

THE
GEOLOGICAL MAGAZINE.

VOL. LXII OF WHOLE SERIES.

JANUARY—DECEMBER, 1925.

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. LXII OF WHOLE SERIES.
JANUARY—DECEMBER, 1925.

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

1925.

HERTFORD
STEPHEN AUSTIN AND SONS, LTD.

LIST OF PLATES.

PLATE	FACING PAGE
I. Senonian Ammonoidea from Jamaica	32
II. New Silurian Trilobites	72
III. Marine Triassic Fossils from the Malay States	84
IV. Heavy Mineral Residues from Midland Cambrian, Silurian and Carboniferous Rocks	128
V. Heavy Mineral Residues from Midland Permian and Triassic Rocks	128
VI. Fossil Plants from the Bristol and Somerset Coalfield	180
VII. Fossil Plants from the Bristol and Somerset Coalfield	180
VIII. Fossil Plants from the Bristol and Somerset Coalfield	180
IX. Fossil Plants from the Bristol and Somerset Coalfield	180
X. <i>Micraster</i> sp., Sulham, Berks	276
XI. British and American <i>Cyclidae</i>	309
XII. Chloritoid Schist, The Frenchman, Eyre Peninsula	316
XIII. Chloritoid Slate and Chlorite-Chloritoid Phyllite, Cornwall	316
XIV. Normal and Meandrine Forms of <i>Chaetetes</i>	320
XV. Normal and Meandrine Forms of <i>Chaetetes</i>	320
XVI. Fossil Plants from the Bristol and Somerset Coalfield	392
XVII. Fossil Plants from the Bristol and Somerset Coalfield	400
XVIII. Fossil Plants from the Bristol and Somerset Coalfield	408
XIX. New Carboniferous Gastropods from the Isle of Man	438
XX. Quarry in the Old Red Sandstone and Km. Beds, Westbury- on-Trym	464
XXI. Views of Barbados	504
XXII. Scotland Fossils, Barbados	504
XXIII. Scotland Fossils, Barbados	504
XXIV. Scotland Fossils, Barbados	504
XXV. Trinidad: View of the Range.	551

LIST OF ILLUSTRATIONS IN THE TEXT.

	PAGE
The Togo and Buem Series of Western Togoland	3
The Buem Volcanic Group of Western Togoland	9
The Oti Series of Western Togoland	17
Sections of sedimentary and volcanic rocks from Western Togoland	20
Geological Map of part of the South-Eastern Desert of Egypt	35
Inner (thecal) side of the two stipes of <i>Dictyonema flabelliforme</i>	51
Serial section of a stipe of ditto	53
Longitudinal section of ditto	54
Reconstructed longitudinal section ditto	56
Reconstructed front elevation ditto	56
A and B, Reconstruction of hydrothecae. C and D, Reconstruction of bithecae of ditto	57
Diagrammatical vertical section showing hydrothecae and bithecae with disseipments, ditto	60
Diagrammatical Reconstruction of part of a branch of <i>D. flabelliforme</i>	61
Diagrams showing the disposition of disseipments in <i>D. flabelliforme</i>	61
Transverse section of <i>D. rarum</i> (after Wiman)	62
Early growth stage of a colony in <i>D. flabelliforme</i>	64
Early developmental stages in <i>D. flabelliforme</i>	65
Sketch-map of S.W. Lleyln	130
Micro-section of quartz-calc-schist	134
Geological map of the country round Sandy and Biggleswade	199
Map of lower surface of the Mesozoic rocks of the S.E. of England	211
Map of the trend-lines of the Midlands	214
Quartz-porphry, Scilly Isles	225
Diagram showing character of relative motion of land and sea in glacial times in Pennoscandia	231
Diagram showing the relative motions of land and sea in the British Isles in glacial times	233
The Coniston Limestone Series of the Kentmere District	266
<i>Halicyne johnsoni</i> Woodward. Base of antenna	291
<i>Halicyne johnsoni</i> Woodward. Reflected labrum	292
<i>Halicyne johnsoni</i> Woodward. Labrum and metastoma	292
<i>Halicyne johnsoni</i> Woodward. Caudal fork	293
<i>Halicyne johnsoni</i> Woodward. Ventral surface	293
<i>Halicyne</i> sp. Ventral surface with three rami of limbs	294
<i>Halicyne</i> . Reconstruction of details of the under side	295
<i>H. johnsoni</i> Woodward. Two protopodites	296
<i>Halicyne</i> sp. Protopodites and two rami	297
Enlarged restoration of limb of <i>Halicyne</i>	298
Section through suckers and dorsal prominences of <i>Halicyne</i>	299
<i>C. rankini</i> after Woodward	300
<i>Cyclus communis</i> Rogers. Diagram showing position of supposed compound eye	301
Diagram showing how the carapace of <i>Halicyne</i> may have arisen from the fusion of three pleurae	302
Section across the quartzitic ridge of the Frenchman, Eyre Peninsula	310
Chloritoid developing from andalusite in chloritoid-andalusite schist	313
<i>Stylophyllopsis rugosa</i> and <i>S. mucronata</i>	352
<i>Stylophyllopsis mucronata</i> and <i>S. victoriae</i>	359
Thermal diagram of lime-silicate minerals	364
Minor Structures in the Lower Greensand of W. Kent and E. Surrey	442
Course of the Evishanoran Esker	453

	PAGE
Course of the Evishanoran, Dunnamore and Davagh Eskers	457
Sketch-map of the Kukuruku Hills area, Nigeria	459
Gneiss, East of Indogun	460
Vertical section of the Km. Beds, Westbury-on-Trym	465
Plan of the grounds, St. Monica's Home, Westbury-on-Trym	466
Temperature-depth curves based on a cooling earth 1,600 million years old	506
Curve showing the assumed downward distribution of radium	510
Sketch-map of part of the riverine tract of Burma	519
Diagrammatic section, showing variation in lithology in the Peguan, Central Burma	320
Sketch-map of the Irrawaddy River south of Thayetmyo	523
Sketch-map of the Myebye Chaung	525
Vertical section of the Upper Peguan, Migyaungye	526
Diagrammatic section to illustrate continental or oceanic sub-structures	532
Diagram showing in idealized form the cycles of earth-movements	538