section of Traeth yr Ynys and Traeth y Gaerglwyd	127
Generalized section across the Synclinorium	129
Comparative sections illustrating the relation of the Bala Sequence at Plynlimon	137
Comparative sections illustrating the approximate relations of the Silurian Succession at Llangranog	138
<i>Eupachyrcrinus calyx</i> MacCoy	151
<i>Eupachyrcrinus calyx</i> MacCoy	153
<i>Eupachyrcrinus calyx</i> MacCoy	155
<i>Eupachyrcrinus calyx</i> MacCoy	157
<i>Eupachyrcrinus calyx</i> MacCoy	159
<i>Zeacrinus konincki</i> Bather	161
<i>Zeacrinus konincki</i> Bather	162
<i>Eupachyrcrinus calyx</i> MacCoy	163
Formation of Rock Basins, Head of Valley	165
Formation of Rock Basins	167
Formation of Rock Basins	168
Formation of Rock Basins	171
Formation of Rock Basins	173
<i>Plagiostoma mutabilis</i> nov., <i>P. highworthensis</i> nov., and <i>P. rigida</i> Sow.	197
Relative abundance of sulci in forty specimens of <i>Lima mutabilis</i> sp. nov.	203
Map of Bushveld Igneous Complex	212
Diagram of rocks composing and overlying the complex	214
Ideal block-section of the Bushveld Complex at various stages	218
Diagram to illustrate the unconformable junction of Brownstones and Red Marl	221
Suggested restoration of the geography of Lower Old Red Sandstone time in South Wales	222
Map of Bardonia Hill Quarries	243
Geological Map of Sark	257
Sections illustrating the geology of Sark	259
Barytes from River Sand	270

	PAGE
Courses of streams in deltas in Ullswater and Haweswater	293
Delta of Sandwick Beck, Ullswater	294
Delta of Rannerdale Beck, Grummock Water	297
Delta of Aik Beck, Ullswater	299
Map of Ullswater	338
Vertical section of Kailpot Crag	339
Kailpot	340
Marks on rock-surface near Borth	342
Map of Newfoundland	348
Section across South Branch district	349
Diagrammatic section across Western valley	354
Sketch-map of Shimbar Valley landslip dam	356
View looking S.E. of the landslip barrier and great scar from which it came	357
View looking N.E.	358
<i>Oligopygus ovumserpentis</i> (Guppy) var. <i>Caldryi</i> nov.	362
<i>Rhynchopygus peruvianus</i> sp. nov.	367
<i>Echinolampas atascaderensis</i> sp. nov.	369
<i>Oligopygus ovumserpentis</i> ; Petal III	373
<i>Oligopygus ovumserpentis</i> ; Orad part of area II	374
<i>Clypeaster lanceolatus</i> Cotteau, Petal II	375
<i>Echinolampus anguillae</i> Cotteau : Phylloide II	376
Map of Iceland, showing approximate exposures of the Palagonite Formation	387
Diagrammatic East to West section across Iceland	390
S.E.-N.W. section along the S.W. shore of Videy, S.W. Iceland	393
Micrograph of palagonite-breccia collected near Videy, S.W. Iceland	395
Index-map of the coast near Amherst (Lower Burma)	401
Geol. sketch-map of Green Island and the coast of Amherst (Burma)	403
Microsections of typical rocks	405
Tracing showing white reaction border between grey granite and dark coloured zenolith	406
The Andes of S. Mendoza	413
The Andes of S. Mendoza	415
Cordillera de Mendoza	419
Sketch-map showing Distribution of the Wigtownshire Kersantites	424
Kersantite with ocelli	427
Sketch-map showing the Distribution of Scandinavian Boulders in England	435
Map of the contact near Venice	471
Sketch showing trend of central, so-called " Hercynian " Granites	477
Sections across Vredefort and Arran Domes	482
Map of Arran Domes	485
Map of Vredefort Dome	492
Comparative Table of Corallian Pectinidae	535
Section in valley floor, near Skipton, Airedale, Yorks.	556