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COMPUTER-BASED STORAGE AND RETRIEVAL
OF GEOSCIENCE INFORMATION:
BIBLIOGRAPHY 1970-72

C. F. BURK, Jr.



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**COMPUTER-BASED STORAGE AND RETRIEVAL
OF GEOSCIENCE INFORMATION: Bibliography 1970-72**

C.F. Burk, Jr.

Prepared for

International Union of Geological Sciences,

COGEO DATA, W.W. Hutchison, Chairman

**Committee on Geological Documentation, L. Delbos,
Chairman**

**DEPARTMENT OF ENERGY, MINES AND RESOURCES
CANADA**

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FOREWORD

The present bibliography is the third compilation prepared for COGEODATA, the I.U.G.S. Committee on Storage, Automatic Processing and Retrieval of Geological Data. Among the tasks of the Committee has been the dissemination of information on the application of computers to storage and retrieval of geoscience data, and Dr. Burk's present contribution to this aim is particularly welcome.

The first bibliography on the subject was compiled by Dr. J. Hruska on the occasion of the 23rd International Geological Congress. The second edition, prepared jointly by Drs. Hruska and Burk, and covering the years 1946-69, is an enlargement of the first. The present compilation further augments this second edition to cover the years 1970-72. It includes relevant papers presented at the 24th International Geological Congress, held in Montreal during August 1972.

For the field of computer-based data storage and retrieval in geology, the year 1946 may be considered as the Archaean. Interest in the technique has grown impressively since these early days, as illustrated by the continuing high rate of publication. In 1972, we may only have advanced to the Proterozoic, but the Cambrian is not far ahead, when the computer will be taken for granted, as is the polarizing microscope, and where a variety of computer-based data files will be used as an integral part of geological research and activity. The present bibliography will hasten the advent of this era, by providing workers with the comprehensive review they need.

Dr. Burk is to be congratulated for his excellent compilation and gratefulness is expressed to the Canadian Centre for Geoscience Data and to the Geological Survey of Canada for their kind offer to publish it.

A. Hubaux,
Chairman, COGEODATA.

Ispira, Italy
11 October 1972

CONTENTS

	Page
Foreword, by A. Hubaux	iii
<i>Introduction</i>	1
How to use the Bibliography	1
Acknowledgements	2
<i>Indexes to bibliography</i>	3
1. Geoscience discipline and/or topic	3
2. Information aspect	5
3. System name and acronym	7
4. Nation	10
5. Organization	12
6. Author	17
<i>Bibliography</i>	23

COMPUTER-BASED STORAGE AND RETRIEVAL OF GEOSCIENCE INFORMATION: BIBLIOGRAPHY 1970-72

INTRODUCTION

The publication of papers describing activity in computer-based storage and retrieval and geoscience information has continued at a vigorous pace since release of the last bibliography, which covered the period 1946-69 (63). A total of 211 references are identified, nearly all of which were published during the three-year period 1970-72 inclusive.

The objectives of the present compilation remain identical to those of the 1946-69 edition (63): Worldwide coverage; identification of papers describing the use of computers and/or computer-readable records for storage and retrieval of information in the solid-earth sciences; and identification of works of direct assistance to this activity. The field of "remote sensing", which has emerged as a major user of computer-based information systems during the past few years, has been largely excluded from this compilation, as have papers in the fields of hydrology and oceanography. A detailed list of those disciplines and topics included are shown in Index 1.

In order to publish the bibliography in an up-to-date form as quickly as possible, two changes in format have been introduced. The papers listed are those *known to the compiler* as of 30 November 1972, and do not purport to include all papers published to the end of 1972. Thus, the ideal of publishing a comprehensive bibliography for a specific interval of time is abandoned. Furthermore, the 211 references listed in the bibliography are not given in alphabetical order by author, as in the previous edition. Nevertheless, author names can be found easily in Index 6.

How to use the Bibliography — In order to identify papers of interest quickly, the user should examine one or more of the six indexes that precede the bibliography:

1. Geoscience discipline and/or topic
2. Information aspect
3. System name and acronym
4. Nation
5. Organization (origin of work)
6. Author

The reference numbers appearing in these indexes identify the papers listed, thus allowing for simple coordinate searches. For example one could identify those papers giving *codes* used in the field of *paleontology*, the development of *national systems* in *Czechoslovakia*, or use of the *GIPSY* system for building *mineral deposits* data files.

Acknowledgments — I am grateful for the continued encouragement and assistance from COGEODATA, particularly two of its members, Drs. A. Hubaux and J. Hruska, in publication of this bibliography. The interest and support of the I.U.G.S. Committee on Geological Documentation, under its Chairman Dr. L. Delbos, is also appreciated. Assistance in translation of titles was kindly provided by Dr. P. Laznicka, and Mrs. Louise Dubois-Rochon.

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INDEXES TO BIBLIOGRAPHY

1. Geoscience Discipline and/or Topic

<i>Discipline and/or topic</i>	<i>Reference Number</i>
Boreholes	50, 127, 184
Coal	36, 50, 207
Curating	146, 147, 198
Drift, glacial	127
Drill cores	7, 47
Environmental geology	53, 59, 185
Geochemistry	8, 16, 19, 32, 33, 34, 81, 90, 113, 121, 133, 136, 144, 145, 161, 173, 176, 183, 184, 186
Geography	206
Geological field mapping	1, 3, 16, 21, 85, 86, 113, 114, 125, 131, 132, 133, 135, 137, 142, 144, 149, 150, 162, 166, 167, 168, 173, 184, 188, 201
Geological maps	188, 191
Geophysics	5, 58, 133, 143, 151
Hydrogeology	19, 157, 210
Hydrology	38, 96, 123, 144, 157
Land use	155
Logs, geophysical	9, 16, 19, 103, 115, 138
Mineral and fuel deposits	14, 18, 39, 47, 54, 75, 83, 84, 100, 105, 106, 131, 132, 133, 152, 158, 163, 169, 170, 171, 173, 184, 186, 187, 195, 207, 208, 209, 211
Mineral claims	20
Mineralogy	17, 87, 190
Mining	36, 111, 139, 187
Oceanography	25, 112, 153
Oil and gas analyses	195
Paleontology	4, 24, 28, 48, 49, 57, 68, 72, 73, 76,

<i>Discipline and/or topic</i>	<i>Reference Number</i>
	78, 79, 80, 102, 104, 109, 122, 132, 141, 146, 164, 179, 186
Petroleum exploration	172, 175, 205
Petrology and lithology	3, 9, 17, 27, 34, 50, 66, 85, 87, 108, 126, 130, 137, 138, 176, 177, 182, 186
Radiometric dating	131, 132
Remote sensing	114, 151
Research	200
Sedimentology	1, 25, 124
Stratigraphy	9, 39, 70, 186, 207
Structural Geology	129
Wells, groundwater	210
Wells, petroleum and gas	9, 13, 19, 22, 43, 46, 69, 118, 130, 133, 138, 144, 148, 159, 195, 196

2. Information Aspect

<i>Information Aspect</i>	<i>Reference Number</i>
Bibliographical files	2, 10, 12, 15, 23, 37, 58, 59, 60, 74, 76, 77, 88, 89, 91, 92, 93, 107, 110, 133, 144, 145, 156, 165, 172, 174, 178, 179, 180, 189, 194, 195, 199, 203, 205
Bibliographies	62, 63, 154, 197
Cartography	6, 44, 197, 206
Codes and/or coding	1, 3, 7, 9, 16, 17, 24, 27, 34, 38, 40, 41, 48, 49, 50, 64, 73, 82, 84, 85, 87, 89, 96, 105, 108, 109, 118, 125, 126, 127, 129, 133, 136, 137, 141, 149, 150, 153, 167, 177, 184, 190, 206, 208, 210, 211
Computer systems	4, 9, 15, 16, 18, 19, 30, 31, 38, 44, 50, 57, 61, 69, 77, 85, 91, 96, 101, 107, 111, 114, 116, 117, 118, 120, 122, 127, 130, 133, 138, 143, 148, 149, 150, 151, 152, 153, 155, 156, 162, 167, 168, 173, 178, 181, 182, 183, 187, 191, 195, 196, 206, 207, 209
Curating	4, 28, 30, 31, 45, 72, 104, 141, 146, 147, 198
Data display	1, 4, 5, 6, 7, 16, 20, 24, 25, 33, 35, 36, 38, 44, 50, 53, 57, 69, 85, 87, 94, 96, 102, 103, 106, 108, 109, 112, 113, 114, 117, 119, 121, 124, 126, 127, 137, 149, 150, 153, 155, 159, 167, 168, 170, 171, 183, 188, 195, 196, 197, 206, 208, 211
Data files	1, 3, 7, 8, 9, 13, 14, 16, 18, 19, 20, 21, 24, 25, 27, 32, 33, 34, 36, 38, 39, 43, 46, 47, 48, 49, 50, 53, 54, 57, 59, 60, 61, 76, 78, 79, 81, 83, 84, 85, 86, 87, 90, 94, 96, 102, 104, 105, 106, 109, 112, 113, 116, 117, 118, 120, 121, 122, 123, 126, 127, 130, 131, 133, 136, 138, 141, 142, 149, 150, 152, 153, 155, 159,

*Information Aspect**Reference Number*

	161, 162, 163, 164, 166, 167, 168, 170, 171, 173, 176, 183, 184, 195, 198, 199, 202, 204, 206, 207, 208, 209, 210, 211
Data recording	1, 3, 7, 20, 21, 24, 27, 30, 33, 34, 38, 39, 45, 48, 49, 50, 51, 52, 53, 69, 77, 78, 81, 83, 85, 91, 96, 102, 105, 112, 114, 116, 117, 125, 127, 133, 136, 137, 141, 146, 149, 150, 151, 153, 155, 156, 167, 168, 184, 188, 195, 198, 206, 207, 210
Digitizing	6, 44, 103, 115, 124, 155, 188, 206,
Indexes and/or indexing	10, 12, 15, 19, 58, 60, 77, 89, 91, 97, 100, 101, 110, 128, 129, 133, 139, 142, 156, 160, 172, 173, 191, 199, 200
Information centres	2, 9, 19, 57, 59, 60, 112, 139, 140, 142, 161, 173
Land use	206
National and/or international systems	15, 26, 37, 56, 59, 65, 78, 79, 107, 131, 132, 133, 142, 185, 189, 199, 200, 201, 204
Selective dissemination of information	165, 172, 203, 205
Standards for data	66, 67, 70, 75, 90, 135, 186, 189, 201
Surveys and/or questionnaires	78, 186
Theoretical and/or philosophical	9, 10, 12, 13, 16, 19, 22, 26, 30, 35, 40, 41, 46, 55, 56, 58, 61, 64, 65, 66, 67, 68, 71, 78, 79, 80, 82, 84, 94, 95, 102, 104, 106, 111, 130, 131, 133, 145, 146, 147, 148, 152, 161, 176, 184, 192, 193, 202
Thesauri	11, 12, 59, 60, 74, 88, 98, 99, 100, 101, 110, 139, 156, 157, 175, 178, 180, 186, 189

3. System Name and Acronym

<i>System Name and Acronym</i>	<i>Reference Number</i>
ASCOP (A Statistical Computing Procedure)	122
ASI (Automatizovaný System Informaci)	60
ASTI-SAAB	181
ASTI (Automatizovaný System Trideni Informaci)	60, 61
Bibliographie des Sciences de la Terre	2, 37, 174, 180
CAN/SDI (Canada/Selective Dissemination of Information)	165, 172
Canadian Index to Geoscience Data	15, 19, 97, 98, 99, 100, 101, 142, 172
CANSTRAT (CANadian STRATigraphic)	19, 133, 138
COSMIC	61
CRIB (Computerized Resource Information Bank)	106, 195
ENDO	61
FEDS (Frontier Exploration Data System)	148
FRIS (spatial information system, a pilot study)	116, 117
GEMS (Generalized Edit and Maintenance System)	148
GEO-ARCHIVE	88, 89, 172
GEODAT (GEOlogical DATa)	19, 34, 161, 173
GEODATABASE (GEOgraphical DATA BASE)	143
GEO-INDEX	59, 60
GEOLOG	7

<i>System Name and Acronym</i>	<i>Reference Number</i>
GEOMAP (GEOlogical MAPping)	149, 150
GEO.REF (GEOlogical REFerence)	23, 26, 92, 93, 165, 172, 179, 189, 194
GPSY (Generalized Information Processing System)	60, 61, 105, 106, 107, 164, 195
GIRLS (Generalized Information Retrieval and Listing System)	148
GOWN (Groundwater Observation Well Network)	19, 210
Grenville Project	85, 86, 133, 167, 168
HYDRODAT	19
INTEREST (INTEgrated RETrieval and STATistics)	150
IRMS (Information Retrieval and Management System)	178
ISU (areal information system)	59
KAROSS (Lower Karroo stratigraphic palynology)	57
KPCRP	78
KWIC (Key Work In Context)	59
MAI/MSC (Machine-Aided Indexing Manned-Spacecraft Center)	160
MARK IV	148, 156
NAQUADAT (NAtional water QUALity DATa bank)	38
NIPS (National military command center Information Processing System)	106
OCEANS IV	153
Ontario Well Data	69, 118
PETRODATA (PETROleum DATA)	19, 133, 138
PIRS (Petroleum Information Retrieval System)	196
RAID (Reference AID)	99
RASS (Rock Analysis Storage)	

<i>System Name and Acronym</i>	<i>Reference Number</i>
System)	8, 161
RECONOFAX	151
Rock Information System	177, 182
SAFRAS (Self-Adaptive Flexible Retrieval And Storage)	14, 18, 19, 39, 59, 60, 61, 76, 120, 133, 142, 152, 162, 163, 173, 207
SELGEM (SELf-GENerating Master)	28
SIGMI (Système d'Information Géologique et Minière)	54, 61, 77, 84, 91
SIS (Streamed Information System)	15, 19, 97, 101, 156
SONIGRAM	19
TELLUS	13
VISTA 3	138
Well History Control	46

4. Nation

<i>Nation</i>	<i>Reference Number</i>
Australia	21
Canada	5, 7, 13, 14, 15, 16, 17, 18, 19 20, 22, 27, 34, 35, 38, 39, 47 53, 58, 63, 69, 75, 85, 86, 97, 98, 99, 100, 101, 103, 111, 113, 115, 118, 120, 130, 131, 132, 133, 135, 137, 138, 139, 142, 143, 145, 148, 152, 153, 156, 162, 163, 165, 166, 167, 168, 170, 171, 172, 173, 188, 201, 207, 210, 211
Czechoslovakia	59, 60, 61, 62, 63, 181
Federal Republic of Germany (F.R.G.)	178
France	2, 24, 37, 40, 41, 51, 52, 54, 77, 81, 82, 83, 84, 91, 121, 174, 175, 180, 183, 184, 190, 191, 192, 193, 202
Hungary	42
Italy	32, 33, 126
Libya	27
Netherlands	48, 49
New Zealand	141
South Africa	36
Sweden	3, 116, 117, 149, 150
United Kingdom	1, 6, 29, 30, 31, 40, 41, 44, 45, 50, 68, 87, 88, 89, 94, 95, 119, 122, 124, 125, 127, 161, 204
United States of America (U.S.A.)	4, 8, 9, 10, 11, 12, 23, 25, 26, 27, 28, 43, 46, 55, 56, 57, 70, 72, 73, 74, 76, 78, 79, 80, 92, 93, 96, 102, 104, 105, 106, 107, 108, 109, 112, 114, 115, 123, 128, 129, 138, 140, 144, 146, 147, 151, 154, 157, 159, 160, 164, 176, 177, 179, 182, 185, 187, 189, 194, 195, 196, 198, 199,

Nation

Reference Number

	200, 203, 205, 208, 209
Union of Soviet Socialist Republics (U.S.S.R.)	110, 158, 169
International Organizations	64, 65, 66, 67, 71, 90, 134, 136 155, 186, 197, 206

5. Organization

<i>Organization (Origin of Work)</i>	<i>Reference Number</i>
Abacus Geographics Ltd.	20
All-Union Geological Research Institute	110
Allison-Marshall Development Co. Ltd.	103
American Geological Institute	23, 26, 55, 56, 92, 93, 194
American Museum of Natural History	179
Atlas Computer Laboratory	50, 122
Bataafse Internationale Petroleum Maatschappij N.V.	48
Bedford Institute	58, 143
Boliden Company	3, 149
Bureau de Recherches Géologiques et Minières	2, 37, 180
Canadian Centre for Geoscience Data	14, 15, 16, 17, 18, 63, 97, 98, 99, 100, 101, 172, 173
Canadian Stratigraphic Service Ltd.	138
Carnegie Institution of Washington	176, 177, 182
CDP Computer Data Processors Ltd.	22
Central Board for Real Estate Data	116, 117
Centre de Recherches de Pau	81
Centre de Recherches Pétrographiques et Géochimiques	52
Centre National Recherche Scientifique	174
Chamber of Mines of South Africa	36
Chambre Syndicale de la Recherche et de la Production du Pétrole et du Gaz Naturel	175
Chapman, Wood and Griswold, Ltd.	7
Colorado School of Mines	76
Comitato Nazionale Energia Nucleare	32, 33

<i>Organization (Origin of Work)</i>	<i>Reference Number</i>
Ecole Nationale Supérieure des Mines de Paris	40, 41, 54, 77, 82, 83, 84, 91, 190, 191, 192
Environmental Systems Research Institute	114
Experimental Cartography Unit	6, 44, 119
Geofond Praha	59, 60, 61, 62, 63
Geological Society of London	204
Geological Survey of Canada	5, 19, 34, 131, 132, 133, 135, 137, 170, 171, 201
Geological Survey of Kansas	96, 108
Geological Survey of Nordrhein- Westfalen	178
Geological Survey of Sweden	3, 149
Geological Survey of Tasmania	21
Geosystems	88, 89
H.E.B. — Singer, Inc.	151
Hungarian Geological Institute	42
IBM Corporation	187
Imperial College of Science and Technology	40, 41
Imperial Oil Limited	148, 156
Imperial War Museum	30
Inland Waters Branch	38, 210
Institute Français du Pétrole	121, 183
Institute of Engineering Geology	181
Institute of Geological Sciences	50, 87, 94, 95, 122
International Geographical Union	155, 197, 206
International Petrodata Inc.	138
International Union of Geological Sciences	51, 65, 66, 67, 71, 134, 136, 186
Library of Congress	199
Louisiana State University	57
Lyon, la Faculté des Sciences de	24
MacQuarie University	21
Marathon Oil Company	205
Marine Sciences Branch	153
McGill University	53
McLean Paleontological	

<i>Organization (Origin of Work)</i>	<i>Reference Number</i>
Laboratory	102
Michigan State University	109
Mines Branch	139
Mobil Oil Corp.	159
NASA Manned Spacecraft Center	160
National Advisory Committee on Research in the Geological Sciences	75, 142
National Federation of Science Abstracting and Indexing Services	74, 189
National Oceanographic Data Center	112, 140
National Research Council of Canada	188
National Science Library	165
New Zealand Geological Survey	141
Oasis Oil Co. of Libya, Inc.	27
Ontario Dept. of Energy and Resources Management	69
Ontario Dept. of Mines and Northern Affairs	19, 118
Pan American Petroleum Corp. Petroleum Information Corporation	70 46, 196
Quebec Dept. of Natural Resources	85, 86, 166, 167, 168
Queen's University	85, 86, 111, 113, 166, 167, 168
Rand Mines, Ltd.	36
Rijksmuseum van Geologie en Mineralogie	49
Rutgers University	179
Saskatchewan Dept. of Mineral Resources	13
Scientific Software Corp.	138
Scott Polar Research Institute	1
Sheffield City Museums	30
Smithsonian Institution	28, 146, 147, 198
Smithsonian Science Information Exchange, Inc.	128, 129, 200
SOQUEM (Quebec Mining	

<i>Organization (Origin of Work)</i>	<i>Reference Number</i>
Exploration Co.)	47
Stanford University	209
Stokes Exploration Management Co. Ltd.	20
Systematics Association	29
Technology Application Center, Univ. of New Mexico	154
UNESCO	155
Union Oil Co. of Canada	130
United Nations	90
United States Bureau of Mines	144
United States Geological Survey	8, 96, 104, 106, 107, 108, 123, 144, 185, 195
United States National Museum	109
United States Office of Oil and Gas	105
United States Office of Water Resources Research	157
Università di Milano	126
Université Nancy	184, 193, 202
University of Alaska	208
University of Alberta	35, 39, 162, 163, 207
University of Arizona	73, 78, 79, 80
University of British Columbia	7, 211
University of California, Berkeley	4
University of California, Riverside	114
University of Cambridge	1, 2, 9, 30, 31, 45, 68, 124, 125
University of Edinburgh	127
University of Georgia	203
University of Massachusetts	25
University of Michigan	9, 10, 11, 12
University of New South Wales	21
University of Oklahoma	164
University of Sheffield	161
University of Toronto	145
University of Uppsala	3, 149, 150
University of Western Ontario	120, 152
University of Witwatersrand	36
West Virginia Geological and Economic Survey	43
Western Illinois University	72

Unknown

158, 169

6. Author

<i>Author</i>	<i>Reference Number</i>
Agterberg, F.P.	170, 171
Alexander-Marrack, P.D.	1
Askevold, G.	209
Avis, G.B.	151
Beaumont, C.	2
Berner, H.	3, 149, 150
Berry, W.B.N.	4
Bhattacharyya, B.K.	5
Bickmore, D.P.	6
Blanchet, P.H.	7
Botbol, J.M.	8
Boyle, S.O.	205
Briggs, D.Z.	9, 10, 11, 12
Briggs, L.I.	9, 10, 11, 12
Buller, J.V.	13
Burk, C.F., Jr.	14, 15, 16, 17, 18, 19, 63, 101, 172, 173
Burns, J.S.	20
Burns, K.L.	21
Capitant, B.	83
Carroll, K.D.	23
Chayes, F.	176, 177
Chevalier, C.	24
Chung, C.F.	170
Clarence, A.	205
Colin, H.J.	178
Colonell, J.	25
Conley, C.D.	27
Cousminer, H.L.	179
Creighton, R.A.	28, 198
Crockett, J.J.	28
Cutbill, J.L.	29, 30, 31, 45, 125
Dall'Aglio, M.	32, 33
Dangerfield, J.	87
Dangermond, J.P.	114
David, L.	24
Dawson, K.R.	34
Deecker, G.F.P.	35
Deist, F.H.	36
Delbos, L.	37, 180
Demayo, A.	38

<i>Author</i>	<i>Reference Number</i>
Dickie, G.J.	39, 163, 207
Dixon, C.J.	40, 41
Dudick, E.	42
Dumort, J.C.	37
Eddy, G.E.	43
Ekstrom, T.	3, 149, 150
Evans, I.S.	44
Fabbri, A.G.	170
Fendrych, M.	181
Fessenden, D.H.	160
Fiehler, J.	57
Finger, L.W.	182
Fogl, J.	181
Forbes, C.L.	45
Forgotson, J.M., Jr.	46
Franconi, A.	85, 86, 167, 168
Friend, P.F.	1
Gaffney, I.	165
Gagnon, D.C.	47
Gaucher, E.	47
Gee, R.D.	21
Germeraad, J.H.	48, 49
Gigli, C.	33
Godwin, C.I.	7
Golden, J.	179
Goldsmith, V.	25
Goubin, N.	183
Gover, T.N.	50
Grandclaude, P.	51, 52, 136, 184, 202
Grice, R.H.	53
Grove, G.	210
Gupta, M.S.	12
Hahn, F.	54
Hallan, A.J.	30
Hambleton, W.W.	55, 56
Hamel, P.B.	109
Hanshaw, B.B.	185
Harland, W.B.	45, 125
Harrison, R.K.	87
Hart, G.F.	57
Hasenmuller, U.	178
Hawkes, J.R.	87
Hawkins, D.F.	36
Haworth, R.T.	58

<i>Author</i>	<i>Reference Number</i>
Hea, J.P.	27
Heffler, D.E.	143
Heiner, L.E.	208
Herr, R.L.	210
Hiss, W.L.	123
Holroyd, M.T.	5
Hruska, J.	59, 60, 61, 62, 63
Hubaux, A.	64, 65, 66, 67, 186
Hughes, N.F.	68
Hutchison, W.W.	137
Hutt, R.B.	69
Iglehart, C.F.	70
Jasko, T.	42
Jekhowsky, B. de	121, 183
Junemann, P.M.	187
Juskevics, J.A.	72
Kasvand, T.	188
Kawasaki, T.	73
Kays, O.	107, 195
Keenan, S.	74, 189
Kehlenbeck, M.M.	167, 168
Kelk, B.	6
Kelly, A.M.	75, 170, 171
Kent, H.C.	76
Knight, J.L.	204
Kock, J.S., Jr.	77, 190, 191
Kremp, G.O.W.	73, 78, 79, 80
Kristal'niy, B.V.	169
Kulbicki, G.	81
Laffitte, P.	82, 83, 84, 192
Laurin, A.F.	85, 86, 167, 168
Lawson, R.I.	87
Lea, G.	88, 89
Lenci, M.	83
Lepeltier, C.	90
Lesage, M.T.	91, 191
Lewis, G.D.	30
Leymarie, P.	193
Lilljequest, R. J.	3, 149
Lloyd, J.J.	92, 93, 194
Loudon, T.V.	94, 95
Lowell, B.H.	96
MacGillivray, R.B.	36
Marchal, M.	136

<i>Author</i>	<i>Reference Number</i>
Marelle, A.	84
Marshall, B.	21
Mauerhoff, G.	165
McGee, B.A.	97, 98, 99, 100, 101
McLean, J.D.	102
McNellis, J.M.	96, 108
McVicar, B.M.	103
Mello, J.F.	104
Methvin, J.G.	80
Meyers, R.F.	105
Miyahara, B.J.	205
Moody, D.W.	106, 107, 195
Morgan, C.O.	96, 108
Morrison, J.L.	164
Morse, L.E.	109
Moshkin, V.N.	110
Mular, A.L.	111
Muller, J.	48, 49
Nandi, A.	86, 167, 168
Nichol, I.	113
Nichols, D.A.	114
Olsson, A.	116, 117
Orr, J.F.W.	211
Pallister, J.W.	119
Pamenter, C.B.	120
Pelet, R.	121
Penn, I.E.	122
Penny, J.P.	35
Peters, J.A.	109
Peterson, J.B.	123
Peucker, T.K.	197
Piacesi, D., Jr.	198
Piper, D.J.W.	124, 125
Pirow, P.C.	36
Postma, R.	114
Potenza, R.	126
Price, J.F.	199
Read, W.A.	50
Reid, W.E.	164
Rhind, D.W.	127
Riva, J.P., Jr.	128, 129, 200
Robinson, J.E.	130
Robinson, S.C.	131, 132, 133, 134, 135, 201
Roche, H. de la	136, 202

<i>Author</i>	<i>Reference Number</i>
Roddick, J.A.	137
Roessingh, H.	138
Romaniuk, A.S.	139
Rowson, A.G.	50
Salamon, M.D.G.	36
Schuenemeyer, J.H.	203
Scott, G.H.	141
Selander, K.	117
Sharma, K.N.M.	85, 86, 167, 168
Sharp, D.A.	19, 142
Shaw, S.H.	204
Shih, K.G.	143
Shuman, J.	144
Sinclair, A.J.	211
Sissons, J.B.	127
Smirnova, A.S.	169
Smith, F.G.	145
Sourisse, C.	81
Sparkes, R.	58
Springer, J.S.	170
Squires, D.F.	146, 147
Stark, P.H.	46
Stauff, D.L.	148
Steiner, J.	162, 207
Stephanson, O.	3, 149, 150
Stingellin, R.W.	151
Stokes, R.B.	20
Sturdivant, C.A.	205
Sutterlin, P.G.	152
Sweers, H.E.	163
Teil, H.	83
Tomlinson, R.F.	155, 206
Truswell, J.S.	156
Turbide, P.	25
Vallée, J.F.	209
Vannier, M.	83
Vasil'ev, P.A.	158
Walker, R.D.	159
Warner, J.L.	160
Wikstrom, A.	3, 149
Wilkinson, P.	161
Williams, D.B.	31
Williams G.D.	39, 162, 163, 207
Wilson, L.R.	164

<i>Author</i>	<i>Reference Number</i>
Wolters, P.H.	165
Wolff, E.N.	208
Wynne-Edwards, H.R.	85, 86, 166, 167, 168
Yeates, A.K.	1

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