

INDEX TO VOLUME 83

- Acer rubrum* 131, 248, *saccharinum* 131,
saccharum 131, *platanoides* 131
Achalarus lyciades 264
 Acipenseridae 137
Aconitum noveboracense 273
Acricotopus 75
Acroneuria 205
Acrostalagmus 192
 Adams Co., OH 109, prairies 22
Agalinis skinneriana 100
Agelaius phoeniceus 131
Alcaligenes 192
 algal bloom 270
 Allain, M. L. 215
 Allerton, R. 91
Allocapnia 204
Allorisma 157
Alosa pseudoharengus 138
 Alpha-Omega scale 241
 Alther, G. R. 225
Ambloplites cavifrons 146, *rupestris* 104, 139, 146
Amblyscirtes 2 spp. 265
Ambonychia 63
Ambystoma 3 spp., supernumerary limbs
 197–199
Amelanchier arborea 248
 Amiidae 135
Anabaena flos-aqua 270
Anaea andria 267
Ancyloxypha numitor 265
 Andreas, B. K. 246
Andropogon gerardii 23, 110, *scoparius* 68, 265,
virginicus 248
 Angle, M. P. 38
 Annala, A. E. 22, 109
 Annelida 210
Anthocharis midea annickae 266
Antocha 205
 Antonio, T. M. 50
 Apaturidae 267
Aphanizomenon flos-aqua 270
Apios priceana 274
Aplodinotus grunniens 139
Aquila chrysaetos 17
Arbor vitae 109
Arkonites bilixus 5
Artemia 198
Artionema tundra 208
Aruncus dioicus 266
Asellus 122
 Ashtabula, OH 225
Asimina triloba 265
Aspergillus 192, *niger* 193
Asterocampa celtis 267, *clyton* 262
Atalopedes campestris buron 265
 Athens Co., OH, butterflies 262
 Atherinidae 137
Attherix 205
Atrytone l. Rogan 265
Aulacomnium palustre 248
Aureolari pedicularia var. *ambigens* 100
 Ausich, W. I. 60
Autochton cellus 264
 avian frugivory 256
 Bacillariophyceae 125
Bacillus 192
Baetis 201
Baltisphaeridium 11, *distentum* 11
 Barrett, G. W. 31, 65
Bartonina 98, *virginica* 100, 249
 bass, Roanoke 146, largemouth 139, spotted
 153
 bats, survey 45
Battus p. philenor 265
 benthic organisms 209
 Bettarello, A. 28
Betula populifolia 246
Biddulphia laevis, Maumee River, OH 125
 bioenergetics, screech owl 65
 blackbird roosts, central OH 131
 bluegills 119
 Boesel, M. W. 74
 bog 246
Boloria b. bellona 267
Bombycilla cedorum 257, *cedrorom* 17
 Bookhout, T. A. 45, 69
 book reviews:
 Biological Illustration Techniques and
 Exercises 144
 Endangered and Threatened Plants of Ohio
 273
 How to Write and Publish a Scientific Paper
 69
 The Terminology of Anatomy and Physiology
 215
Botrytis 192
Bouteloua curtipendula 23, 110
Boyeria 2 spp. 141
 Brachiopoda: Devonian 114
Branta canadensis 34
Bryoxiphium norvegicum 274
 Bull Fork Formation, Warren Co., OH 60
Buteo jamaicensis 13

- butterflies, new OH record 67, Athens Co., OH 262
- Caecidotea* 2 spp. 122
- Caenis* 205
- Galephelis borealis* 262
- Callophrys augustinus* 268, 2 spp. 266
- Calycopis cecrops* 266
- Campostoma anomalum* 103, 202
- Carassius auratus* 138
- Cardinalis cardinalis* 32, 257
- Carduelis tristis* 257
- Carex* 2 spp. 248, 250, *emmonsii* 274
- Caritodens demissa* 63
- Carpiodes cyprinus* 139
- Carpodacus purpureus* 257
- Cashner, R. C. 146
- Catharus* 2 spp. 257
- Catostomidae 136
- Catostomus commersoni* 139, 202
- Ceanothus americanus* 265
- Celastrina* 2 spp. 266
- Celastrus scandens* 256
- Celtis occidentalis* 267
- Centrarchidae 136
- Ceratodon purpureus* 249
- Cercis canadensis* 113, 266
- Cercyonis pegala alope* 268
- Certhia familiaris* 257
- Chagas' disease 28
- Chamaedaphne calyculata* 250
- Chelone glabra* 267
- Cheumatopsyche* 205, 210
- Chile 142
- Chironomidae 74, 201
- Chlosyne nycteis* 267
- Chromagrion conditum* 141
- Cicadellidae 142
- Cincinnati crinus pentagonus* 60
- Cincinnati Zoo, OH 183
- Cladonia* 248
- Cladophora* 202, *glomerata* 125
- Cleves, OH 168
- Clionoides thomasi* 114
- Clupeidae 137
- Coleoptera 211
- Colias cesonia* 262, 3 spp. 266
- Colombia 142
- Compositae, new to OH 269
- Conte, V. P. 28
- Convolvulus spithameus* 100
- Cooper, C. L. 138
- Cooperrider, T. S. 273
- Cordulegaster maculatus* 141
- Coregonus clupeaformis* 139
- Cornulites* 115
- Cottidae 136
- Cottus* 139
- Cranberry Bog, Licking Co., OH 19
- Crataegus* 256
- Craycraft, M. J. 256
- crayfish, OH 271
- Cricotopus* 19 spp. 74-90
- Cuba Moraine, OH 177
- Cucurbita maxima* 50
- Cupulocrinus polydactylus* 60
- currents, lake and wind 25
- Cuyahoga River, OH, quality 209
- Cyanocitta cristata* 257
- Cymatiosphaera* 2 spp. 5
- Cyprinidae 137
- Cyprinodontidae 135
- Cyprinus carpio* 138
- Dalgarn, D. S. 50
- Danaidae 268
- Danaus plexippus* 268
- Danek, L. J. 225
- Danthonia spicata* 248
- Danbrot, F. H. 241
- damsel flies 141
- darters 103, greenside, rainbow, fantail 201
- Dasyphilula* 11
- Daubney, J. 241
- Dawes Arboretum, glacial geology 155
- Day, R. A. 69
- Decodon verticillatus* 251
- DeLong, D. M. 142, 213
- Dendrocrinus casei* 60
- Dendroica* 4 spp. 257
- Dennis, D. 144
- diatoms 125
- Dictyotidium* 2 spp. 5
- Diexallophasis simplex* 11
- Dipodomys* 2 spp. 253, 2 spp. 255
- Dipsacus sylvestris* 21
- Diptera 74, 203, 211
- Donohoe, R. W. 188
- Dorosoma cepedianum* 138
- Downey, J. C. 144
- dragonflies 141
- Drepanocladus fluitans* 248
- Drosera intermedia* 100, *rotundifolia* 100, 248
- Dubois, J. D. 22
- Dumetella carolinensis* 257
- Dumorphia dedeca* 213, *fortella* n. sp. 213
- gordana* n. sp. 213
- Dutta, H. M. 119
- Duvernaysphaera angelae* 5, *tenuicingulata* 10
- Easterly, N. W. 97, 269
- echinoderms, Upper Ordovician 60
- ecotone habitats, food removal 31
- Edge of Appalachia Preserve, OH 109
- Enallagma* 3 spp. 141

Endangered and Threatened Plants of Ohio,
book review 273

Endochironomus nigricans 80

Enterobacter 192

enterolith, equine 54

Epargyreus c. clarus 264

Ephemeroptera 201, 210

Eptesicus fuscus 45

Ericymba buccata 103.

Erynnis 6 spp. 264–268

Esocidae 137

Esox niger 149

Estiastra rhytidosa 5

Etheostoma 5 spp. 103–108, 2 spp. 139, 4 spp.
201–202

Eucricotopus 78

Euonymus americanus 274

Euphydryas p. phaeton 267

Euphyes ruricola metacometa 265

Euptoieta claudia 267

Euptychia sosybius 262, 3 spp. 267

Eurema 2 spp. 266

Euristrymon ontario 268

eutrophication in the Great Lakes 91

Everes c. comyntas 266

Exochoderma arca 11

Faure, G. 54, 177

Feniseca tarquinius 266

Festuca elatior 65

Filaria 208

Fisher, T. R. 269

fish hatcheries 271, larvae 135, 138

Flexicalymene meeki 63

food resource removal comparison 31,
selectivity, darters 201

forest habitats, food removal 31, overtaking
prairies 22, 109

Forsyth, J. L. 155

Fortner, R. W. 218

fractionation, feldspar 177

Fraxinus pennsylvanica 131

Froelich, P. A. 259

frog tissue implants 197

frugivory, avian 256

gallbladders, Chagasic 28

Gaurocrinus nealli 60

Gaylussacia baccata 249

geese, Canada 34

geography research 161

Geotblypis trichas 257

Gerardia pedicularia 100

glacial geology 155, pre-Illinoian 168

Glaucopsyche l. lygdamus 266

Glyptorthis insculpta 61

Goldthwait, R. P. 168

Gomphus lividus 141

Goniolopadion prolixum 5

Gorgonisphaeridium inflatum 11

Gorilla g. gorilla 183

Graphium marcellus 265

Griffith, D. C. 241

gulls, artificial nests 34

Gypona, new neotropical 142, *barda* n. sp.

143, *concessa* n. sp. 142, *fulvanota* n. sp.

142, *gelbana* 143, *rusticana* 142, *scabella* n.

sp. 142, *viridans* 143

Habenaria ciliaris 100

Haghighi, A. Z. 119

Hall, G. F. 168

Halocladus 75

Hamilton Quarry, Marion Co., OH 2

Hancock, J. F. 50

handling, rats 259

Hapsidopalla 2 spp. 11

Harkenclenus titus 266

Harnapp, V. R. 161

Hedeon, S. E. 183

Helianthemum bicknellii 100

Helobdella stagnalis 211

Hemicarpha micrantha 100

Hemiptera 211

Herdendorf, C. E. 138, 270

herring gulls 34

Hesperia leonardus 265, *metea* 67, 265

sassacus 268

Hesperiidae 264

Hexatoma 205

Hieracium canadense var. *fasciculatum* 100,
2 spp. 269

Hiodontidae 137

Hirundo rustica 17

histology 253

Hlohowskyj, I. 201

Hoare, R. D. 114

Hoffman, R. D. 34

holocrine skin glands 253

Homoptera 142

Homo sapiens 21

honeysuckle 256

hormone, rat growth 259

horse, enterolith 54

Host, G. E. 246

Hydropsyche 201

Hydroptila 201

Hylephila phyleus 262

Hypentelium nigricans 103, 202

Hypericum virginicum 248

Ictaluridae 136

Icteria virens 257

Iftner, D. C. 67

Ilex verticillata 250

Induoglobus latipenniscus 5

- Ingersoll, C. G. 103
 Ingold, J. L. 256
Isocladus 75
Isonychia 205
 isopods 122
Isotelus 63
Isthmia 2 spp. 129

 Jamaica 142
 Jenkins, R. E. 146
Juncus greenii 100, 2 spp. 248
Juniperus virginiana 23, 113

 kangaroo rat 253
 Kapustka, L. A. 22, 109
 Kelly, J. L. 144
Kenotbecaster 60
 King, J. E. 91
 Kociolek, J. P. 125
Krigia virginica 101
 Kruse, E. A. 65

 Lacki, M. J. 45
 lake currents 225
 Lake Erie 91, 225, algal bloom 270, larval fish survey 138
 lakes, student attitudes 218
 Lall, S. B. 119
 Lamb, M. A. 125
Lanthis albistylus 141
 Larinae 37
Larus argentatus 34
 larval fishes, Lake Erie 138, Ohio River 135
Lasionycteris noctivagans 47
Lasiurus borealis 45, *cinereus* 47
 Layman, D. P. 215
Lechea leggettii 100, var. *moniliformis* 101
Leersia oryzoides 248
Lepidocyclus capax 63
 Lepisosteidae 137
Lepomis 139, *macrochirus* 119
Lestes 4 spp. 141
Lethe 2 spp. 267
Liatris squarrosa 25, 101
Libellula quadrimaculata 141
Libytheana b. bachmanii 262
 Libytheidae 267
Lichenocrinus 60
 Licking Co., OH 155
Ligustrum vulgare 256
Lilium philadelphicum var. *andinum* 101
 limbs, supernumerary 197
 limed spoils 191
Limenitis 2 spp. 267
 limestones, Middle Devonian Columbus and Delaware 2
 lipids, senescent leaf tissue 50
Lonicera 2 spp. 256

Lota lota 139
 Lowe, R. L. 125
Loxoplocus bowdeni 63
 Lucas Co., OH, Schwamberger Preserve 97
 Lucia, C. M. 185
Lycaena 2 spp. 266
 Lycaenidae 266
Lycopodium inundatum 100, 248, 4 spp. 249

Maclura pomifera 256
 Maier, S. 191
 Maloney, P. 241
Marganarana 143
 Margulies, D. 135
 marine education 218
 Massachusetts, *Caecidotea* 122
 Maumee River, OH 125
 Mayer, V. J. 225
 McClain, M. W. 188
 McKibben, C. E. 188
Medicago sativa 265
 Medina Co., OH, equine enterolith 54
 Megaloptera 211
Meleagris gallopavo 189
Melosira borreii 129
Melospiza melodia 257
Menyanthes trifoliata 251
 Meserve, L. A. 259
 methyl mercury changes in fish serum proteins 119
 Mexico 142
Micrhystridium 10, "paucispinum" 11
Microcystis aeruginosa 270
Micromonospora 192
 microphytoplankton, organic-walled Devonian 2
Micropterus dolomieu 139, *punctulatus* 153
Microtus 66
 Micacchion, M. 131
Mimus polyglottus 257
 mine, strip 191
 Mizera, J. J. 138
 Mohlenbrock, R. H. 273
 Mollusca 211
Molothrus ater 131
 Monaco, M. E. 270
Morone chrysops 139
Morus rubra 31
Moxostoma 139
Multiplicisphaeridium ramusculosum 11
 Mundahl, N. D. 103
Muraticavea munificus 10
Mus musculus 65
Myotis 3 spp. 45-46
Myriophyllum 74

Nastra lherminier 265
Nathalis iole 262

- Navifusa bacillum* 11
 necrology 275
Nelumbo 74
 nesting, gulls, artificial 34
 neuronal clustering and denudement 28
 Newman, D. W. 50
 Newman, I. 241
 Noble, A. G. 161
 Norrocky, M. J. 271
 Norton, L. D. 168
Nostoc 74
Notophthalmus viridescens 197
Notropis 3 spp. 139, cornutus 202
Noturus flavus 202
Nuphar 74
Nycticteus humeralis 47
Nymphaea 74
 Nymphalidae 267
Nymphalis 3 spp. 267–268
Nyssa sylvatica 248

 oceans, student attitudes 218
Odocoileus virginianus 208
 Odonata 141, 211
 Ohio Academy of Science, geography section
 161, officers list 1983–84 277
 Ohio, crayfish 271, new Compositae 269,
 Cricotopus 74, students' aquatic attitudes
 218, strip mine spoils 191, wastewater
 treatment plants 91
Ohio Journal of Science, reviewers of papers 1982
 71, statement of ownership, management and
 circulation 72
 Ohio River, fish larvae 135
 old-field habitats, food removal 31
 Oligochaeta 211
 Olive, J. H. 209
Ophiogomphus carolus 141
 orientation cues, sparrow 185
 Orthoclaadiinae 201
Orthocladus 75
Orthonyboceras 63
 Osborne, D. R. 13, 185
Osmerus mordax 139
Otus asio 65
 owls, screech 65
Ozotobranchion 2 spp. 11

Palacanthus ledanoisi 11
Panicum leibergii 274, virgatum 23, 110
Pantbiades m-album 266
 Papilionidae 265
Papilio cressphontes 262, 4 spp. 266
Paracapnia 201
Parachironomus tenuicaudatus 80
Paraspirifer bownockeri 114

Paratrichocladius 75
 Parker, W. P. 188
Parus 2 spp. 257
Passerculus sandwichensis 185
Passerella iliaca 257
Passerina cyanea 257
 pedologic evidence 169
Pelecanus occidentalis 17
Penicillium 192
Pentaclethra macroloba 21
Perca flavescens 139
 Percichthyidae 137
 Percidae 136
Percina caprodes 139
 Percopsidae 135
Percopsis omiscomaycus 139
Peromyscus 3 spp. 31–32, 4 spp. 65
 Perry, T. E. 141
 (?) *Petraster* sp. 60
 Petromyzontidae 136
Phlox drummondii 21
Phoebis sennae 262, s. *ebule* 266
Pholisora caullus 265
 phosphorus removal 91
Phyciodes t. tharos 267
Physa 211
Phyto lacca 33
 Pieridae 266
Pieris 2 spp. 266
Pimephales notatus 202
 Pinotti, H. W. 28
Pinus spp. 266, *taeda*, *strobis* 131, *virginiana*
 22, 113
Pipistrellus subflavus 45
 pitcher plant, population growth 19
 pituitary, rat 259
 plant species, endangered and threatened 97,
 273
Platanus occidentalis 131
 Platyhelminthes 210
Platystrophia clarksvillensis 63
 Plecoptera 203
Poa 2 spp. 265
Poa pratensis 65
 Poeciliidae 135
 Polgar, L. W. 31
Polites 3 spp. 265
 pollution, water 91
 Polychaeta borings 114
Polydrixium 6 spp. 10
Polygala cruciata 100, var. *aquilonia* 101
Polygonia 3 spp. 267
Polygonum 74
 Polyodontidae 137
Polypedium convictum 80, *illinoense* 82
Polytrichum commune 248, *piliferum* 249

- Pomoxis nigromaculatus* 138, *annularis* 139
Pompeius verna 265
Populus 2 spp. 248
 Portage Co., OH, bog 246
Potamogeton 74
Potentilla canadensis 68
 prairies, lost to forests 22, 109
Precis coenia 267
 pre-Illinoian glaciations 168
 prey selection, screech owls 65
Procambarus (Scapulicambarus) clarkii 271
 provenance dates 177
Prunus serotina 31, 131
Psephenus 204
Pterospermella 2 spp. 10, 11
Pyrus melanocarpa 248, 2 spp. 265

Quercus spp. 22, 113, *alba* 265, 267, *montana*
 267, *palustris* 248, *virginiana* 131
Quiscalus quiscula 131

 Rabalais, F. 208
Rana pipiens 197
Ranunculus 3 spp. 21
Ratibidus pinnata 25
 Red Swamp crayfish 271
 red-tailed hawk, growth analysis 13
 resource partitioning, darters 201
Rhamnus cathartica 256
Rheocricotopus 75
Rhinichthys atratulus 103, 202
Rhus copallina, *typhina* 264, 265, *vernix* 248
 Richards, J. E. 91
 Richfield Twp., Summit Co., OH 38
 Riordinidae 267
 Roanoke bass 146
 Roanoke River, VA 146
Rosa spp. 256, *multiflora* 265
Rubus spp. 256, *frondosus* 31

Salix spp. 267
Salmo trutta 104
 sandstone quarry 246
 Sandusky Bay, OH 271
Sarracenia purpurea 19
 Satyridae 267
Satyrium 2 spp. 266
Schizachyrium scoparium 23, 110
 Schumacher, G. A. 60
 Schurr, K. 208
 Schwaegerle, K. E. 19
 Schwamberger Preserve, OH 97
 Sciaenidae 136
Scirpus cyperinus 248
Seiurus aurocapillus 257
Semotilus atromaculatus 103, 202

Senecio obovatus 267
Serratia marcescens 193
 serum proteins, fish 119
Setaria faberii 65, *yebi* 208
 Shuey, J. A. 262
 Silica Formation, OH 114
 Silica Sand Quarry, Portage Co., OH 246
Silphium terebinthinaceum 25
 Simuliidae 203
Simulium 201
Sisyrinchium atlanticum 101
 skin glands 253
 skipper, cobweb 67, 265
 Smith, D. G. 122
 Smith, P. J. 241
Somatochlora tenebrosa 141
Sorghastrum nutans 23, 110
Spaniotoma 75
 sparrows, white-throated 185
Speyeria 3 spp. 267, *diana* 268
Sphagnum bog 246, 6 spp. 246, 248, 249, 251
Spiraea tomentosa 248
Spirogyra 74
Spizella 2 spp. 257
 Springer, M. A. 13
Staphylus hayhurstii 262
Stellinum octoaster 11
Stenelmis 205
Stenonema 201
 Sterns, H. 241
Stizostedion 2 spp. 139
 stratigraphy, micro-fossils 2, quarternary 39
 Stratton, B. D. 241
 Streptomyces 192
 stress 241
 strip mine spoils 191
Strymon melinus humuli 266
Stryphnodendron excelsum 21
Sturnus vulgaris 131
 sunset as cue 185
 supernumerary limb induction 197
 synthesis, inhibition 50
 Szabo, J. P. 38

 Tanypodinae 203
 Tassava, R. A. 197
 taxa, endangered and threatened 100, 273
 Taylor, K. S. 54, 177
 temperature, lake 225
Thaudenta clarksvillensis 63
Thelypteris palustris 250
Thiobacillus 192
Thorybes 2 spp. 264
Thymelicus lineola 262
 Townsend, T. W. 131
Toxosoma rufum 257

- transmissivity, lake 225
 Trauben, B. K. 209
Tribolium confusum 21
Trichocladius 75
 Trichoderma 192
 Trichoptera 201, 211
 Trumpy, R. D. 65
Trypanosoma cruzi 29
Tunisphaeridium tentaculaferum 11
Turdus migratorius 132, 257
 turkeys, wild in Ohio 188
Tyligmasoma alargadum 11
Typha latifolia 246

Ulmus americana 131
 Utsala, S. J. 191

Vaccinium 3 spp. 246, 248, 265
Vanessa 3 spp. 267
 vegetation, blackbird roost 131
Vermiforichnus clarki 114
Vermivora peregrina 257
Verybachiium 4 spp. 11
Viburnum recognitum 256
Viola lanceolata 101

Vireo 2 spp. 257
Vitis 33, 256
Vorticella campanula 270

 Walden, R. L. 114
Wallengrenia egeremet 265
 wastewater treatment 91
 water, pollution 91, quality 209
 Wayne National Forest, OH, bats 45
 weight gain, rat 259
 Wendt, R. H. 91
 Westerhaus, M. D. 253
 White, A. M. 138, 201
 Wicander, R. 2
 wildlife, student attitudes 218
 wind currents 225
 Wisconsin till, Late 177
 Wright, R. P. 2

Xenocrinus 60
Xyris torta 100

Zonotrichia albicollis 185, 257
Zygospira modesta 63

PUBLIC LECTURE

DR. MICHAEL RUSE

Professor of Philosophy and History
 University of Guelph, Ontario
 Author of *Darwinism Defended*

will present a lecture entitled

SCIENCE AND RELIGION: DO THEY HAVE TO BE AT WAR?

Monday, 27 February 1984, 8:00 P.M.

Ovalwood Hall Auditorium

The Ohio State University at Mansfield
North Central Technical College

General Admission \$3.00

Students \$2.00