

January 1981

**Proceedings of the Eighth International Congress of Speleology: a  
meeting of the International Union of Speleology [1981]  
International Congress of Speleology**

International Congress of Speleology

Follow this and additional works at: [https://digitalcommons.usf.edu/kip\\_talks](https://digitalcommons.usf.edu/kip_talks)

---

**Recommended Citation**

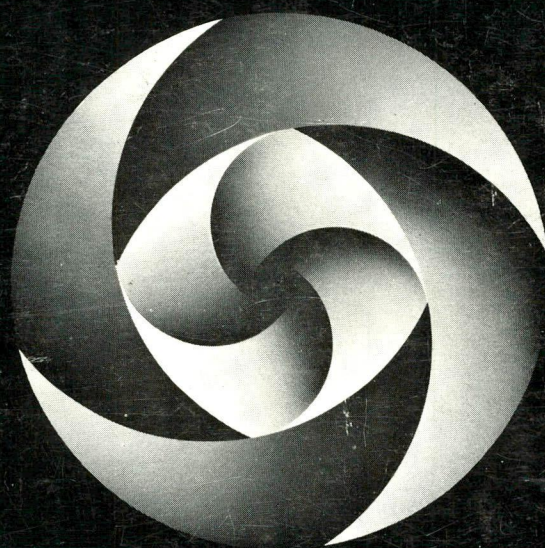
International Congress of Speleology, "Proceedings of the Eighth International Congress of Speleology: a meeting of the International Union of Speleology [1981] International Congress of Speleology" (1981). *KIP Talks and Conferences*. 113.  
[https://digitalcommons.usf.edu/kip\\_talks/113](https://digitalcommons.usf.edu/kip_talks/113)

This Conference Proceeding is brought to you for free and open access by the Karst Information Portal at Digital Commons @ University of South Florida. It has been accepted for inclusion in KIP Talks and Conferences by an authorized administrator of Digital Commons @ University of South Florida. For more information, please contact [digitalcommons@usf.edu](mailto:digitalcommons@usf.edu).



eighth  
international  
congress of  
speleology

proceedings  
volume 1



edited by  
Barry F. Beck  
Georgia Southwestern College  
Americus, Georgia 31709  
U.S.A.



# **PROCEEDINGS OF THE EIGHTH INTERNATIONAL CONGRESS OF SPELEOLOGY**

## **VOLUMES I & II**

A Meeting of the International Union of Speleology

Sponsored by  
The National Speleological Society

Hosted by  
The Department of Geography and Geology  
Western Kentucky University  
Bowling Green, Kentucky, U.S.A.  
July 18 to 24, 1981

Edited by  
Barry F. Beck  
Department of Geology  
Georgia Southwestern College  
Americus, Georgia, 31709, U.S.A.



#### EDITOR'S REMARKS

At the onset of this task of editing the Proceedings of the Eighth International Congress of Speleology, it was necessary to establish some priorities. The organizing committee generally agreed that a pre-published volume was much more useful than a more detailed account of the Congress which might be delayed three or four years waiting for all the contributors to respond. Further, it was agreed that cost was to be kept to a minimum while meeting our pre-publication deadline. The editor felt that languages other than English ought to be represented where possible to make the new scientific advances herein available to the largest audience possible. Finally, I found that the resources were not available to rewrite or redraft any contributions.

The preparation of the manuscript for photoreduction required retyping all papers to a common format on oversized paper. The typing was done by Terry Looney, Pat Morgan, Mattie Walton, Liz Smith, and Sally Shell. A special thanks goes to Peggy Palmer who typed a number of manuscripts in French, which none of the other typists were familiar with, and who volunteered her valuable services to the Congress gratis.

The layout of the illustrations was the work of Camille DeShazo, Lola Carlisle, and Erik Beck. Printing was done by Gammage Print Shop, Americus, Georgia.

The preparation of the final version was done as carefully as possible within the constraints of time and budget. I realize that numerous typographical errors occur in this volume. When you realize that each reduced page herein represents seven to eight original manuscript pages, the number of typing errors is more acceptable. Of course, final responsibility for all errors rests with the editor.

I would like to thank all the people who worked on these volumes for their dedicated and conscientious efforts. Special recognition must go to Terry Looney, Pat Morgan, and Camille DeShazo who accepted their jobs not as part-time work, but as professional responsibilities and who worked accordingly.

For scientific knowledge to be acceptable it must be both timely and widely accessible. By prepublishing these volumes in multiple languages I hope my staff and I have met both these criteria.

Barry F. Beck, Editor  
Geology Department  
Georgia Southwestern College  
Americus, Georgia, 31709, U.S.A.

#### ORDERING INFORMATION

Additional copies of this two volume set will be available from the N.S.S., Cave Avenue, Huntsville, Alabama, 35810, U.S.A., at a cost of \$48.00 per set, postpaid (surface mail). We would appreciate it if all participants would bring this to the attention of their University or Geological Survey library.



Table of Contents: by sessions, in chronological order  
(A table of contents arranged by the authors' last name begins on page xvi.)

	<u>Pages</u>
<u>Cave Management Symposium</u>	
"The resource potential of transvaal caves", Frances Gamble.....	466-468
"Problems of management of transvaal caves", Frances Gamble.....	469-472
"Karst cave management modelling in the transvaal", Frances Gamble.....	473-475
"Underground wilderness: A conservation principal and a management tool", Robert Stitt.....	185-186
"Interpretation as a primary tool in cave conservation management", Edward E. Wood, Jr.....	582-584
"Protection of ice caves", Friedrich Oedl.....	640-641
 <u>Hydrology I</u>	
"Percolation Waters in Karstic Aquifers", Michel Bakalowicz.....	710-713
"Scallops", Alfred Bögli.....	82- 83
"Hydrology and Water Chemistry of Upper Sinking Cove, Franklin County, Tennessee", Jerry D. Davis and George A. Brook.....	38- 41
"A Compound Karstic System: The Sakal Tutan - Değirmenlik - Karapinar System (Western Taurus, Turkey)", Claude Chabert.....	699-700
"An Underground Thermal Stream Discovered for the First Time in Kweichow Province, China", Mao Chian-chun.....	323
"Hydrology of the Rio Camuy Caves System, Puerto Rico", Arturo Torres-González.....	475
"Recent Flood Pulse and Hydrological Studies on the Russett Well/Peak Cavern System, Castleton, Derbyshire, England", N.S.J. Christopher.....	522-525
"Hydrogeology of the Corchia Marbles (Apuane Alps-Italy): New Data from Water Tracing Experiments", Andrea Caneda, Paolo Forti and Stefano Querze.....	743-746
"Dye Trace Studies of the Unsaturated-Zone Recharge of the Carboniferous Limestone Aquifer of the Mendip Hills, England", H. Friederich and P.L. Smart.....	283-286
"The Geohydrology of the Ingleborough Area, England", R.A. Halliwell.....	126-128
"Some Characteristics of Karst Hydrology in Guizhou Plateau, China", Song Lin Hua.....	139-142
"Hydrochemical Facies--A Method to Delineate the Hydrology of Inaccessible Features of Karst Plumbing Systems", Michael L. Johnson.....	627-629
 <u>Symposium: Evolution and Zoogeography of North American Terrestrial</u>	
<u>Session I</u>	
"Review and Synthesis of the Evolution and Zoogeography of North American Terrestrial Cave Faunas", S. Peck.....	506-507
"The Geological, Geographical and Environmental Setting of Cave Faunal Evolution", S. Peck.....	501-502
"Isopods (Oniscoidea) from Caves in North America and Northern South America", George A. Schultz.....	551-552
"Cavernicolous Acari of North America", W. Calvin Welbourn.....	528
"Evolution of Hypogean Species of Opilionids of North and Middle America", Clarence Goodnight and Maria L. Goodnight.....	9- 10
"Cavernicolous Pseudoscorpions of North and Middle America", W.B. Muchmore.....	381-384
 <u>Session II</u>	
"The Zoogeography of Eastern U.S. Cave Collembola", Kenneth Christiansen.....	618-622
"Cave Diplura of the United States", Lynn M. Ferguson.....	11- 12
"The Carabidae (Coleoptera) in North American Caves", Thomas C. Barr, Jr.....	343-344
"Evolution of Cave Cholevinae in North America (Coleoptera: beiodidae)", Stewart Peck.....	503-505



Denudation

"Contemporary Limestone Erosion Rates in the Gunong Mulu National Park, Sarawak, East Malaysia", Michael J. Day.....	329
"A General Model of Karst Specific Erosion Rates", John Drake.....	158
"On Karst Denudation Research Problematic", Anton Droppa.....	355
"Specific Dissolution in the Mediterranean Karstic Areas of France", Guilhem Fabre.....	192-195
"Rates of Cave Passage Entrenchment and Valley Lowering Determined from Speleothem Age Measurements", M. Gascoyne.....	99-100

Geomorphology I

"The Investigation of Old Karst Phenomena of the Bohemian Massif in Czechoslovakia: A Preliminary Regional Evaluation", Pavel Bosak and Ivan Horacek.....	167-169
"Phases of Karstification in the Paleogeographic Development of Poland's Territory", Jerzy Glazek.....	25
"Glacial Controls of Speleogenesis", John E. Mylroie.....	689-691
"Subarctic Karst Geomorphology and the Development of Organo-Karst Landforms in the Hudson Bay Lowland, Ontario", Daryl W. Cowell.....	13- 15
"Karst, Covered Karst and Interstratal Karst in Glaciated Lowland Terrains of Canada", Derek Ford.....	20
"The Pre-Quaternary Palaeokarst of the Morecambe Bay Area, Northwest England", Stephen J. Gale.....	210-212

Conservation/Management

"Studies of the Climatic Conditions for the Conservation of Decorated Prehistoric Caves; Two Operations: Lascaux and Font-de-Gaume", J. Brunet and P. Vidal.....	659-662
"Interfering in the Postojna Cave as Far as Protection of the Cave is Concerned", France Habe.....	437-441
"Visitors and Climatic Regime of Caves", Irene Halbichová and Antonín Jančařík.....	125
"The Guacharo Cave", Eugenio de Bellard Pietre.....	217-218
"Management of a Biological Resource - Waitomo Glowworm Cave, New Zealand", Chris Pugsley.....	489-492
"Cave Conservation in the United States of America: An Overview in 1981", Robert Stitt.....	187-189
"Photomonitoring as a Management Tool", Peter J. Uhl.....	476-479
"The Evolution of the Virginia Cave Commission", John M. Wilson, Robert W. Custard, Evelyn W. Bradshaw and Philip C. Lucas.....	585-587
"Multidisciplinary Research for Cave Management: The Waitomo Caves Research Program, New Zealand", P. Williams.....	150
"Cave Closing as a Conservation Method", Gyula Hegedus.....	401-402

Volcanospeleology/Pseudokarst

"Pseudokarst on Mars", Victor R. Baker.....	63- 65
"On Some Underground Forms, Pseudokarstic, in France", Yann Callot.....	682-685
"Impact of 1980 Eruptions on the Mount St. Helens Caves", William R. Halliday.....	174-176
"North Carolina's Bat Caves: A Significant Region of Tectonokarst", Cato O. Holler, Jr.....	190-191
"The Genetic Relationship Between Breccia Pipes and Caves in Non-Karstic Terranes in Northern Arizona", Louise D. Hose and Thomas R. Strong.....	136-138
"The Control of Karst Development with Reference to the Formation of Caves in Poorly Soluble Rocks in the Eastern Transvaal, South Africa", J. Martini.....	4- 5
"Pseudo-karst Caves of Arkansas", Albert E. Ogden.....	766-768
"Soil Pipe Caves in the Death Valley Region, California", Bruce W. Rogers.....	547-548
"Tunnelcaves in Swedish Noncalcareous Rocks", Rabbe Sjöberg.....	652-656
"Entwicklung und Typologie von Pseudokarst - Untergrundformen der aussenflyschkreise in den west karpaten", Josef Wagner.....	636-637



	<u>Pages</u>
<u>Geomorphology II</u>	
"Palaeokarst as a Key to Paleogeography, Poland's Territory as an Example", Jerzy Glazek.....	27
"Geomorphology and Hydrology of the Carlsbad Gypsum Plain, Eddy County, New Mexico", Alberto A. Gutierrez.....	45- 47
"Equilibrium versus events in Blind Valley Enlargement", J.N. Jennings, Bao Haosheng and A.P. Spate.....	1- 3
"Glaciated Karst in Norway", Stein-Erik Lauritzen.....	410-411
"The High Perimediteranean Karsts", Richard Maire.....	788-792
"Karst Drainage Patterns in the Quatsino Limestone, Northern Vancouver Island, Canada", Paul Mills.....	117-119
"Geomorphologic Evolution of a Karst Area Subject to Neotectonic Movements in the Umbria Marche Apennines (Central Italy)", Mauro Coltorti.....	84- 88
"The Development of the Lower Cretaceous Karst: A Comparison with the Plate Tectonics", Pavel Bosak.....	170-173
"Karstic Poljes Borders", J. Nicod.....	739-742
"Geomorphic Adjustments of Fluvial Systems to Groundwater Hydrology in Semiarid and Humid Karst", Steve G. Wells and Alberto A. Gutierrez.....	216
<u>Applied Hydrology</u>	
"Policy for Karst Protection in France", Gerard Aime.....	580-581
"Applications of Speleology in Civil Engineering Works in Turkey", Temucin Aygen.....	498
"Subsidence Susceptibility Models for Dougherty County, Georgia, from Sinkhole and Fracture Distribution Data", George A. Brook and Terry L. Allison.....	50- 52
"Karst Flooding in Urban Areas: Bowling Green, Kentucky", Nicholas C. Crawford.....	763-765
"On the Hydrogeological Characteristics of Karst Water in China and its Exploitation", Yuan Daoxian.....	316
"The Impact of the Agricultural Land-use Cycle on Flood Surges and Runoff in a Kentucky Karst Region", Percy H. Dougherty.....	267-269
"The Inner Bluegrass Karst Regions, Kentucky: An Overview", John Thrailkill, Phillip E. Byrd, William H. Hopper, Michael R. McCann, Lawrence E. Spangler, Joseph W. Troester, Douglas R. Gonzie and Kevin R. Pogue.....	336-338
"New Contributions to the Problem of Dam Building in Karstic Regions", Adolfo Eraso.....	348-350
"Affectations of the Cyclones in the Karst", Angel Graña González.....	542-543
"The Deep Karsts in Wujiang Valley at Wugiangdu Dam Site", Li Maoqiu.....	732-734
<u>Karst and Caves of Castleguard Mountain, Rocky Mountains of Canada: A Symposium</u>	
<u>Session II: Origin and Development of the Cave and Karst</u>	
"Geology, Geomorphology, and Glaciology of the Castleguard-Columbia Icefield Area", D.C. Ford.....	37
"Speleogenesis of the Castleguard Cave System", D.C. Ford.....	281
"Clastic Sediments in the Castleguard Cave", J. Schroeder.....	496-498
"The Antiquity of the Cave as Established by U-Series Dating of Speleothems", M. Gascoyne and A.G. Latham.....	101-103
"Glacier-ground Water Interactions and Quantitative Groundwater Tracing in the Vicinity of Mount Castleguard, Banff National Park, Canada", C.C. Smart.....	720-723
<u>Session III: Modern Physical Processes in the Cave</u>	
"The Climate of Castleguard Cave, Canada", T.C. Atkinson.....	322
"Radon Sources and Distribution in Castleguard Cave", P.L. Smart.....	212
"The Mineralogy of Castleguard Cave", R.S. Harmon and T.C. Atkinson.....	428-432
"Mechanisms of Calcite Speleothem Deposition in Castleguard Cave, Canada", T.C. Atkinson.....	322
<u>Session IV: Cave Biology</u>	
"The Fauna of Castleguard Cave", J.S. Mort and A. Recklies.....	630



Session IV: Cave Biology (continued)

"Stygobromus Canadensis, A Troglobitic Amphipod Crustacean from Castleguard Cave, with Remarks on the Concept of Cave Glacial Refugia", J.R. Holsinger.....	93- 95
---	--------

Speleogenesis I

"Tunnel-caves and Natural Bridges of Northern Mediterranean Area", Jacques Choppy.....	707-709
"Speleogenesis Models for the Mammoth Cave Region, and Their Use as Predictive Tools for Southern Toohey Ridge, Hart and Barren Counties, Kentucky", James Currens.....	75- 78
"On the Underground Stream and Cave Systems of Soliao Karst Area, Bama County, Guangxi, China", Yuan Daoxian.....	317-318
"Dissolution Experiments with Facets", Stephen Kempe.....	647
"Some Results and Limitations in the Application of Hydraulic Geometry to Vadose Stream Passages", Christopher Smart.....	724-726
"Subterranean Stream Piracy in the Garrison Chapel Karst Valley, Indiana, U.S.A.", David Des Marais.....	196-199
"Complex Groundwater Basin Migrations in Roppel Cave, Kentucky", Miles E. Drake and James D. Borden.....	28- 30
"Cavern Porosity Development in Limestone: A Low Dip Model from Mammoth Cave, Kentucky", Ralph O. Ewers and James F. Quinlan.....	727-731
"Genetical Observations on Some Natural Cavities of the Masua Mine (SW Sardinia)", Paolo Forti, Giuliano Perna and Bruno Turi.....	779-781
"Speleogenesis of Carlsbad Caverns and Other Caves of the Guadalupe Mountains", Carol Hill.....	143-144
"Dynamic Re-adjustments in a Cave System Speleogenesis--A Result of a Base Level Surface Stream Abandoning 8 km (5 miles) of a Surface Meander Streambed", Michael L. Johnson.....	630

Mineralogy

"Muck Spreading on Speleothems", A.G. Latham.....	356-357
"Moonmilk, Two Questions of Terminology", R. Bernasconi.....	113-116
"Classification of the Stratified Calcareous Deposits in Function of Environmental Conditions", Jacques Choppy.....	775-778
"Genetical Observations on Some Macrocrystal Cave Perals Found in Two Caves of Lombardia (Northern Italy)", Alfredo Bini and Paolo Forti.....	747-750
"Hollow Calcite Crystals on Surfaces of Small Pools in the Liethohle/Sauerland, West Germany", G.F. Tietz.....	362-363
"Morphological and Mineralogical Features of Phreatic Speleothems Occurring in Coastal Caves of Majorca (Spain)", Joaquin Ginés and Luis Pomar.....	529-532
"Preliminary Report of the Cave Minerals in China, South Korea, and Japan", Naruhiko Kashima.....	250-251
"Manganese Deposition in Limestone Caves", George W. Moore.....	642-644
"Systematics of Mineral Parageneses in Austrian Caves", Robert Seemann.....	256-259
"Recent Formation of Carbonate Mineral Association in Dolomite Caves, Franconia, West Germany", G.F. Tietz.....	364-366
"Contribution to the Morphometrics of Stalagmites", Ivan Gams.....	276-278

Biology I

"Notes on the Cave Spiders of Papua - New Guinea", Paolo Marcello Brignoli.....	110-112
"Invertebrate Interactions with Microbes During the Successional Decomposition of Dung", Kathleen H. Lavoie.....	265-266
"Cooperation of Speleologist and Microbiologist", Kinga Szekely and G.L. Nogrady.....	492
"The Incidence of Iron Bacteria in an Australian Cave", H. Jane Dyson and Julia James.....	79- 81
"On the Hyporheic Hydracarians of Cuba", Tr. Orghidan and Magdalena Gruia.....	792



	<u>Pages</u>
<u>Biology I (continued)</u>	
"Sur L'Equipement Adeno-sensoriel du Pedipalpe de L'opilion Troglophile <u>Sabacon Paradoxum</u> Simon (palpatores, sabaconidae)", C. Juberthie, Andre Lopex and L. Juberthie-Jupeau.....	810-813
"Ecology of the New Zealand Glowworm <u>Arachnocampa luminosa</u> (Diptera: Mycetophilidae) in Caves at Waitomo, New Zealand", Chris Pugsley.....	483-488
"Morphological and Behavioral Adaptations of the Cave Cricket, <u>Hadenoeus subterraneus</u> , for Exploitation of Unpredictable Food Resources", Ellen S. Levy.....	584
"Ecology of Malheur Cave, Oregon", Ellen M. Benedict and Esther Gruber.....	480-482
"The Collared Lemming <u>Dicrostonyx Hudsonius</u> (pallas) from a Pleistocene Cave Deposit in West Virginia", Frederick Grady and E. Ray Garton.....	279-281
"The Tactics of Dispersal of Two Species of <u>Niphargus</u> (Perennial Troglobitic Amphipoda)", Marie José Turquin.....	353-355
<u>Sedimentology</u>	
"The Palaeohydraulics of Karst Drainage Systems: Fluvial Cave Sediment Studies", Stephen J. Gale.....	213-216
"Morphogenesis and Sedimentology in a Quebec Cave: The Speos de la Fee (Matapedia)", Camille M. Ek.....	104-105
"Pebble Investigations in Slovene Caves (Yugoslavia)", Andrej A. Kranjc.....	18- 20
"Sedimentologic and Speleogenetic Implications of Clastic Deposits in Central Lilburn Cave, Sequoia and Kings Canyon National Parks, CA, USA", John C. Tinsley, D.R. Packer and S.R. Ulfeldt.....	291-294
"Probable Cave Deposits in the Ellsworth Mountains of West Antarctica", John P. Craddock and Gerald F. Webers.....	395-397
"Thermoluminescence: A Method for Sedimentological Studies in Caves", Yves Quinif.....	309-313
<u>Speleogenesis II</u>	
"Tectonism, Fractures, and Speleogenesis in the Edwards Plateau, Central Texas, USA", Ernst H. Kastning.....	692-695
"Gypsum Caves in Libya", Attila Kósa.....	156-158
"New Genetic Problems in Corrosion - Caves in Gypsum", Walter Krieg.....	453-455
"Analysis of the Structural Control of Speleogenesis of Lilburn Cave, California, United States", Gail McCoy.....	319-321
"Cave Systems Speleogenesis at the Karst Poljes of Slovenia (NW Yugoslavia)", Rado Gospodarc.....	656
"Formation of Great Underground Systems in Nakanai Mountains (New Britain - Papua New Guinea)", Richard Maire.....	782-787
"The History of Exploration of Canadian Hole", Peter Zabrok.....	369-371
"Le Gouffre B.U. 56 = -1192 metres (Massif de la Pierre Saint-Martin)", Jean-Francois Pernette.....	574-576
<u>Microclimatology</u>	
"The Air Movements in the 'Grotte de Niaux' (Ariege), Consequences", Claude Andrieux.....	323
"Mathematic Simulation of 'Thermic' Airflow in Complicate Dynamic Caves", Antonín Jančářík.....	103
"The Regularities in the Formation of Gas Composition of the Air in the Large Karst Caves of Podolia and Bukovina", A.B. Klimchuk, N.L. Yablokova and S.P. Olshtynsky.....	21- 23
"Quaternary Climatic Change and Speleostratigraphic Development", S. Lang.....	448-450
"Carbon Dioxide in Coldwater Cave", Warren C. Lewis.....	91- '92
"Mathematic Simulation of Baric Airflow", Jiří Botur and Antonín Jančářík.....	142
"Cryospeleology", Garry D. McKenzie.....	266
"The Breathing of Coldwater Cave", Warren C. Lewis.....	89- 90



Tropical Geomorphology

"Single and Double Fourier Series Analysis of Cockpit Karst in Puerto Rico", George Brook and Ronald Mitchelson.....	53- 55
"The Foot Caves in the Tropical China", Zhao-xuan Zeng.....	479
"Limestone Hardness and Tropical Karst Terrain Types", Michael J. Day.....	327-329
"The Geomorphological Features of the Karst in Guilin District", Zhu Dehau and Tan Pengjia.....	145
"Karst and Caves in the Turks and Caicos Islands, B.W.I.", Vojtech A. Gregor.....	805-807
"The Submarine Caves of Bermuda", Thomas M. Iliffe.....	161-163
"Desert Gypsum Karst in Bir al Ghanam, Libya", Attila Kósa.....	154-155
"An Analysis on the Palaeographic Elements of Karst Development in the Wumin Basin, Guangxi, Southern China", Lin Junshu, Zhang Yaoguang, Wang Yanra and Zhao Zhongru.....	738
"Towards a Numerical Categorization of Tropical Karst Terrains", Michael J. Day.....	330-332
"Study of Features of the Karstic Depressions in South China", Chen Zhiping.....	499-500

Geochemistry/Geophysics

"Stalactite Growth in the Tropics Under Artificial Conditions", Eugenio de Bellard Pietre.....	221-222
"The Classification of Karst Waters by Chemical Analysis", N.S.J. Christopher and J.D. Wilcock.....	526-528
"Radiation Hazards in Natural Caves", Arrigo A. Cigna and Gian F. Clemente.....	420-423
"CO <sub>2</sub> Measurements in Cave Air: A Comparison Between Belgium and Quebec", Camille M. Ek.....	672-673
"The Relationship Between the Availability of Organic Carbon and Cavern Development in the Phreatic Zone", Julia James.....	237-240
"Carbonaceous Sediments in a Gypsum Karst (Hainholz/South Harz, Fed. Rep. Germany)", Stephen Kempe and Kay Emeis.....	569-571
"Radioactivity in Venezuelan Caves", Eugenio de Bellard Pietre.....	219-220
"Deep Ice in the Cave of Scarasson, Marguareis Massif, Maritimes Alps, Italia" Michel Siffre.....	112
"Fluid Inclusions in Speleothems as Paleoclimate Indicators", Charles J. Yonge.....	301-304
"Etude comparee des variations des principales caracteristiques physico-chimiques de deux sources karstiques de Basse Provence en fonction de la nature geologique de L'aquifere", Tatiana Muxart.....	518-521
"Groundwater Geothermal Energy from Subsurface Streams in Karst Regions", Nicholas C. Crawford.....	820

Hydrology II

"A Karst Hydrology Study in Monroe County, West Virginia", William K. Jones.....	345-347
"Sea Tide Effect Study in Karst Caves on the Rim of Trst/Trieste/Bay", Primož Krivic.....	355
"Hydrology of Harlansburg Cave", Kenneth M. Long and J. Philip Fawley.....	387-390
"Resultats das Observations Conduites Sur le Site Experimental de la Grotte du Lamalou (Causse de l'Hortus-France Meridionale)", Henri Paloc, H. Bonin, M. Bonnet, J. Guizerix, A. Lallemand-Barres, J. Margat and D. Thiery.....	461-465
"Empirical Confirmation of Curl's (1974) Flow Velocity Calculations", James A. Pizarowicz and Mark Maslyn.....	772-774
"La Dissolution du Calcaire dans la Partie Superieure du Bassin de la Riviere aux Saumons, Anticosti, Quebec", Jean Roberge.....	393-394
"Major Groundwater Flow Directions in the Sinking Creek and Meadow Creek Drainage Basins of Giles and Craig Counties, Virginia, USA", Joseph W. Saunders, R. Keith Ortiz and William F. Koerschner, III.....	398-400
"Quantitative Dye Tracing in an Alpine Karst Environment", Christopher Smart.....	587
"Variation of Conduit Flow Velocities with Discharge in the Longwood to Cheddar Rising System, Mendip Hills", P.L. Smart.....	333-335
"An Example of Karstic Drainage, the Hydrological System of Eynif (Western Taurus, Turkey)", Claude Chabert.....	701-702



Hydrology II (continued)

- "Hydrogeology of Northern Fayette County and Southern Scott County, Kentucky, USA",  
Lawrence E. Spangler and John Thrailkill..... 553-555

Aquatic Faunas I

- "Preliminary observations on foraging behavior in a hypogean crustacean community",  
D.L. Bechler and A. Fernandez..... 66- 67
- "The effect of competition on species composition of some cave communities", D.C. Culver..... 207-209
- "Fauna of anchialine (coastal) cave waters, its origin and importance", B. Sket..... 645-647
- "Ecosystem of a deep confined aquifer in Texas", G. Longley..... 611
- "A Karst Ecosystem - the Dorvan Massif (Ain, France) V-Drift of Invertebrates, Organic  
Matter and Minerals out of the Massif", J. Gibert..... 223-227
- "Subterranean phreatic biocoenoses of northwestern Iran", G.L. Pesce..... 566-567
- "Ecology and taxonomy of marine cave invertebrates in the Bahama Islands", J.H. Carpenter.... 24- 25
- "Respiratory metabolism comparison of Niphargus Rhenorhodanensis (subterranean crustacea,  
amphipoda) from two different karstic systems", J. Mathieu..... 793-795
- "Occurrence of Jaera (Isopoda, Asellota, Janiridae) in the hypogean domain", J.P. Henry..... 670-671
- "Experimental breeding of the U.S. cavernicolous crustacean Caecidotea recurvata  
(Steeves, 1963)", G. J. Magniez..... 241-242

Aquatic Faunas II

- "The subterranean Caecidotea of the Interior Low Plateaus", J.J. Lewis..... 234-236
- "Comparison of acute toxicity of cadmium, chromium, and copper between two distinct  
populations of hypogean isopods (Caecidotea sp.)", A.D. Bosnak and E.L. Morgan..... 72- 74
- "Population ecology of the troglotic isopod crustacean Antrolana lira Bowman  
(Cirolanidae)", T.L. Collins and J.R. Holsinger..... 129-132
- "Ecology of crayfishes from West Virginia caves", S.C. Van Luik..... 657-658
- "Agonistic behavior in the Amblyopsidae, the spring, cave and swamp fishes", D.L. Bechler.... 68- 69
- "Aggressive behavior in the European cave salamander Proteus anguinus", J. Parzefall,  
J.P. Durand and B. Richard..... 415-419
- "Sensory compensation in the darkness: comparative study of the prey detection in the  
cave living vertebrate Proteus anguinus", J.P. Durand, J. Parzefall and B. Richard..... 31- 34

Speleochronology

- "Radiometric Dating of Polish Cave Speleothems: Current Results", Jerzy Glazek and  
Russell S. Harmon..... 424-427
- "A Late Pleistocene Chronologic Record in Southeastern Minnesota", Richard S. Lively,  
E. Calvin Alexander, Jr. and Jodi Milske..... 623-626
- "A Climate Record of the Yorkshire Dales for the Last 300,000 Years", M. Gascoyne..... 96- 98
- "Phreatic Speleothems in Coastal Caves of Majorca (Spain) as Indicators of  
Mediterranean Pleistocene Paleolevels", Angel Ginés, Joaquin Ginés and  
Luis Pomar..... 533-536
- "Geological Development and Age of the Caves in the Moravian Karst (Czechoslovakia)",  
Vojtech A. Gregor..... 808-809
- "Geochronology of Speleothems from the Flint Ridge - Mammoth Cave System, Kentucky, USA",  
John W. Hess and Russell S. Harmon..... 433-436
- "Magnetostatigraphy from Speleothems: Establishment and Applications", A.G. Latham..... 358-361
- "The Archanthropinae of the Petralonian Cave", Nickos A. Poulianos..... 508-510
- "Horsethief Cave: An Early Pleistocene Cavern", Wayne M. Sutherland..... 608-611

Geomorphology III

- "La Genese des Formes du Karst de la Haute-Saumons, Facteurs Determinants", Jean Roberge..... 391-392



Geomorphology III (continued)

"The Shape of Gypsum Bubbles", Richard L. Breisch and Fred L. Wefer.....	757-759
"Reflections on Karst Geomorphology Research in Italy: 1960-80", Ugo Sauro.....	563-565
"Evaporite Karst Gypsum Plain, Culberson County, Texas", A. Richard Smith.....	482
"Solute Uptake on a Magnesian Limestone Hillslope", S.T. Trudgill, A.M. Pickles and R.W. Crabtree.....	351-352
"Simulation of Rock Pendants - Small Scale Experiments on Plaster Models", Stein-Erik Lauritzen.....	407-409
"Karst Development in Siliceous Rocks, Venezuelan Guiana Shield", France Urbani.....	548
"Geography of the Friars Hole Cave System, USA", Douglas M. Medville.....	412-414
"Gypsum-Anhydrite Karst on the Territory of the USSR", K.A. Gorbanova.....	778
"Dinaric Karst Poljes and Neotectonics", Peter Habić.....	797

Archeology/Paleontology

"The Scanning Electron Microscope as an Adjunct to Environmental Reconstruction in Archeological Sites", Peter A. Bull.....	340-342
"Archeological Investigations in Sand Cave, Kentucky", George M. Crothers.....	374-376
"Cuban Rupestrian Drawings", Antonio Núñez Jiménez.....	282
"First Extinct Vertebrates from Mammoth Cave, Kentucky", Ronald C. Wilson.....	339
"The Geranium Cave of Rethymnon, Crete", Anna Petrochilou.....	456-457
"Cave Explorations and Archaeological Discoveries in the Cockpit Karst of Peten, Guatemala", Michel Siffre and Gerard Cappa.....	286
"Vertebrate Fossils in Lava Tubes in the Galapagos Islands", David Steadman.....	549-550
"A Cupstone Petroglyph of Possible Astronomical Significance from an Early Woodland Site in the Karst Region, Jackson County, Kentucky", Ken Tankersley.....	760-762
"Paleontology and Archeology of Jaguar Cave, Tennessee", Louise Robbins, Ronald C. Wilson and Patty Jo Watson.....	377-380
"The Mammalian Fossils of Muskox Cave, Eddy County, New Mexico", Lloyd Logan.....	159-160
"The 'Karstic reactivation' theory and the Epipalaeolithic sites of Northern Spain", Manuel R. Gonzalez Morales.....	751-752

History

"A Pioneer in Speleology: The Swiss Painter Casper Wolf (1735-1783)", Pierre Strinati.....	458
"Early American Speleological Writings", Jack Speece.....	183-184
"Pioneers of North American Cave and Karst Science Prior to 1930", Ernst Kastning.....	247-249
"History and Contributions of the Western Speleological Survey", William R. Halliday.....	177-178

Documentation

"The Cave Research Foundation", Richard A. Watson and Philip M. Smith.....	372-373
"Some Problems of Cave Names", Paolo De Simonis.....	324-326
"Cave Research in Switzerland", Urs Widmer.....	638-639
"Thesaurus of Hungarian Speleology, Project of an International 'Speleosaurus'", Laszlo Lenart.....	634-635
"Statistical Study of the Great Caves of the World", Jacques Choppy and Pascale Choppy.....	703-706

Techniques/Equipment

"Accuracy Evaluation of Electromagnetic Locating", Charles Bishop and Frank S. Reid.....	70- 71
"Matching Cave Gear to Cave Hazards", David R. McClurg.....	252-253



Techniques/Equipment (continued)

"The Relations Between Technique and Aesthetics in Underground Photography: The Position of the Cameras and the Lighting", François-Marie Callot and Yann Callot.....	679-681
"On Measuring Caves by Volume", Primož Jakopin.....	270-272
"Self Tests for Conservation Awareness and Caving Skills", David R. McClurg.....	254-255
"Le Secours Souterrain en France", Pierre Rias.....	674-678
"Long-term Single Free-Run Experiments and their Results as a Performance Predictability Index in Astronauts", Michel Siffre.....	112

Mapping

"Large Cave-System Database Management: A Simple Concept, Yet a Complex Solution", James D. Borden.....	615-617
"An Evaluation of the Polaroid Ultrasonic Ranging System as a Tool for Cave Surveying", Richard L. Breisch and Michael Maxfield.....	753-756
"Analysis of the Propagation of Error in Cave Surveys", Thomas A. Kaye.....	800-801
"A Comparison of Expected Survey Errors with Closure Adjustments", Robert Thrun.....	648-649
"Der hypsometrische Höhlen-Ubersichtsplan", Günter Stummer.....	260-261

Evolutionary Ecology

"Regressive Evolution and Phylogenetic Age", Horst Wilkens.....	622
"Regression of the Locomotion-Controlling System in Cavernicolous Carabid Beetles", Friedrich Weber.....	667-669
"The Activity Controlling Time-System in Epigean and Hypogean Populations of <i>Astyanax mexicanus</i> (Characidae, Pisces)", Wilhelmine Erckens.....	796-797
"Demographic Characteristics of Carabid Cave Beetles", Thomas Kane.....	451-452
"Variations in Life Histories of Linyphiid Cave Spiders", Thomas Poulson.....	60- 62
"Remarks on the Origin and Distribution of Troglotitic Spiders", Christa L. Deelman-Reinhold.....	305-308
"The Ecology of Bat Guano in Tamana Cave, Trinidad, W.I.", Stuart Hill.....	243-246
"The Community Structure of Arthropods Associated with Bat Guano and Bat Carcasses in Tumbling Creek Cave, Missouri", Barbara Martin.....	3

Cave Diving

"Rescue Cave Divers and Their Equipment", Thomas Cook.....	314-315
"The World's Longest Underwater Cave", Sheck Exley and Ned Deloach.....	16- 17
"Techniques de Progression en Riviere Souterrain a Gros Debit", Jean-Francois Pernette.....	572-573
"Cave Diving in England in the 1950's", Oliver C. Wells.....	735-737
"The NSS Cave Diving Section", Thomas Cook.....	315

Social Sciences

"Caving Education in Quebec", Daniel Caron.....	577-579
"Le Medicalisation des Secours en France 'Le Point en 1980'", F. Guillaume.....	650-651
"Caving Activity and Sensation Seeking of N.S.S. Members: A Psychological Profile", Penny R. Lukin and Barry F. Beck.....	798-799
"The French School of Speleology", Gerard Duclaux and Marcel Meyssonier.....	636-666
"Subject Cave and Motivation for Speleology", Thomas Kesselring, Ursula Sommer and Urs Widmer.....	802-804



	<u>Pages</u>
<u>Vertical Techniques</u>	
"A Brief Look at Single Rope Techniques and Equipment from Around the World", Donna Mroczkowski and Neil Montgomery.....	132
"Choosing a Rope for SRT (Single Rope Techniques)", Mike Cowlshaw.....	108-109
"The Weak Link", Andrew Eavis.....	43- 44
"Development of Relevant Testing Procedures Leading Toward Establishing Standards for Caving and Static Loaded Rescue Ropes", Kyle Isenhardt.....	179-180
"Some New Methods in Exploring Technique of Water and Vertical Caves", Mladen Garašić.....	146-147
"Provisional Specifications for Caving (S.R.T.) Ropes", Andrew Eavis.....	42
"Knots for Single Rope Techniques", Neil Montgomery and Donna Mroczkowski.....	479
<u>Evolutionary Ecology II</u>	
"How Food Type Determines Community Structure in Caves", Thomas Poulson and Thomas Kane.....	56- 59
"Abiotic Effects on the Successional Decomposition of Dung", Kathleen Lavoie.....	262-264
"The Foraging Behavior of the Cave Cricket, <i>Hadenoeus Subterraneus</i> ", Ellen Levy.....	581
"Ecological Studies of Openings into Underground Karst: I. The shaft wall of an entrance pit (Gouffre de Lent, Ain, France): First Results", J. Gibert, R. Laurent, J. Mathieu and J.L. Reygrobellet.....	228-233
"Ecological and Biological Implications of the Existence of a Superficial Underground Compartment", Christian Juberthie and Bernard Delay.....	203-206
"The Ecological Genetics of Four Subspecies of <i>Neaphaenops Tellkampffii</i> (Coleoptera, Carabidae)", George Brunner and Thomas Kane.....	48- 49
"A Critique of the Analogy of Caves and Islands", Rodney Crawford.....	295-297
"Non-Relictual Terrestrial Troglobites in the Tropical Hawaiian Caves", Francis Howarth.....	539-541
"Soil Biology, Research Activity and Prospects of the Centro di Ecologia del Cansiglio, Venetian Prealps, Italy", Renato Dalle Mule, N. Martinelli, M. Paoletti and V. Toniello.....	568
<u>Geomorphology IV</u>	
"The Lower Cretaceous Paleokarst in the Moravian Karst (Czechoslovakia)", Pavel Bosak.....	164-166
"Morphoclimatic Control - a Tale of Piss and Wind or a Case of the Baby Out With the Bathwater?", J.N. Jennings.....	367-368
"Morphogenetical and Chronological Aspects of some Karst Areas in the Italian Alps", Ugo Sauro.....	556-562
"Karst Valley Development and the Headward Advance of the Sequatchie Valley of Tennessee Along the Sequatchie Anticline", Nicholas C. Crawford.....	814-819
"The Karsts of the Oriental Part of Cuba", Nicasio Viña.....	537-538
"Paleotemperature, Sea Level and Uplift Data from New Zealand Speleothems", Paul Williams.....	151-153
<u>Biology II</u>	
"Ecological Analysis of Terrestrial Invertebrates in a Venezuelan Cave", C.V. Alvarez, M.L. Olivo and R.E. Urosa.....	631-633
"Molecular Isotopic Analyses of Bat Guano Hydrocarbons and the Ecology of the Insectivorous Bats in the Region of Carlsbad, New Mexico, USA", David J. DesMarais, J.M. Mitchell, W.G. Meinschein and J.M. Hayes.....	200-202
"Communication on a Preliminary Survey of the Fauna of Caves in Some Regions of Brasil", Eliana M.B. Dessen, Verena Eston, Marietta S. Silva, M. Thereza Temperini-Beck and Eleonora Trajano.....	123-125
"Holarctic Cave Mites of the Family Rhagidiidae (Actiniedida: Eupodoidea)", Miloslav Zacharda and William Elliott.....	604-607
"Composition and Origin of Underground Fauna in Poland", Andrzej Skalski.....	403-406
"Soil Biology in the Southern Italian Alpine Area. General problems of Biospeleology", Maurizio G. Paoletti.....	568



Biology II (continued)

"Canonical Analysis in the Genus <u>Troglocharinus</u> Reitter and Some Other Related <u>Taxa</u> (Col. Catopidae)", Olequer Escola.....	500
"Biospeleological Researches in the Island of Ceylon", Pierre Strinati and Villy Aellen.....	459-460
"Diptera in British Caves", G.T. Jefferson.....	106-107
"Preliminary Report on the Biology of Sorcerer's Cave, Terrell County, Texas", Rodney L. Crawford.....	298-300
"The Cavernicolous Fauna of Ohio, USA. Part I: Preliminary Report", H.H. Hobbs, III.....	444-447
"Sur la Presence D'un Rythme de Reproduction dans le Milieu Souterrain Superficiel: Etude Chez les Coleopteres Bathysciinae", Lysiane Juberthie-Jupeau.....	714-716

Geology

"Neotectonics in some Caves in Yugoslavia", Mladen Garašić.....	148-150
"Fold Development in the Anticlinorio Huizachal-Peregrina and Its Influence on the Sistema Purificación, México", Louise D. Hose.....	133-135
"The Karst Development of Rye Cove, Virginia", David A. Hubbard, Jr. and John R. Holsinger.....	515-517
"Development of Flow Routes and Cave Passages from Fault Segments in West Virginian Caves", Roy A. Jameson.....	717-719
"Fracture Control of Dolines, Caves, and Surface Drainage: Mississippian Plateau, Western Kentucky, USA", Karen M. Kastning and Ernst Kastning.....	696-698
"Organizational Principles of Complex Stationary Researches of Karst", A.B. Klimchuk, V.M. Shestopalov and G.V. Lisichenko.....	35- 36
"Early Proterozoic Paleokarst of the Transvaal, South Africa", J. Martini.....	6- 8
"Jointing as an Index of Sulphate Massif Karstification", I.A. Pechorkin, A.I. Pechorkin and G.B. Bolotov.....	181-182
"Karst Development in the Front Royal 7.5 Minute Quadrangle of Virginia", David A. Hubbard, Jr.....	511-514
"Alpine Karst in the Sierra Nevada, California", Bruce W. Rogers.....	544-546
"Lilburn Cave's Contribution to the National History of Sequoia and Kings Canyon National Park, CA, USA", J.C. Tinsley, D.J. Des Marais, G. McCoy, B.W. Rogers and S.R. Ulfeldt.....	287-290

Speleogenesis III

"A Functional Classification of karst", John Mylroie.....	686-688
"Speleogenesis of Arkansas Ozark Caves", Albert E. Ogden, Wyndal Goodman and Samuel Rothermel.....	769-771
"Hydrochemical Factors in the Origin of Limestone Caves", Arthur N. Palmer.....	120-122
"A Graphic Method of Analysis of the Phreatic Caves", J. Schroeder.....	493-495
"The Toohey Ridge Cave System - A Geographical Overview", James D. Borden and Miles E. Drake.....	612-614

Commission Reports

"Comparative Research of Limestone Solution by Means of Standard Tablets", Ivan Gams.....	273-275
"Commission of Conservation and of Tourist Caves", France Habe.....	442-443
"Cave Map Symbols", Ralph Muller.....	588-603

Poster Sessions

"Endangered Species Legislation in the U.S.", Thomas Lera.....	385-386
"Spatial Aspects of Histoplasmosis in the United States", George Huppert.....	26- 27
"Facial Reconstruction of an Easter Island Skull", G.L. Nogrady.....	138



Table of Contents: by authors, in alphabetical order

	<u>Pages</u>
Gerard Aime, "Policy for Karst Protection in France".....	580-581
C.V. Alvarez, M.L. Olivo and R.E. Urosa, "Ecological Analysis of Terrestrial Invertebrates in a Venezuelan Cave".....	631-633
Claude Andrieux, "The Air Movements in the 'Grotte de Niaux' (Ariege) Consequences".....	323
Timothy Atkinson, "Mechanisms of Calcite Speleothem Deposition in Castleguard Cave, Canada".....	322
Timothy Atkinson, "The Climate of Castleguard Cave, Canada".....	322
Temucin Aygen, "Applications of Speleology in Civil Engineering Works in Turkey".....	498
Michel Bakalowicz, "Percolation Waters in Karstic Aquifers".....	710-713
Victor R. Baker, "Pseudokarst on Mars".....	63- 65
Thomas C. Barr, Jr., "The Cavernicolous Carabid Beetles of North America".....	343-344
David L. Bechler, "Agonistic Behavior in the Amblyopsidae, the Spring, Cave and Swamp Fishes".....	68- 69
David L. Bechler and Anna Fernandez, "Preliminary Observations on Foraging Behaviors in a Hypogean Crustacean Community".....	66- 67
Ellen M. Benedict and Esther Gruber, "Ecology of Malheur Cave, Oregon".....	480-482
R. Bernasconi, "Moonmilk, Two Questions of Terminology".....	113-116
Alfredo Bini and Paolo Forti, "Genetical Observations on Some Macrocrystal Cave Pearls Found in Two Caves of Lombardia (Northern Italy)".....	747-750
Charles Bishop and Frank S. Reid, "Accuracy Evaluation of Electromagnetic Locating".....	70- 71
Alfred Bögli, "Scallops".....	82- 83
James D. Borden, "Large Cave-System Database Management: A Simple Concept, Yet a Complex Solution".....	615-617
James D. Borden and Miles E. Drake, "The Toohey Ridge Cave System - A Geographical Overview".....	612-614
Pavel Bosak, "The Development of the Lower Cretaceous Karst: A Comparison With the Plate Tectonics".....	170-173
Pavel Bosak, "The Lower Cretaceous Paleokarst in the Moravian Karst (Czechoslovakia)".....	164-166
Pavel Bosak and Ivan Horacek, "The Investigation of Old Karst Phenomena of the Bohemian Massif in Czechoslovakia: A Preliminary Regional Evaluation".....	167-169
Arthur Bosnak and Eric Morgan, "Comparison of Acute Toxicity of Cadmium, Chromium, and Copper Between Two Distinct Populations of Hypogean Isopods ( <i>Caecidatea</i> sp.)".....	72- 74
Jiří Botur and Antonín Jančářík, "Mathematic Simulation of Baric Airflow".....	142
Richard L. Breisch and Michael Maxfield, "An Evaluation of the Polaroid Ultrasonic Ranging System as a Tool for Cave Surveying".....	753-756
Richard L. Breisch and Fred L. Wefer, "The Shape of Gypsum Bubbles".....	757-759
Paolo Marcello Brignoli, "Notes on the Cave Spiders of Papua - New Guinea".....	110-112
George A. Brook and Terry L. Allison, "Subsidence Susceptibility Models for Dougherty County, Georgia, From Sinkhole and Fracture Distribution Data".....	50- 52
George Brook and Ronald Mitchelson, "Single and Double Fourier Series Analysis of Cockpit Karst in Puerto Rico".....	53- 55
J. Brunet and P. Vidal, "Studies of the Climatic Conditions for the Conservation of Decorated Prehistoric Caves: Two Operations: Lascaux and Font-de-Gaume".....	659-662
George Brunner and Thomas C. Kane, "The Ecological Genetics of Four Subspecies of <i>Neaphaenops tellkampfi</i> (Coleoptera: Carabidae)".....	48- 49
Peter A. Bull, "The Scanning Electron Microscope as an Adjunct to Environmental Reconstruction in Archeological Sites".....	340-342
Yann Callot, "On Some Underground Forms, Pseudokarstic, in France".....	682-685
François-Marie Callot and Yann Callot, "The Relations Between Technique and Aesthetics in Underground Photography: The Position of the Cameras and the Lighting".....	679-681
Andrea Caneda, Paolo Forti and Stefano Querze, "Hydrogeology of the Corchia Marbles (Apuane Alps-Italy): New Data from Water Tracing Experiments".....	743-746
Daniel Caron, "Caving Education in Quebec".....	577-579
Jerry H. Carpenter, "Ecology and Taxonomy of Marine Cave Invertebrates in the Bahama Islands".....	24- 25



	<u>Pages</u>
Claude Chabert, "A Compound Karstic System: The Sakal Tutan - Degirmenlik - Karapinar System (Western Taurus, Turkey)".....	699-700
Claude Chabert, "An Example of Karstic Drainage: The Hydrological System of Eynif (Western Taurus, Turkey)".....	701-702
Mao Chian-chun, "An Underground Thermal Stream Discovered for the First Time in Kweichow Province, China".....	323
Jacques Choppy, "Classification of the Stratified Calcareous Deposits in Function of Environmental Conditions".....	775-778
Jacques Choppy, "Tunnel-Caves and Natural Bridges of Northern Mediterranean Area".....	707-709
Jacques Choppy and Pascale Choppy, "Statistical Study of the Great Caves of the World".....	703-706
Kenneth Christiansen, "The Zoogeography of Eastern U.S. Cave Collembola".....	618-622
N.S.J. Christopher, "Recent Flood Pulse and Hydrological Studies on the Russet Well/Peak Cavern System, Castleton, Derbyshire, England".....	522-525
N.S.J. Christopher and J.D. Wilcock, "The Classification of Karst Waters by Chemical Analysis".....	526-528
Arrigo A. Cigna and Gian F. Clemente, "Radiation Hazards in Natural Caves".....	420-423
L.T. Collins and J.R. Holsinger, "Population Ecology of the Troglobitic Isopod Crustacean <u>Antrolana lira</u> Bowman (Cirolanidae)".....	129-132
Mauro Coltorti, "Geomorphologic Evolution of a Karst Area Subject to Neotectonic Movements in the Umbria Marche Apennines (Central Italy)".....	84- 88
Thomas Cook, "Rescue Cave Rivers and Their Equipment".....	314-315
Thomas Cook, "The NSS Cave Diving Section".....	315
Daryl W. Cowell, "Subarctic Karst Geomorphology and the Development of Organo-Karst Landforms in the Hudson Bay Lowland, Ontario".....	13- 15
Mike Cowlshaw, "Choosing a Rope for SRT (Single Rope Techniques)".....	108-109
John Craddock and Gerald F. Webers, "Probable Cave Deposits in the Ellsworth Mountains of West Antarctica".....	395-397
Nicholas C. Crawford, "Groundwater Geothermal Energy from Subsurface Streams in Karst Regions".....	820
Nicholas C. Crawford, "Karst Flooding in Urban Areas: Bowling Green, Kentucky".....	763-765
Nicholas C. Crawford, "Karst Valley Development and the Leadward Advance of the Sequatchie Valley of Tennessee along the Sequatchie Anticline".....	814-819
Rodney L. Crawford, "A Critique of the Analogy of Caves and Islands".....	195-197
Rodney L. Crawford, "Preliminary Report on the Biology of Sorcerer's Cave, Terrell County, Texas".....	298-300
George M. Crothers, "Archeological Investigations in Sand Cave, Kentucky".....	374-376
David C. Culver, "The Effect of Competition on Species Composition of Some Cave Communities".....	207-209
James C. Currens, "Speleogenesis Models for the Mammoth Cave Region, and Their Use as Predictive Tools for Southern Toohey Ridge, Hart and Barren Counties, Kentucky".....	75- 78
Yuan Daoxian, "On the Underground Stream and Cave Systems of Soliao Karst Area, Bama County, Guangxi, China".....	317-318
Yuan Daoxian, "On the Hydrogeological Characteristics of Karst Water in China and Its Exploitation".....	316
Jerry D. Davis and George A. Brook, "Hydrology and Water Chemistry of Upper Sinking Cove, Franklin County, Tennessee".....	38- 41
Michael J. Day, "Contemporary Limestone Erosion Rates in the Gunong Mulu National Park, Sarawak, East Malaysia".....	329
Michael J. Day, "Limestone Hardness and Tropical Karst Terrain Types".....	327-329
Michael J. Day, "Towards a Numerical Categorization of Tropical Karst Terrains".....	330-332
Christa L. Deeleman-Reinhold, "Remarks on the Origin and Distribution of Troglobitic Spiders".....	305-308
Zhu Dehau and Tan Pengjia, "The Geomorphological Features of the Karst in Guilin District".....	145
Paolo De Simonis, "Some Problems on Cave Names".....	324-326
David Des Marais, "Subterranean Stream Piracy in the Garrison Chapel Karst Valley, Indiana, U.S.A.".....	196-199



	<u>Pages</u>
David J. Des Marais, J.M. Mitchell, W.G. Meinschein and J.M. Hayes, "Molecular Isotopic Analyses of Bat Guano Hydrocarbons and the Ecology of the Insectivorous Bats in the Region of Carlsbad, New Mexico, USA".....	200-202
Eliana M.B. Dessen, Verena Estoni, Marietta S. Silva, M. Thereza Temperini-Beck and Eleonora Trajano, "Communication on a Preliminary Survey of the Fauna of Caves in Some Regions of Brasil".....	123-125
Percy H. Dougherty, "The Impact of the Agricultural Land-Use Cycle on Flood Surges and Runoff in a Kentucky Karst Region".....	267-269
John Drake, "A General Model of Karst Specific Erosion Rates".....	158
Miles E. Drake and James D. Borden, "Complex Groundwater Basin Migrations in Roppel Cave, Kentucky".....	28- 30
Anton Droppa, "On Karst Denudation Research Problematic".....	355
Gerard Duclaux and Marcel Meyssonier, "The French School of Speleology".....	663-666
J.P. Durand, J. Parzefall and B. Richard, "Sensory Compensation in the Darkness: Comparative Study of the Prey Detection in the Cave Living Vertebrate <u>Proteus anguinus</u> ".....	31- 34
H. Jane Dyson and Julia James, "The Incidence of Iron Bacteria in an Australian Cave".....	79- 81
Andrew Eavis, "Provisional Specifications for Caving (S.R.T.) Ropes".....	42
Andrew Eavis, "The Weak Link".....	43- 44
Camille M. Ek, "CO <sub>2</sub> Measurements in Cave Air: A Comparison Between Belgium and Quebec".....	672-673
Camille M. Ek, "Morphogenesis and Sedimentology in a Quebec Cave: The Spéos de la Fée (Matapédia)".....	104-105
Adolfo Eraso, "New Contributions to the Problem of Dam Building in Karstic Regions".....	348-350
Wilhelmine Erckens, "The Activity Controlling Time-System in Epigean and Hypogean Populations of <u>Astyanax Mexicanus</u> (Characidae, Pisces)".....	796-797
Olequer Escola, "Canonical Analysis in the genus <u>Troglocharinus</u> reitter and some Other Related Taxa (Col. Catopidae)".....	500
Ralph O. Ewers and James F. Quinlan, "Cavern Porosity Development in Limestone: A Low Dip Model from Mammoth Cave, Kentucky".....	727-731
Sheck Exley and Ned Deloach, "The World's Longest Underwater Cave".....	16- 17
Guilhem Fabre, "Specific Dissolution in the Mediterranean Karstic Areas of France".....	192-195
Lynn M. Ferguson, "Cave Diplura of the United States".....	11- 12
Derek Ford, "Karst, Covered Karst and Interstratal Karst in Glaciated Lowland Terrains of Canada".....	20
Derek Ford, "Geology, Geomorphology, and Glaciology of the Castleguard-Columbia Icefield Area".....	37
Derek Ford, "Speleogenesis of the Castleguard Cave System".....	281
Paolo Forti, Giuliano Perna and Bruno Turi, "Genetical Observations on Some Natural Cavities of the Masua Mine (SW Sardinia)".....	779-781
H. Friederich and P.L. Smart, "Dye Trace Studies of the Unsaturated-Zone Recharge of the Carboniferous Limestone Aquifer of the Mendip Hills, England".....	283-286
Stephen J. Gale, "The Palaeohydraulics of Karst Drainage Systems: Fluvial Cave Sediment Studies".....	213-216
Stephen J. Gale, "The Pre-Quaternary Palaeokarst of the Morecambe Bay Area, Northwest England".....	210-212
Frances Gamble, "Karst Cave Management Modelling in the Transvaal".....	473-475
Frances Gamble, "Problems of Management of Transvaal Caves".....	469-472
Frances Gamble, "The Resource Potential of Transvaal Caves".....	466-468
Ivan Gams, "Comparative Research of Limestone Solution by Means of Standard Tablets".....	273-275
Ivan Gams, "Contribution to the Morphometrics of Stalagmites".....	276-278
Mladen Garašić, "Neotectonics in Some Caves in Yugoslavia".....	148-150
Mladen Garašić, "Some New Methods in Exploring Technique of Water and Vertical Caves".....	146-147
M. Gascoyne, "A Climate Record of the Yorkshire Dales for the Last 300,000 Years".....	96- 98
M. Gascoyne, "Rates of Cave Passage Entrenchment and Valley Lowering Determined from Speleothem Age Measurements".....	99-100



	<u>Pages</u>
M. Gascoyne and A.G. Latham, "The Antiquity of Castleguard Cave as Established by Uranium-series Dating of Speleothems".....	101-103
Janine Gibert, "A Karst Ecosystem - the Dorvan Massif (Ain, France) V-Drift of Invertebrates, Organic Matter and Minerals Out of the Massif".....	223-227
Janine Givert, R. Laurent, J. Mathieu and J.L. Reygrobellet, "Ecological Studies of Openings into Underground Karst: I. The shaft wall of an entrance pit (Gouffre de Lent, Ain, France): First Results".....	228-233
Angel Ginés, Joaquín Ginés and Luis Pomar, "Phreatic Speleothems in Coastal Caves of Majorca (Spain) as Indicators of Mediterranean Pleistocene Paleolevels".....	533-536
Joaquín Ginés, Angel Ginés and Luis Pomar, "Morphological and Mineralogical Features of Phreatic Speleothems Occurring in Coastal Caves of Majorca (Spain)".....	529-532
Jerzy Glazek, "Palaeokarst as a Key to Paleogeography, Poland's Territory as an Example".....	27
Jerzy Glazek, "Phases of Karstification in the Paleogeographic Development of Poland's Territory".....	25
Jerzy Glazek and Russell S. Harmon, "Radiometric Dating of Polish Cave Speleothems: Current Results".....	424-427
Angel Graña González, "Affections of the Cyclones in the Karst".....	542-543
Clarence Goodnight and Maria L. Goodnight, "Evolution of Hypogean Species of Opiliones of North and Middle America".....	9- 10
K.A. Gordanova, "Gypsum-Anhydrite Karst on the Territory of the USSR".....	778
Rado Gospodarić, "Cave Systems Speleogenesis at the Karst Poljes of Slovenia (NW Yugoslavia)".....	656
Frederick Grady and E. Ray Garton, "The Collard Lemming <i>Dicrostonyx hudsonius</i> (Pallas) from a Pleistocene Cave Deposit in West Virginia".....	279-281
Vojtech A. Gregor, "Geological Development and Age of the Caves in the Moravian Karst (Czechoslovakia)".....	808-809
Vojtech A. Gregor, "Karst and Caves in the Turks and Caicos Islands, B.W.I.".....	805-807
F. Guillaume, "La Medicalisation des Secours en France 'Le Point en 1980'".....	650-651
Alberto A. Gutierrez, "Geomorphology and Hydrology of the Carlsbad Gypsum Plain, Eddy County, New Mexico".....	45- 47
France Habe, "Commission of Conservation and of Tourist Caves".....	442-443
France Habe, "Interfering in the Postojna Cave as Far as Protection of the Cave is Concerned".....	437-441
Peter Habić, "Dinaric Karst Poljes and Neotectonics".....	797
Irene Halbichová and Antonín Jančařík, "Visitors and Climatic Regime of Caves".....	125
William Halliday, "History and Contributions of the Western Speleological Survey".....	177-178
William Halliday, "Impact of 1980 Eruptions on the Mount St. Helens Caves".....	174-176
R.A. Halliwell, "The Geohydrology of the Ingleborough Area, England".....	126-128
R.S. Harmon and T.C. Atkinson, "The Mineralogy of Castleguard Cave".....	428-432
Gyula Hegedus, "Cave Closing as a Conservation Method".....	401-402
Jean-Paul Henry, "Occurrence of <i>Jaera</i> (Isopoda, Asellota, Janiridae) in the Hypogean Domain".....	670-671
John W. Hess and Russell S. Harmon, "Geochronology of Speleothems from the Flint Ridge - Mammoth Cave System, Kentucky, USA".....	433-436
Carol A. Hill, "Speleogenesis of Carlsbad Caverns and Other Caves of the Guadalupe Mountains".....	143-144
Stuart Hill, "The Ecology of Bat Guano in Tamana Cave, Trinidad, W.I.".....	243-246
H.H. Hobbs, "The Cavernicolous Fauna of Ohio. Part I: Preliminary Report".....	444-447
Cato O. Holler, Jr., "North Carolina's Bat Caves: A Significant Region of Tectonokarst".....	190-191
John Holsinger, " <i>Stygobromus canadensis</i> , A Troglotic Amphipod Crustacean from Castleguard Cave, with Remarks on the Concept of Cave Glacial Refugia".....	93- 95
Louise D. Hose, "Fold Development in the Anticlinorio Huizachal-Peregrina and its Influence on the Sistema Purificación, México".....	133-135
Louise D. Hose and Thomas R. Strong, "The Genetic Relationship Between Breccia Pipes and Caves in Non-Karstic Terranes in Northern Arizona".....	136-138
Francis Howarth, "Non-Relictual Terrestrial Troglotes in the Tropical Hawaiian Caves".....	539-541



	<u>Pages</u>
Song Lin Hua, "Some Characteristics of Karst Hydrology in Guizhou Plateau, China".....	139-142
David A. Hubbard, Jr., "Karst Development in the Front Royal 7.5 Minute Quadrangle of Virginia".....	511-514
David A. Hubbard, Jr. and John R. Holsinger, "The Karst Development of Rye Cove, Virginia".....	515-517
George Huppert, "Spatial Aspects of Histoplasmosis in the United States".....	26- 27
Thomas M. Iliffe, "The Submarine Caves of Bermuda".....	161-163
Kyle Isenhardt, "Development of Relevant Testing Procedures Leading Toward Establishing Standards for Caving and Static Loaded Rescue Ropes".....	179-180
Primož Jakopin, "On Measuring Caves by Volume".....	270-272
Julia James, "The Relationship Between the Availability of Organic Carbon and Cavern Development in the Phreatic Zone".....	237-240
Roy A. Jameson, "Development of Flow Routes and Cave Passages from Fault Segments in West Virginian Caves".....	717-719
Antonín Jančářík, "Mathematic Simulation of 'Thermic' Airflow in Complicate Dynamic Caves".....	103
G.T. Jefferson, "Diptera in British Caves".....	106-107
J.N. Jennings, "Morphoclimatic Control - A Tale of Piss and Wind or a Case of the Baby Out with the Bathwater?".....	367-368
J.N. Jennings, Bao Haosheng and A.P. Spate, "Equilibrium Versus Events in Blind Valley Enlargement".....	1- 3
Antonio Núñez Jiménez, "Cuban Ruperstrian Drawings".....	282
Michael L. Johnson, "Dynamic Re-adjustments in a Cave System Speleogenesis--A Result of a Base Level Surface Stream Abandoning 8 km (5 miles) of a Surface Meander Streambed".....	630
Michael L. Johnson "Hydrochemical Facies--A Method to Delineate the Hydrology of Inaccessible Features of Karst Plumbing Systems".....	627-629
William K. Jones, "A Karst Hydrology Study in Monroe County, West Virginia".....	345-347
C. Juberthie and B. Delay, "Ecological and Biological Implications of the Existence of a Superficial Underground Compartment".....	203-206
C. Juberthie, Andre Lopez and L. Juberthie-Jupeau, "Sur L'Equipement adeno-sensoriel du pedipalpe de L'Orilion Troglophile <u>Sabacon Paradoxum</u> Simon (palpatores, sabaconidae)".....	810-813
Lysiane Juberthie-Jupeau, "Sur la presence D'un rythme de reproduction dans le milieu souterrain superficiel: etude chez les coleopteres bathysciinae".....	714-716
Lin Junshu, Zhang Yaoguang, Wang Yanru and Zhao Zhongru, "An Analysis on the Palaeographic Elements of Karst Development in the Wumin Basin, Guangxi, Southern China".....	738
Thomas C. Kane, "Demographic Characteristics of Carabid Cave Beetles".....	451-452
Naruhiko Kashima, "Preliminary Report of the Cave Minerals in China, South Korea, and Japan".....	250-251
Ernst Kastning, "Pioneers of North American Cave and Karst Science Prior to 1930".....	247-249
Ernst Kastning, "Tectonism, Fractures, and Speleogenesis in the Edwards Plateau, Central Texas, USA".....	692-695
Karen M. Kastning and Ernst Kastning, "Fracture Control of Dolines, Caves, and Surface Drainage: Mississippian Plateau, Western Kentucky, USA".....	696-698
Thomas A. Kaye, "Analysis of the Propagation of Error in Cave Surveys".....	800-801
Stephen Kempe, "Dissolution Experiments with Facets".....	647
Stephen Kempe and Kay Emeis, "Carbonaceous Sediments in a Gypsum Karst (Hainholz/ South Harz, Fed. Rep. Germany)".....	569-571
Thomas Kesselring, Ursula Sommer and Urs Widmer, "Subject Cave and Motivation for Speleology".....	802-804
A.B. Klimchuk, V.M. Shestopalov and G.V. Lisichenko, "Organizational Principles of Complex Stationary Researches of Karst".....	35- 37
A.B. Klimchuk, N.L. Yablokova and S.P. Olshtynsky, "The Regularities in the Formation of Gas Composition of the Air in the Large Karst Caves of Podolia and Bukovina".....	21- 23
Attila Kósa, "Desert Gypsum Karst in Biral Ghanam, Libya".....	154-155
Attila Kósa, "Gypsum Caves in Libya".....	156-158



	Pages
Andrej A. Kranjc, "Pebble Investigations in Slovene Caves (Yugoslavia)".....	18- 20
Walter Krieg, "New Genetic Problems in Corrosion - Caves in Gypsum".....	453-455
Primož Krivic, "Sea Tide Effect Study in Karst Caves on the Rim of Trst/Trieste/Bay".....	355
S. Lang, "Quaternary Climatic Change and Speleostratigraphic Development".....	448-450
A.G. Latham, "Magnetostatigraphy from Speleothems: Establishment and Applications".....	358-361
A.G. Latham, "Muck Spreading on Speleothems".....	356-357
Stein-Erik Lauritzen, "Glaciated Karst in Norway".....	410-411
Stein-Erik Lauritzen, "Simulation of Rock Pendants - Small Scale Experiments on Plaster Models".....	407-409
Kathleen H. Lavoie, "Abiotic Effects on the Successional Decomposition of Dung".....	262-264
Kathleen H. Lavoie, "Invertebrate Interactions with Microbes During the Successional Decomposition of Dung".....	265-266
Laszlo Lenart, Thesaurus of Hungarian Speleology, Project of an International 'Speleosaurus'".....	634-635
Thomas M. Lera, "Endangered Species Legislation in the United States".....	385-386
Ellen Levy, "The Foraging Behavior of the Cave Cricket, <u>Hadenoeus subterraneus</u> ".....	581
Ellen Levy, "Morphological and Behavioral Adaptations of the Cave Cricket, <u>Hadenoeus subterraneus</u> , for Exploitation of Unpredictable Food Resources".....	584
J.J. Lewis, "The Subterranean <u>Caecidotea</u> of the Interior Low Plateaus".....	234-236
Warren C. Lewis, "The Breathing of Coldwater Cave".....	89- 90
Warren C. Lewis, "Carbon Dioxide in Coldwater Cave".....	91- 92
Richard S. Lively, E. Calvin Alexander, Jr. and Jodi Milske, "A Late Pleistocene Chronologic Record in Southeastern Minnesota".....	623-626
Lloyd Logan, "The Mammalian Fossils of Muskox Cave, Eddy County, New Mexico".....	159-160
Kenneth M. Long and J. Philip Fawley, "Hydrology of Harlansburg Cave".....	387-390
Glenn Longley, "Ecosystem of a Deep Confined Aquifer in Texas".....	611
Penny R. Lukin and Barry F. Beck, "Caving Activity and Sensation Seeking of N.S.S. Members: A Psychological Profile".....	798-799
Guy J. Magniez, "Experimental Breeding of the U.S. Cavernicolous Crustacean <u>Caecidotea recurvata</u> (Steeves, 1963)".....	241-242
Richard Maire, "Formation of Great Underground Systems in Nakanai Mountains (New Britain - Papua New Guinea)".....	782-787
Richard Maire, "The High Perimediterranean Karsts".....	788-792
Li Maoqiu, "The Deep Karsts in Wujiang Valley at Wujiangdu Dam Site".....	732-734
Barbara Martin, "The Community Structure of Arthropods Associated with Bat Guano and Bat Carcasses in Tumbling Creek Cave, Missouri".....	3
J. Martini, "The Control of Karst Development with Reference to the Formation of Caves in Poorly Soluble Rocks in the Eastern Transvaal, South Africa".....	4- 5
J. Martini, "Early Proterozoic Paleokarst of the Transvaal, South Africa".....	6- 8
J. Mathieu, "Respiratory Metabolism Comparison of <u>Niphargus rhenorhodanensis</u> (Subterranean Crustacea, Amphipoda) from Two Different Karstic Systems".....	793-795
David McClurg, "Matching Cave Gear to Cave Hazards".....	252-253
David McClurg, "Self Tests for Conservation Awareness and Caving Skills".....	254-255
Gail McCoy, "Analysis of the Structural Control of Speleogenesis of Lilburn Cave, California, United States".....	319-321
Garry D. McKenzie, "Cryospeleology".....	266
Douglas M. Medville, "Geography of the Friars Hole Cave System, USA".....	412-414
Paul Mills, "Karst Drainage Patterns in the Quatsino Limestone, Northern Vancouver Island, Canada".....	117-119
Neil Montgomery, "Knots for Single Rope Techniques".....	479
George W. Moore, "Manganese Deposition in Limestone Caves".....	642-644
Manuel R. Gonzalez Morales, "The Karstic Reactivation Theory and the Epipalaeolithic Sites of Northern Spain".....	751-752



	<u>Pages</u>
John Mort, "The Fauna of Castleguard Cave".....	630
Donna Mroczkowski and Neil Montgomery, "A Brief Look at Single Rope Techniques and Equipment from Around the World".....	132
W.B. Muchmore, "Cavernicolous Pseudoscorpions of North and Middle America".....	381-384
Ralph Muller, "Cave Map Sumbols".....	588-603
Tatiana Muxart, "Etude comparee des variations des principales caracteristiques physico-chimiques de deux sources karstiques de Basse Provence en fonction de la nature geologique de L'aquifere".....	518-521
John Mylroie, "A Functional Classification of Karst".....	686-688
John Mylroie, "Glacial Controls of Speleogenesis".....	689-691
J. Nicod, "Karstic Poljes Borders".....	739-742
G.L. Nogrady, K. Szekely and K. Arpas, "Facial Reconstruction of an Easter Island Skull".....	138
Friedrich Oedl, "Protection of Ice Caves".....	640-641
Albert E. Ogden, "Pseudo-karst Caves of Arkansas".....	766-768
Albert E. Ogden, Wyndal Goodman and Samuel Rothermel, "Speleogenesis of Arkansas Ozark Caves".....	769-771
Tr. Orghidan and Magdalena Gruia, "On the Hyporheic Hydracarians of Cuba".....	792
Arthur N. Palmer, "Hydrochemical Factors in the Origin of Limestone Caves".....	120-122
Henri Paloc, H. Bonin, M. Bonnet, J. Guizerix, A. Lallemand-Barres, J. Margat and D. Thierry, "Resultats des Observations Conduites sur le Site Experimental de la Grotte du Lamalou (Causse de l'Hortus-France meridionale)".....	461-465
Maurizio G. Paoletti, "Soil Biology in the Southern Italian Alpine Area: General Problems of Biospeleology".....	568
Maurizio G. Paoletti, "Soil Biology: Activity and Prospects of the Research Carried Out by the 'Centro di Ecologia del Cansiglio', Venitian Prealps, Italy".....	568
J. Parzefall, J.P. Durand and B. Richard, "Aggressive Behavior in the European Cave Salamander <u>Proteus anguinus</u> (Proteidae, Urodela)".....	415-419
I.A. Pechorkin, A.I. Pechorkin and G.B. Bolotov, "Jointing as an Index of Sulphate Massif Karstification".....	181-182
Stewart Peck, "Evolution of Cave Cholevinae in North America (Coleoptera: beiodidae)".....	503-505
Stewart Peck, "The Geological, Geographical and Environmental Setting of Cave Faunal Evolution".....	501-502
Stewart Peck, "Review and Synthesis of the Evolution and Zoogeography of North American Terrestrial Cave Faunas".....	506-507
Jean-Francois Pernette, "Le Gouffre B.U. 56 = -1192 metres (Massif de la Pierre Saint-Martin)".....	574-576
Jean-Francois Pernette, "Techniques de Progression en Riviere Souterrain a Gros Debit".....	572-573
Giuseppe Lucio Pesce, "Subterranean Phreatic Biocoenoses of North Western Iran".....	566-567
Anna Petrohilou, "The Geranium Cave of Rethymnon, Crete".....	456-457
Eugenio de Bellard Pietre, "The Guacharo Cave".....	217-218
Eugenio de Bellard Pietre, "Radioactivity in Venezuelan Caves".....	219-220
Eugenio de Bellard Pietre, "Stalactite Growth in the Tropics Under Artificial Conditions".....	221-222
James A. Pisarowicz and Mark Maslyn, "Empirical Confirmation of Curl's (1974) Flow Velocity Calculations".....	772-774
Nickos A. Poulianos, "The Archanthropinae of the Petralonian Cave".....	508-510
Thomas L. Poulson, "Variations in Life Histories of Linyphiid Cave Spiders".....	60- 62
Thomas L. Poulson and Thomas C. Kane, "How Food Type Determines Community Structure in Caves".....	56- 59
Chris Pugsley, "Ecology of the New Zealand Glowworm <u>Arachnocampa luminosa</u> (Diptera: Mycetophilidae) in Caves at Waitomo, New Zealand".....	483-488
Chris Pugsley, "Management of a Biological Resource - Waitomo Glowworm Cave, New Zealand".....	489-492
Yves Quinif, "Thermoluminescence: A Method for Sedimentological Studies in Caves".....	309-313
Pierre Rias, "Le Secours Souterrain en France".....	674-678
Louise Robbins, Ronald C. Wilson and Patty Jo Watson, "Paleontology and Archeology of Jaguar Cave, Tennessee".....	377-380



	<u>Pages</u>
Jean Roberge, "La dissolution du clacaire dans la partie superieure du Bassin de la Riviere aux Saumons, Anticosti, Quebec".....	393-394
Jean Roberge, "La Genese des formes du Karst de la Haute-Saumons, Factuers determinants".....	391-392
Bruce W. Rogers, "Alpine Karst in the Sierra Nevada, California".....	544-546
Bruce W. Rogers, "Soil Pipe Caves in the Death Valley Region, California".....	547-548
Joseph W. Saunders, R. Keith Ortiz and William F. Koerschner, III, "Major Groundwater Flow Directions in the Sinking Creek and Meadow Creek Drainage Basins of Giles and Craig Counties, Virginia, USA".....	398-400
Ugo Sauro, "Morphogenetical and Chronological Aspects of Some Karst Areas in the Italian Alps".....	556-562
Ugo Suaro, "Reflections on Karst Geomorphology Research in Italy: 1960-80".....	563-565
J. Schroeder, "Clastic Sediments in the Castleguard Cave".....	496-498
J. Schroeder, "A Graphic Method of Analysis of the Phreatic Caves".....	493-495
George A. Schultz, "Isopods (Oniscoidea) from Caves in North America and Northern South America".....	551-552
Robert Seeman, "Systematics of Mineral Parageneses in Austrian Caves".....	256-259
Michel Siffre, "Deep Ice in the Cave of Scarasson, Marguareis Massif, Maritimes Alps, Italia".....	112
Michel Siffre, "Long-term Single Free-run Experiments and Their Results as a Performance Predictability Index in Astronauts".....	112
Michel Siffre and Gerard Cappa, "Cave Explorations and Archaeological Discoveries in the Cockpit Karst of Peten, Guatemala".....	286
Rabbe Sjöberg, "Tunnelcaves in Swedish Noncalcareous Rocks".....	652-656
Andrzej Skalski, "Composition and Origin of Underground Fauna in Poland".....	403-406
Boris Sket, "Fauna of Anchialine (Coastal) Cave Waters, Its Origin and Importance".....	645-647
Christopher Smart, "Glacier-Groundwater Interactions and Quantitative Groundwater Tracing in the Vicinity of Mount Castleguard, Banff National Park, Canada".....	720-723
Christopher Smart, "Quantitative Dye Tracing in an Alpine Karst Environment".....	587
Christopher Smart and M.C. Brown, "Some Results and Limitations in the Application of Hydraulic Geometry to Vadose Stream Passages".....	724-726
P.L. Smart, "Radon Sources and Distribution in Castleguard Cave".....	212
P.L. Smart, "Variation of Conduit Flow Velocities with Discharge in the Longwood to Cheddar Rising System, Mendip Hills".....	333-335
A. Richard Smith, "Evaporite Karst Gypsum Plain, Culberson County, Texas".....	482
Lawrence E. Spangler and John Thrailkill, "Hydrogeology of Northern Fayette County and Southern Scott County, Kentucky, USA".....	553-555
Jack Speece, "Early American Speleological Writings".....	183-184
David Steadman, "Vertebrate Fossils in Lava Tubes in the Galapagos Islands".....	549-550
Robert Stitt, "Cave Conservation in the United States of America: An Overview in 1981".....	187-189
Robert Stitt, "Underground Wilderness: A Conservation Principle and a Management Tool".....	185-186
Pierre Strinati, "A Pioneer in Speleology: The Swiss Painter Caspar Wolf (1735-1783)".....	458
Pierre Strinati and Villy Aellen, "Biospeleological Researches in the Island of Ceylon".....	459-460
Günter Stummer, "Der hypsometrische Höhlen-Ubersichtsplan".....	260-261
Wayne M. Sutherland, "Horseshief Cave: An Early Pleistocene Cavern".....	608-611
Kinga Szekeley and G.L. Nogrady, "Cooperation of Speleologist and Microbiologist".....	492
Ken Tankersley, "A Cupstone Petroglyph of Possible Astronomical Significance from an Early Woodland Site in the Karst Region, Jackson County, Kentucky".....	760-762
John Thrailkill, Phillip E. Byrd, William H. Hopper, Michael R. McCann, Lawrence E. Spangler, Joseph W. Troester, Douglas R. Gonzie and Kevin R. Pogue, "The Inner Bluegrass Karst Regions, Kentucky: An Overview".....	336-338
Robert Thrun, "A Comparison of Expected Survey Errors with Closure Adjustments".....	648-649
G.F. Tietz, "Hollow Calcite Crystals on Surfaces of Small Pools in the Liethohle/Sauerland, West Germany".....	362-363
G.F. Tietz, "Recent Formation of Carbonate Mineral Association in Dolomite Caves, Franconia, West Germany".....	364-366



	<u>Pages</u>
John C. Tinsley, D.R. Packer and S.R. Ulfeldt, "Sedimentologic and Speleogenetic Implications of Clastic Deposits in Central Lilburn Cave, Sequoia and Kings Canyon National Parks, CA, USA".....	291-294
J.C. Tinsley, D.J. Des Marais, G. McCoy, B.W. Rogers and S.R. Ulfeldt, "Lilburn Cave's Contribution to the Natural History of Sequoia and Kings Canyon National Park, CA, USA".....	287-290
Arturo Torres-González, "Hydrology of the Rio Camuy Caves System, Puerto Rico".....	475
S.T. Trudgill, A.M. Pickles and R.W. Crabtree, "Solute Uptake on a Magnesian Limestone Hillslope".....	351-352
Marie José Turquin, "The Tactics of Dispersal of Two Species of <i>Niphargus</i> (Perennial Troglotic Amphipoda)".....	353-355
Peter J. Uhl, "Photomonitoring as a Management Tool".....	476-479
Franco Urbani, "Karst Development in Siliceous Rocks, Venezuelan Guiana Shield".....	548
Sandra C. Van Luik, "Ecology of Crayfish from West Virginia Caves".....	657-658
Nicasio Viña, "The Karsts of the Oriental Part of Cuba".....	537-538
Josef Wagner, "Entwicklung und Typologie von Pseudokarst - Untergrundformen Der Aussenflyschkreise in Den Westkarpaten".....	636-637
Richard A. Watson and Philip M. Smith, "The Cave Research Foundation".....	372-373
Friedrich Weber, "Regression of the Locomotion Controlling System in Cavernicolous Carabid Beetles".....	667-669
W. Calvin Welbourn, "Cavernicolous Acari of North America".....	528
Steve G. Wells and Alberto A. Gutierrez, "Geomorphic Adjustments of Fluvial Systems to Groundwater Hydrology in Semiarid and Humid Karst".....	216
Oliver C. Wells, "Cave Diving in England in the 1950's".....	735-737
Urs Widmer, "Cave Research in Switzerland".....	638-639
Hurst Wilkens, "Regressive Evolution and Phylogenetic Age".....	622
P. Williams, "Multidisciplinary Research for Cave Management: The Waitomo Caves Research Program, New Zealand".....	150
Paul Williams, "Paleotemperature, Sea Level and Uplift Data from New Zealand Speleothems".....	151-153
John M. Wilson, Robert W. Custard, Evelyn W. Bradshaw and Philip C. Lucas, "The Evolution of the Virginia Cave Commission".....	585-587
Ronald C. Wilson, "First Extinct Vertebrates from Mammoth Cave, Kentucky".....	339
Edward E. Wood, Jr., "Interpretation as a Primary Tool in Cave Conservation Management".....	582-584
Charles J. Yonge, "Fluid Inclusions in Speleothems as Paleoclimate Indicators".....	301-304
Peter Zabrok, "The History of Exploration of Canadian Hole".....	369-371
Miloslav Zacharda and William Elliott, "Holarctic Cave Mites of the Family Rhagidiidae (Actinieda: Eupodoidea)".....	604-607
Zhao-xuan Zeng, "The Foot Caves in the Tropical China".....	479
Chen Zhiping, "Study of Features of the Karstic Depression in South China".....	499-500