INDEX TO VOLUME 98

A

Accipiter cooperii, 123, 165
gentilis, 123
striatus, 123

Acorns, 474

Acoustic adaptation hypothesis, 608

Acoustic signal amplitude patterns: a computer simulation investigation of the acoustic adaptation hypothesis, by Timothy J. Brown and Paul Handford, 608

Acremonium coenophialum, 859

Adelie Penguin, 410

Aegolius acadicus, 153
funereus, 153

Aerial surveys, 189, 837

Afton, A. D., see Cox, R. R., Jr.

Age-specific survival and philopatry in three species of European ducks: a long-term study, by Peter Blums, Aivars Mednis, Ilmars Bauga, James D. Nichols and James E. Hines, 6

Agelaius assimilis, 832
humeralis, 832

Aggression in White-crowned Sparrows: effects of distance from cover and group size, by Robert Slo
tow, 245

Agonistic vocalizations, 557

Ainley, David G., Larry B. Spear, Sarah G. Allen and Christine A. Ridic, Temporal and spatial pat-
terns in the diet of the Common Murre in Cal-
fornia waters, 691

Akiapolaau, 312

Alaska, 48, 54, 162, 189, 337, 350, 433, 653, 820

Aleutian Islands, 653

Allen, S. G., see Ainley, D. G.

Allozymes, 459, 527, 681

Alonso, H. G., see Wallace, G. E.

Alworth, Tom, An experimental test of the function of sticks in the nests of House Wrens, 841

Amplitude modulation, 608

Amsterdam Island, 1

Anas acuta, 48, 810, 820
clypeata, 61
crecca carolinensis, 27
marecula, 1

Anatidae, 61

Angon, A. C., see Greenberg, R.

Annkney, C. D., see Paquette, G. A.

Annual and seasonal variation, 691

Anous stolidus, 322

Aphelocoma, 234, 474
coerulescens, 422
ultramarmalis, 879

Aquila chrysaetos, 293, 633

Archilochus alexandri, 557

Ardea herodias, 181

Argentina, 866

Arizona, 153

Artemesia, 75

Aspects of the life history and foraging ecology of the endangered Akiapolaau, by C. John Ralph and Steven G. Fancy, 312

Audouin's Gull, 848

Auriparus flaviceps, 424

Aves, 547

Avian abundance, 483

Aythya americana, 801
erina, 61
fuligula, 61
valisinera, 512, 801

Azores, 216

B

Bacteria, 167

Badyaev, Alexander V., and John D. Faust, Nest site fidelity in female Wild Turkey: potential causes and reproductive consequences, 589

Baker, A. J., see Friesen, V. L.

Baltimore Oriole, 658

Bancroft, G. T., see Frederick, P. C.

Bar-tailed Godwit, 363

Barlow, J. C., see Kozlovic, D. R.

Barrow, J. C., see Kozlovic, D. R.

Barnacle Goose, 42

Batista, D. R., see Wallace, G. E.

Bauga, I., see Blums, P.

Behavioral interactions among brood parasites with precocial young: Canvasbacks and Redheads on the Delta marsh, by Rodney D. Sayler, 801

Bell, Douglas A., Genetic differentiation, geographic variation and hybridization in gulls of the Larus glaucescens-occidentalis complex, 527

Berkelman, James, Breeding biology of the Madagascar Buzzard in the rain forest of the Masoala Peninsula, 624

Bielefeldt, J., see Rosenfield, R. N.

Biogeography, 371

Bird communities of northern forests: patterns of diversity and abundance, by Mary F. Willson and TallChief A. Comet, 337

Bird communities of northern forests: ecological correlates of diversity and abundance in the under
story, by Mary F. Willson and TallChief A. Comet, 350

Bird community, 337, 350

Bird migration: methodologies and major research trajectories (1945-1995), by Sidney A. Gauth-
reaux, Jr., 442

Bird Song, Biological Themes and Variations, by C. K. Catchpole and P. J. B. Slater, reviewed by R. Haven Wiley, 670

Bird, D. M., see Brodeur, S.

Björklund, Mats, The effect of male presence on nestling growth and fluctuating asymmetry in the Blue Tit, 172

Black Brant from Alaska staging and wintering in Japan, by Dirk V. Derksen, Karen S. Bollinger, David H. Ward, James S. Sedinger and Yo-
shihiko Miyabayashi, 653

Black Kite, 93
INDEX TO VOLUME 98

Black-billed Magpie, 272
Black-capped Chickadee, 885
Black-chinned Hummingbird, 557
Black-tailed Gnatcatcher, 424
Blood serology, 825
Blue Petrel, 627

Blums, Peter, Aivars Mednis, Ilmars Bauga, James D. Nichols and James E. Hines, Age-specific survival and philopatry in three species of European ducks: a long-term study, 61

Body composition, 371, 512
condition, 42, 234
length, 581
mass, 363
size, 123, 581

Body length and wing length provide univariate estimates of overall body size in the Merlin, by Christer G. Wiklund, 581

Boersma, P. D., see Yorio, P.
Bollinger, K. S., see Derksen, D. V.

Boreal forest, 337
The Boreal Owl at the southern terminus of the Rocky Mountains: undocumented longtime resident or recent arrival?, by Dale W. Stahlecker and Russell B. Duncan, 153

Bottomland hardwoods, 483

Boulinier, Thierry, On breeding performance, colony growth and habitat selection in Buff-necked Ibis, 440

Bozinovic, F., see Novoa, F. F.

Brachyramphus, 681
brevirostris, 433
Branta benicla nigricans, 653
canadensis, 859
canescens, 42

Breeding, 189, 216, 832
Breeding behavior, social organization and morphology of Red-shouldered (Agelaius assimilis) and Tawny-shouldered (A. humeralis) Blackbirds, by Linda A. Whittingham, Arturo Kirkconnell and Laurene M. Ratcliffe, 832

Breeding biology, 208, 624
birds, 706
date, 42
dispersal, 82, 165, 589
philopatry, 61
range, 153
systems, 300

Breeding biology of the Dolphin Gull at Punta Tombo, Argentina, by Pablo Yorio, P. Dee Boersma and Scott Swann, 208

Breeding biology of the Madagascar Buzzard in the rain forest of the Masoala Peninsula, by James Berkelman, 624

Bried, J., see Chastel, O.

Brightness, 780

Briskie, James V., Lack of sperm storage by female migrants and the significance of copulations en route, 414

British Columbia, 337, 350

Brodeur, Serge, Robert Décarie, David M. Bird and Mark Fuller, Complete migration cycle of Golden Eagles breeding in northern Quebec, 293

Brood parasitism, 253, 630, 645, 801, 866

Brown Noddy chick predation by Great Frigatebirds in the northwestern Hawaiian Islands, by Jennifer Lynn Megyesi and Curtice R. Griffin, 322

Brown, Jerram L., and Shou-hsien Li, Delayed effect of monsoon rains influences laying date of a passerine bird living in an arid environment, 879

Brown, Kevin M., and Peter J. Ewins, Technique-dependent biases in determination of diet composition: an example with Ring-billed Gulls, 34

Brown, Timothy J., and Paul Handford, Acoustic signal amplitude patterns: a computer simulation investigation of the acoustic adaptation hypothesis, 608

Brown-and-Yellow Marshbird, 630
Brown-headed Cowbird, 253, 259, 645

Brumfield, Robb T., and A. P. Capparella, Genetic differentiation and taxonomy in the House Wren species group, 547

Buff-necked Ibis, 440

Build-up of red blood cells in refuelling Bar-tailed Godwits in relation to individual migratory quality, by Theunis Piersma, Jan M. Everaarts and Joop Jukema, 363

Bullock's Oriole, 658

Burger, J., see Niles, L. J.

Bustnes, Jan Ove, Is parental care a constraint on the habitat use of Common Eider females?, 22

Buteo brachypterus, 624
galapagoensis, 300
swainsoni, 876

C

Cade, T. J., see Woods, C. P.

Calidris, 431

Call analysis, 557

Calonectris diomedea borealis, 216

Campbell, E. G., see DellaSala, D. A.

Campbell, R. Wayne, A review of Shorebirds of the Pacific Northwest, by Dennis Paulson, 667

Canada Goose, 759

Canopy gaps, 706

Canvasback, 512, 801

Cape May, 382

Capparella, A. P., see Brumfield, R. T.

Carpodacus mexicanus, 253

Carpodacus mexicanus, 253

Causds of hatching failure in the Pied Flycatcher, by Jaime Potti and Santiago Merino, 328

Cavities, 464, 483

Centrocercus urophasianus, 868

A Century of Avifaunal Change in Western North America, edited by Joseph R. Jehl, Jr. and Ned K. Johnson, reviewed by Dennis R. Paulson, 664

Charadriformes, 459

Chastel, Olivier, and Joel Bried, Diving ability of Blue Petrels and Thin-billed Prions, 627

Chick provisioning, 34

Chickadees, Tits, Nuthatches & Treecreepers by Simon Harrap and David Quinn, reviewed by Jack P. Hailman, 893

Chilton, Glen, and M. Ross Lein, Long-term changes
INDEX TO VOLUME 98

in songs and song dialect boundaries of Puget Sound White-crowned Sparrows, 567
Christian, P. D., see Christidis, L.
Christidis, Les, Kizanne Davies, Michael Westerman, Peter D. Christian, and Richard Schoedde, Molecular assessment of the taxonomic status of Cox's Sandpiper, 459
Cichewicz, R., see Lombardo, M. P.
Ciconiiformes, 837
Clamator glandarius, 272
Clark, K. E., see Niles, L. J.
Cleaning station, 422
Climate, 879
Cloacal bacteria, 167
Clutch initiation, 234
size, 42, 54, 181, 328, 820, 858
Coal Tit, 863
Coffee, 640
Colinus virginianus, 854
Colonial breeding, 440
Colonial seabird nesting in dense and small sub-colonies: an advantage against aerial predation, by Daniel Oro, 848
Colony size, 848
Color preference, 780
Colorado, 153
Columbia livia, 437
Columbidae, 100
Colwell, M. A., see Dodd, S. L.
Cornet, A., see Willson, M. F.
Common Eider, 22
Murre, 691
Yellowthroat, 491
Comparative analysis, 279
Comparison of aerial and ground techniques for discovery and census of wading bird (Ciconiiformes) nesting colonies, by Peter C. Frederick, Tim Towles, Richard J. Sawicki and G. Thomas Bancroft, 837
Competition, 640
Complete migration cycle of Golden Eagles breeding in northern Quebec, by Serge Brodeur, Robert Décarie, David M. Bird and Mark Fuller, 293
The composition and foraging ecology of mixed-species flocks in pine forests of Hispaniola, by Stephen C. Latta and Joseph M. Wunderle, Jr., 595
Computer simulations, 608
Conant, B., see Groves, D. J.
Congeners, 165
Connelly, J. W., see Fischer, R. A.
Conover, Michael R., and Terry A. Messmer, Feeding preferences and changes in mass of Canada Geese grazing endophyte-infected tall fescue, 859
Conspecific attraction, 440
Constraints on double brooding in a Neotropical migrant, the Hooded Warbler, by Lesley J. Evans Ogden and Bridget J. M. Stutchbury, 736
Cooper's Hawk, 165
Cooperative polyandry, 300
Copulation behavior, 414
frequency, 410
The corticosterone stress response in Gentoo and King Penguins during the non-fasting period, by Rebecca L. Holberton, Brian Helmut and John C. Wingfield, 850
Cory's Shearwater, 216
Courtship, 722
Cover, safe, 245
Cowbird reproductive success, 259
survivorship, 253
host laying synchrony, 259
Cox, Robert R., Jr. and Alan D. Afton, Evening flights of female Northern Pintails from a major roost site, 810
Cox's Sandpiper, 459

Cuba, 745
Cultural transmission, 567
Custer, C. M., see Custer, T. W.
Custer, Thomas W., Randy K. Hines and Christine M. Custer, Nest initiation and clutch size of Great Blue Herons on the Mississippi River in relation to the 1993 flood, 181
Cytochrome b, 459, 681

D
Dalhaug, Laila, Ingunn M. Tombre and Kjell Einar Erikstad, Seasonal decline in clutch size of the Barnacle Goose in Svalbard, 42
Dark-eyed Junco, 636
Davies, K., see Christidis, L.
Davis, L. S., see Hunter, F. M.
Day, Robert H., Nesting phenology of Kittlitz's Murrelet, 433
Dearborn, Donald C., Video documentation of a Brown-Headed Cowbird nesting ejecting an Indigo Bunting nesting from the nest, 645
Décarie, R., see Brodeur, S.
Delahay, R. J., and R. Moss, Food intake, weight changes and egg production in captive Red Grouse before and during laying: effects of the parasitic nematode Trichostrongylus tenius, 501
DeLay, Linda S., John Faaborg, Jenny Naranjo, Sara M. Paz, Tjitte de Vries and Patricia G. Parker, Paternal care in the cooperatively polyandrous Galapagos Hawk, 300
Delayed effect of monsoon rains influences laying date of a passerine bird living in an arid environment, by Jerram L. Brown and Shou-hsien Li, 879
DellaSala, Dominick A., Joan C. Hagar, Kathleen A. Engel, William C. McComb, Randal L. Fairbanks and Ellen G. Campbell, Effects of silvicultural modifications of temperate rainforest on breeding and wintering bird communities, Prince of Wales Island, southeast Alaska, 706
Demography, 312
Dendroica petechia, 640
Density, 272
Derksen, Dirk V., Karen S. Bollinger, David H. Ward, James S. Sedinger and Yoshikiko Miyabayashi,
Black Brant from Alaska staging and wintering in Japan, 653
Determinate laying, 858
Dialect boundaries, 567
Diet, 34, 279, 691, 873
Dietary interactions, 474
Differential migration, 633
Differential reproductive success of Brown-headed Cowbirds with Northern Cardinals and three other hosts, by David M. Scott and Robert E. Lemon, 259
Dietary efficiency, 873
Diomedea bulleri bulleri, 649
Disease, 167
Dispersion, 633
Display behavior and natural history of the Yellow-crowned Manakin (Heterocercus flavivertex: Pipridae), by Richard O. Prum, Joseph D. Kaplan and Jan E. Pierson, 722
Distribution, 189
Disturbance, 483
Diurnal microsite selection, 424
variation in foraging, 491
Diurnal, intraseasonal, and intersexual variation in foraging behavior of the Common Yellowthroat, by John P. Kelly and Chris Wood, 491
Diving ability of Blue Petrels and Thin-billed Prions, by Olivier Chastel and Joel Briëd, 627
Diving pattern and stomach temperatures of foraging King Cormorants at subantarctic Macquarie Island, by Akiko Kato, Yasuhiko Naito, Yutaka Watanuki and Peter D. Shaughnessy, 844
Divorce, 82
Dodd, Sarah L., and Mark A. Colwell, Seasonal variation in diurnal and nocturnal distributions of nonbreeding shorebirds at Humboldt Bay, California, 196
Dolphin Gulls, 208
Dominance, 636
Donázar, J. A., see Tell, J. L.
Double brooding, 736
Drobney, R. D., see Thompson, J. E.
Duckling survival, 48
Duncan, R. B., see Stahlecker, D. W.
Dusky Flycatcher, 428

E
Ebro Delta, 848
Ecological relationships of two todies in Hispaniola: effects of habitat and flocking, by Steven C. Latta and Joseph M. Wunderle, Jr., 769
Ectoparasites, 142, 791
The effect of magpie breeding density and synchrony on brood parasitism by Great Spotted Cuckoos, by J. G. Martinez, M. Soler and J. J. Soler, 272
The effect of male presence on nesting growth and fluctuating asymmetry in the Blue Tit, by Mats Björklund, 172
The effect of supplemental food on body condition and the timing of reproduction in a cooperative breeder, the Florida Scrub-Jay, by Stephan J. Schoech, 234
The effect of thermal microclimate on foraging site selection by wintering Mountain Chickadees, by Douglas G. Wachob, 114
Effects of silvicultural modifications of temperate rainforest on breeding and wintering bird communities, Prince of Wales Island, southeast Alaska, by Dominick A. DellaSala, Joan C. Hagar, Kathleen A. Engel, William C. McComb, Randall L. Fairbanks and Ellen G. Campbell, 706
Egg infertility, 328
-capping, 431
-laying, 428, 863
mass, 93
production, 501
shell removal, 431
size, 162, 181, 328
Egg-capping and eggshell removal by Western and Semipalmated Sandpipers, by Brett K. Sandercock, 431
Egg-laying behavior in tits, by Svein Haftorn, 863
Egg-laying in Dusky Flycatchers and White-crowned Sparrows, by Suzanne D. Oppenheimer, Maria E. Pereyra and Martin L. Morton, 428
Emigration, 61
Emlen, Stephen T., Historical perspectives on orientation: an addendum, 176
Empidonax oberholseri, 428
Emslie, Steven D., A fossil scrub-jay supports a recent systematic decision, 675
Enclosed nests, 464
Endophytic fungus, 859
Engel, K. A., see DellaSala, D. A.
Erickson, R. A., see Patten, M. A.
Erikstad, K. E., see Dalhaug, L.
Establishment of mass hierarchies in broods of the Black Kite, by Javier Viñuela, 93
Eurasia, 437
Evans Ogden, Lesley J., and Bridget J. M. Stutchbury, Constraints on double brooding in a Neotropical migrant, the Hooded Warbler, 736
Evaporative water loss, 424
Evening flights of female Northern Pintails from a major roost site, by Robert R. Cox, Jr. and Alan D. Afton, 810
Everaarts, J. M., see Piersma, T.
Everglades, 837
Evidence from cytochrome b sequences and allozymes for a 'new' species of Alcid: the Long-billed Murrelet (Brachyramphus perdix), by V. L. Friesen, J. F. Piatt and A. J. Baker, 681
Ewins, P. J., see Brown, K. M.
An experimental test of the function of sticks in the nests of House Wrens, by Tom Alworth, 841
External characters, 437
Extinction, 1

F
Faaborg, J., see DeLay, L. S.
Fairbanks, R. L., see DellaSala, D. A.
Falco mexicanus, 791
naumanni, 643
peregrinus, 848
Fancy, S. G., see Ralph, C. J.
Fat catabolism, 371
deposition, 395
stores, 825
Fau: D., see Badyaev, A. V.
Feeding preferences and changes in mass of Canada Geese grazing endophyte-infected tall fescue, by Michael R. Conover and Terry A. Messmer, 859

Fiber, 27, 410

Fescue, 859

Festuca arundinacea, 859

Ficedula hypoleuca, 328

Ficken, M. S., see Rusch, K. M.

Fischer, Richard A., Kerry P. Reese and John W. Connely, Influence of vegetal moisture content and nest fate on timing of female Sage Grouse migration, 868

Fitzpatrick, John W., and Glen E. Woolfenden, Florida Scrub-Jay forages on back of white-tailed deer, 422

Fleck, David C., and Diana F. Tomback, Tannin and protein in the diet of a food-hoarding granivore, the Western Scrub-Jay, 474

Flight energetics, 810

Flightlessness, 1

Flint, Paul L., and J. Barry Grand, Nesting success of Northern Pintails on the coastal Yukon-Kuskokwim Delta, Alaska, 54

Flint, Paul L., and J. Barry Grand, Variation in egg size of the Northern Pintail, 162

Flint, P. L., see also Grand, J. B

Flooding, 181

Florida, 675

Florida Scrub-Jay, 234, 422

Florida Scrub-Jay forages on back of white-tailed deer, by John W. Fitzpatrick and Glen E. Woolfenden, 422

Fluctuating asymmetry, 172

Food ingestion, 844

Food intake, weight changes and egg production in captive Red Grouse before and during laying: effects of the parasitic nematode Trichostrongylus tenuis, by R. J. Delahay and R. Moss, 501

Food supplementation, 234

Foraging, 422, 491

area, 691
behavior, 595, 627, 769, 854
ecology, 312
habitat, 691
site selection, 114
trips, 649

Forest structural characteristics of accipiter nesting habitat: is there an allometric relationship?, by Melissa S. Siders and Patricia L. Kennedy, 123

A fossil scrub-jay supports a recent systematic decision, by Steven D. Emslie, 675

Fraga, Rosendo M., Further evidence of parasitism of Chopi Blackbirds (Gnorimopsar chrip) by the specialized Screaming Cowbird (Molothrus rufoa xillaris), 866

Frederick, Peter C., Tim Towles, Richard J. Sawicki and G. Thomas Bancroft, Comparison of aerial and ground techniques for discovery and census of wading bird (Ciconiiformes) nesting colonies, 837

Friesen, V. L., J. F. Piatt and A. J. Baker, Evidence from cytochrome b sequences and allozymes for a 'new' species of alcid: the Long-billed Murrelet (Brachyramphus perix), 681

Frigata minor, 322

Fru greatly, 780

Fruit, 780

abundance, 100

Fruit color choices of captive Silvereyes (Zosterops lateralis), by Helen L. Puckey, Alan Lill and Dennis J. O'Dowd, 780

Fruit-color polymorphism, 780

Fuller, M., see Brodeur, S.

Furness, R. W., see Monteiro, L. R.

Further evidence of parasitism of Chopi Blackbirds (Gnorimopsar chrip) by the specialized Screaming Cowbird (Molothrus rufoa xillaris), by Rosendo M. Fraga, 866

G

Galapagos Hawk, 300

Gauthreaux, Sidney A., Jr., Bird migration: methodologies and major research trajectories (1945–1995), 442

Gavia, 189

Gene flow, 527

Genetic differentiation and taxonomy in the House Wren species group, by Robb T. Brumfield and A. P. Capparella, 547

Genetic differentiation, geographic variation and hybridization in gulls of the Larus glaucescens-occidentalis complex, by Douglas A. Bell, 527

Genetic variation, 547

Gentoo Penguin, 850

Geographic size variation of female wild Rock Doves, by Richard F. Johnston, 437

Geographic variation, 371, 437, 527

Geographic variation in metabolic seasonal acclimatization in House Finches, by Timothy P. O'Connor, 371

Geothlypis trichas, 491

Giving-up density, 854

Glucocorticoids, 850

Gnorimopsar chrip, 866

Golden Eagle, 293, 633

Gotellis, Nicholas J., A review of Macroecology, by James H. Brown, 669

Grand, J. Barry, and Paul L. Flint, Survival of Northern Pintail ducklings on the Yukon-Kuskokwim Delta, Alaska, 48

Grand, James B., and Paul L. Flint, Renesting ecology of Northern Pintails on the Yukon-Kuskokwim Delta, Alaska, 820

Grand, J. B., see also Flint, P. L.

Grasso, Michael J., Udo M. Savalli and Ronald L. Mumme, Status signaling in Dark-eyed Juncos: perceived status of other birds affects dominance interactions, 636

Great Blue Herons, 181

Spotted Cuckoo, 272

Tit, 863

Green-winged Teal, 27

Greenberg, Russell, Robert Reitsma and Andrea Cruz Angon, Interspecific aggression in Yellow Warblers in a sun coffee plantation, 640

Griffin, C. R., see Megyesi, J. L.

Group size, 245

Groves, Deborah J., Bruce Conant, Rodney J. King, John I. Hodges and James G. King, Status and
INDEX TO VOLUME 98 909

I

Icterus bullockii, 658
galbula, 658

Incubation period, 42, 649

Indeterminacy in a determinate layer: the Spur-winged Plover, by Akiva Yogev and Yoram Yom-Tov, 858

Individual quality, 363
recognition, 636

Influence of vegetal moisture content and nest fate on timing of female Sage Grouse migration, by Richard A. Fischer, Kerry P. Reese and John W. Connelly, 868

The influence of weather, geography, and habitat on migrating raptors on Cape May Peninsula, by Lawrence J. Niles, Joanna Burger and Kathleen E. Clark, 382

Information for contributors, 177

Initial changes in habitat and abundance of cavity-nesting birds and the Northern Parula following Hurricane Andrew, by A. Robin Torres and Paul L. Leberg, 483

Initiation date, 54, 820

Insectivores, 769

Interspecific aggression in Yellow Warblers in a sun coffee plantation, by Russell Greenberg, Robert Reitsma and Andrea Cruz Angon, 640

Intestine, 279

Intra-brood size hierarchy, 93

Intraspecific, 491

Irregular amplitude fluctuations, 608

Isozymes, 547

Israel, 858

Izembek Lagoon, 653

J

Japan, 653

Johnston, Richard F., Geographic size variation of female wild Rock Doves, 437

Jouventin, P., see Olson, S. L.

Jukema, J., see Piersma, T.

Junco hyemalis, 636

K

Kaplan, J. D., see Prum, R. O.

Kato, Akiko, Yasuhiko Naito, Yutaka Watanuki and Peter D. Shaughnessy, Diving pattern and stomach temperatures of foraging King Cormorants at subantarctic Macquarie Island, 844

Kellner, Chris, A review of Shrikes (Laniidae) of the World: Biology and Conservation, edited by Reuven Yosef and Fred E. Lohrer, 891

Kelly, John P., and Chris Wood, Diurnal, intraseasonal, and intersexual variation in foraging behavior of the Common Yellowthroat, 491

Kennedy, P. L., see Siders, M. S.

King Cormorant, 844

Penguin, 850

King, J. G., see Groves, D. J.

King, R. J., see Groves, D. J.

Kirkconnell, A., see Whittingham, L. A.

Kittlitz's Murrelet, 433

Kleptoparasitism, 322

Knapton, R. W., see Kozlovic, D. R.
Kohlmann, Stephan G., and Kenneth L. Risenhoover, Using artificial food patches to evaluate habitat quality for granivorous birds: an application of foraging theory, 854

Kozlovic, Daniel R., Richard W. Knapton and Jon C. Barlow, Unsuitability of the House Finch as a host of the Brown-headed Cowbird, 253

Kratter, Andrew W., A review of Nearctic Passerine Migrants in South America, by R. A. Paynter, Jr., 664

L

Lacassine National Wildlife Refuge, 810

Lack of sperm storage by female migrants and the significance of copulations en route, by James V. Briskie, 414

Lagopus lagopus scoticus, 501

Lake Erie, 34

Lanius, 75

Larus, 527

audouini, 848
delawarensis, 34

[Leucophaes] scoresbii, 208

Latta, Steven C., and Joseph M. Wunderle, Jr., The composition and foraging ecology of mixed-species flocks in pine forests of Hispaniola, 595

Latta, Steven C., and Joseph M. Wunderle, Jr., Ecological relationships of two todies in Hispaniola: effects of habitat and flocking, 769

Latvia, 61

Laying date, 879

intervals, 428

order, 328

time of day, 428

Least Seedsnipe, 418

Tern, 888

Leberg, P. L., see Torres, A. R.

Lein, M. R., see Chilton, G.

Lek, 722

Lemon, R. E., see Scott, D. M.

Lesser Kestrel, 643

Li, S-H., see Brown, J. L.

Life zones, 100

Lifetime nesting area fidelity in male Cooper's Hawks in Wisconsin, by Robert N. Rosenfield and John Bielefeldt, 165

Lill, A., see Puckey, H. L.

Limosas tartponica, 363

Lindell, Catherine, Patterns of nest usurpation: when should species converge on nest niches?, 464

Lipid mobilization, 371

Lombardo, Michael P., Patrick A. Thorpe, R. Cichewicz, M. Henshaw, C. Millard, C. Steen and T. K. Zeller, Communities of cloacal bacteria in Tree Swallow families, 167

Long-term changes in songs and song dialect boundaries of Puget Sound White-Crowned Sparrows, by Glen Chilton and M. Ross Lein, 567

Loons, 189

López-Calleja, M. V., see Novoa, F. F.

Louisiana, 810

M

Macroecology, by James H. Brown, reviewed by Nicholas J. Gotelli, 669

Madagascar, 624

Madagascar Buzzard, 624

Manakins, 722

Manitoba, 414

Mark-recapture, 165

Marsh Tit, 863

Martinez, J. G., M. Soler and J. J. Soler, The effect of magpie breeding density and synchrony on brood parasitism by Great Spotted Cuckoos, 272

Marzluff, J. M., see McFadzen, M. E.

Mate and site fidelity, 82

Mate choice, 82

Maximum diving depths, 627

McComb, W. C., see DellaSala, D. A.

McFadzen, Mary E., and John M. Marzluff, Mortality of Prairie Falcons during the fledging-dependence period, 791

McNicholl, M. K., see Wallace, G. E.

Mednis, A., see Blums, P.

Megyesi, Jennifer L., and Curtice R. Griffin, Brown Noddy chick predation by Great Frigatebirds in the northwestern Hawaiian Islands, 322

Meleagris gallopavo, 589

Merili, J., see Svensson, E.

Merino, S., see Potti, J.

Merlin, 581

Mermoz, Myriam E., and Juan C. Reboreda, New host for a specialized brood parasite, the Screaming Cowbird, 630

Messmer, T. A., see Conover, M. R.

Methodologies, 442

Mexican Jay, 879

Mexico, 888

Microhabitat, 100

Migrant warblers, 414

Migration, 293, 363, 382, 395, 825

timing, 868

Millard, C., see Lombardo, M. P.

Miller Award, 900

Miller, Edward H., Nuptial vocalizations of male Least Seedsnipe: structure and evolutionary significance, 418

Miller, G. D., see Hunter, F. M.

Milvus migrans, 93

Mississippi River, 181

Mist nets, 745

Mixed-species flocks, 595, 769

Miyabayashi, Y., see Derksen, D. V.

Molecular assessment of the taxonomic status of Cox's Sandpiper, by Les Christidis, Kizanne Davies, Michael Westerman, Peter D. Christian and Richard Schodde, 459

Molothrus ater, 253, 259, 645

bonariensis, 630

rufauxillaris, 630, 866

Molt, 216, 512, 736, 825

Molt and migratory condition in Blue Tits: a serological study, by Erik Svensson and Juha Merilä, 825

Molt of Cory's Shearwater during the breeding season, by L. R. Monteiro and R. W. Furness, 216

Monsoon, 879

Monteiro, L. R., and R. W. Furness, Molt of Cory's Shearwater during the breeding season, 216

Morphometrics, 279, 527
| Morphometry of the digestive tracts of some passerine birds, by R. E. Ricklefs, 279 |
| Morris, Sara R., David W. Holmes and Milo E. Richmond, A ten-year study of the stopover patterns of migratory passerines during fall migration on Appledore Island, Maine, 395 |
| Mortality of Prairie Falcons during the fledging-independence period, by Mary E. McFadzen and John M. Marzluff, 791 |
| Morton, M. L., see Oppenheimer, S. D. |
| Moss, R., see Delahay, R. J. |
| Mountain Chickadee, 114 |
| Mumme, R. L., see Grasso, M. J. |
| Murphy, Michael T., Survivorship, breeding dispersal and mate fidelity in Eastern Kingbirds, 82 |
| Murrelet, 681 |
| Naito, Y., see Kato, A. |
| Naranjo, J., see DeLay, L. S. |
| Natural history, 876 |
| Nearctic Passerine Migrants in South America by R. A. Paynter, Jr., reviewed by Andrew W. Kratter, 664 |
| Nearctic migratory birds, 595 |
| Nematode, 501 |
| Neotropical landbird migrants, 395 |
| Neotropical migrant, 736, 745 |
| Nest boxes, 142 |
| building, 841 |
| height, 75 |
| niche convergence, 464 |
| parasitism, 259 |
| predation, 54 |
| site, 350, 464 |
| success, 75 |
| usurpation, 464 |
| Nest density and success of Columbids in Puerto Rico, by Frank F. Rivera-Milan, 100 |
| Nest initiation and clutch size of Great Blue Herons on the Mississippi River in relation to the 1993 flood, by Thomas W. Custer, Randy K. Hines and Christine M. Custer, 181 |
| Nest site fidelity in female Wild Turkey: potential causes and reproductive consequences, by Alexander V. Badyaev and John D. Faust, 589 |
| Nesting, 433 |
| association, 464 |
| chronology, 181 |
| habitat, 123 |
| mortality, 259 |
| success, 54, 100, 841 |
| Nesting habits of the Loggerhead Shrike in sagebrush, by Christopher P. Woods and Tom J. Cade, 75 |
| Nesting phenology of Kittlitz’s Murrelet, by Robert H. Day, 433 |
| Nesting success of Northern Pintails on the coastal Yukon-Kuskokwim Delta, Alaska, by Paul L. Flint and J. Barry Grand, 54 |
| Nesting behavior, 645 |
| diet, 253 |
| New host for a specialized brood parasite, the Screaming Cowbird, by Myriam E. Mermoz and Juan C. Reboreda, 630 |
| New Mexico, 123, 153 |
| A new species of small flightless duck from Amsterdam Island, southern Indian Ocean (Anatidae: Anas), by Storrs L. Olson and Pierre Jouventin, 1 |
| Niche, 491 |
| partitioning, 123 |
| Nichols, J. D., see Blums, P. |
| Niles, Lawrence J., Joanna Burger and Kathleen E. Clark, The influence of weather, geography, and habitat on migrating raptors on Cape May Peninsula, 382 |
| Nocturnal foraging, 196 |
| Nonbreeding distributions, 196 |
| North Atlantic, 395 |
| Northern Bobwhite, 854 |
| Cardinal, 259 |
| Pintail, 48, 54, 162, 810, 820 |
| Norway, 22 |
| Novoa, F. Fernando, Claudio Veloso, M. Victoria López-Calleja and Francisco Bozinovic, Seasonal changes in diet, digestive morphology and digestive efficiency in the Rufous-collared Sparrow (Zonotrichia capensis) in Central Chile, 873 |
| Nuclear species, 595 |
| Nuptial vocalizations of male Least Seedsnipe: structure and evolutionary significance, by Edward H. Miller, 418 |
| Nutrient reserves, 820 |
| Nutritional ecology, 512 |
| Nutritional implications of molt in Male Canvasbacks: variation in nutrient reserves and digestive tract morphology, by Jonathan E. Thompson and Ronald D. Drobney, 512 |
| Nycticorax, 222 |
| O'Connor, Timothy P., Geographic variation in metabolic seasonal acclimatization in House Finches, 371 |
| O'Dowd, D. J., see Puckey, H. L. |
| Oaks, 474 |
| Old growth, 706 |
| Old nest material in nestboxes of Tree Swallows: effects on reproductive success, by Wallace B. Rendell and Nicolaas A. M. Verbeek, 142 |
| Olson, Storrs L., and Pierre Jouventin, A new species of small flightless duck from Amsterdam Island, southern Indian Ocean (Anatidae: Anas), 1 |
| On breeding performance, colony growth and habitat selection in Buff-necked Ibis, by Thierry Boulinier, 440 |
| Open and closed habitats, 608 |
| Oppenheimer, Suzanne D., Maria E. Pereyra and Martin L. Morton, Egg-laying in Dusky Flycatchers and White-crowned Sparrows, 428 |
| Organization of agonistic vocalizations in Black-chinned Hummingbirds, by Kathryn M. Rusch, Carolyn L. Pyte and Millicent S. Ficken, 557 |
| Oria, B. S., see Wallace, G. E. |
| Oro, Daniel, Colonial seabird nesting in dense and small sub-colonies: an advantage against aerial predation, 848 |
### P

**Pachyptila belcheri**, 627

**Paleontology**, 1


**Parasitism**, 501

Is parental care a constraint on the habitat use of Common Eider females?, by Jan Ove Bustnes, 22

**Parker, P. G., see DeLay, L. S.**

**Parus**, 114

ater, 863

atriicapillus, 885

caeuleus, 825

gambeli, 114

major, 863

montanus, 863

palustris, 863

**Paternal care**, 172, 300

Paternal care in the cooperatively polyandrous Galapagos Hawk, by Linda S. DeLay, John Faaborg, Jenny Naranjo, Sara M. Paz, Tjitte de Vries and Patricia G. Parker, 300

**Patten, Michael A., and Richard A. Erickson**, Subspecies of the Least Tern in Mexico, 888

**Patterns of nest usurpation: when should species converge on nest niches?**, by Catherine Lindell, 464


**Paz, S. M., see DeLay, L. S.**

**Pellets**, 34

**Penguin**, 850

**Peregrine Falcon**, 848

**Pereyra, M. E., see Oppenheimer, S. D.**

**Phenology**, 433

**Phylogenetics**, 681

**Piatt, J. F., see Friesen, V. L.**

**Pica pica**, 272

**Pied Flycatchers**, 328

**Piersma, Theunis, Jan M. Everaarts and Joop Jukema**, Build-up of red blood cells in refuelling Bar-tailed Godwits in relation to individual migratory quality, 363

**Pierson, J. E., see Prum, R. O.**

**Pine forest**, 595

**Pitelkafest**, 671

**Plant phenology**, 868

**Plant-herbivore relationships**, 859

**Ploceena**, 675

**Plumage coloration**, 643

**Point counts**, 745

**Poliolptila melanura**, 424

**Population estimation**, 837

**genetics**, 681

**trends**, 189

**Postfledging**, 791

**Potti, Jaime, and Santiago Merino**, Causes of hatching failure in the Pied Flycatcher, 328

**Prairie Falcon**, 791

**Precommercial thinning**, 706

**Predation**, 322, 854, 791

**Repeatability**, 162

**Reproductive performance**, 589

**Rainfall**, 100

**Rainforest**, 350, 624

**Ralph, C. John, and Steven G. Fancy**, Aspects of the life history and foraging ecology of the endangered Akiapolaau, 312

**Raptor**, 293, 382, 581

**Ratcliffe, L. M., see Whittingham, L. A.**

**Reboreda, J. C., see Mermoz, M. E.**

**Recruitment**, 48

**Red blood cell sedimentation rate**, 825

**Red Grouse**, 501

**Red-shouldered Blackbird**, 832

**Redhead**, 801

**Reese, K. P., see Fischer, R. A.**

**Refuging theory**, 810

**Reitsma, R., see Greenberg, R.**

**Relative abundance**, 337

**Rendell, Wallace B., and Nicolaas A. M. Verbeek**, Old nest material in nestboxes of Tree Swallows: effects on reproductive success, 142

**Renesting ecology of Northern Pintails on the Yukon-Kuskokwim Delta, Alaska, by James B. Grand and Paul L. Flint, 820

**Repeatability**, 162

**Reproductive performance**, 589

**success**, 142, 208

**Research directions**, 442

**Resident birds**, 745

**Resources for laying**, 501

**Reverberation**, 608

**Reversed sexual size dimorphism**, 581

**Ribic, C. A., see AINLEY, D. G.**

**Richmond, M. E., see Morris, S. R.**

**Ricklefs, R. E., Morphometry of the digestive tracts of some passerine birds**, 279

**Ring-billed Gulls**, 34

**Risenhoover, K. L., see Kohlmann, S. G.**

**Rising, James D., The stability of the oriole hybrid zone in western Kansas**, 658

**Rivera-Milán, Frank F., Nest density and success of Columbids in Puerto Rico**, 100

**Rohwer, S., see Shugart, G. W.**

**Prey**, 382

**selection**, 691

**Prieto, R. O., see Wallace, G. E.**

**Principal components analysis**, 581

**Productivity**, 48, 54

**Protein**, 474

**Prum, Richard O., Joseph D. Kaplan and Jan E. Pierson**, Display behavior and natural history of the Yellow-crowned Manakin (Heterocercus flaviventris: Pipridae), 722

**Pseudoleistes virescens**, 630

**Puckey, Helen L., Alan Lill and Dennis J. O'Dowd**, Fruit color choices of captive Silveryeyes (Zosterops lateralis), 780

**Puerto Rico**, 100

**Pytte, C. L., see Rusch, K. M.**
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosenfield, Robert N., and John Bielefeldt</td>
<td>Lifetime nesting area fidelity in male Cooper's Hawks in Wisconsin, 165</td>
<td></td>
</tr>
<tr>
<td>Rusch, Kathryn M., Carolyn L. Pytte and Millicent S. Ficken</td>
<td>Organization of agonistic vocalizations in Black-chinned Hummingbirds, 557</td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td></td>
<td>433</td>
</tr>
<tr>
<td>Sacramento-San Joaquin River Delta</td>
<td></td>
<td>876</td>
</tr>
<tr>
<td>Sagar, P. M., and H. Weimerskirch</td>
<td>Satellite tracking of southern Buller's Albatrosses from the Snares, New Zealand, 649</td>
<td></td>
</tr>
<tr>
<td>Sage Grouse</td>
<td></td>
<td>868</td>
</tr>
<tr>
<td>St. Paul Island</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SandercocK, Brett K.,</td>
<td>Egg-capping and eggshell removal by Western and Semipalmated Sandpipers, 431</td>
<td></td>
</tr>
<tr>
<td>Satellite tracking, 293, 649</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satellite tracking of southern Buller's Albatrosses from the Snares, New Zealand, by P. M. Sagar and H. Weimerskirch</td>
<td>649</td>
<td></td>
</tr>
<tr>
<td>Saturation</td>
<td></td>
<td>350</td>
</tr>
<tr>
<td>Savalli, U. M., see Grasso, M. J.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savicki, R. J., see Frederick, P. C.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sayler, Rodney D.,</td>
<td>Behavioral interactions among brood parasites with precocial young: Canvasbacks and Redheads on the Delta Marsh, 801</td>
<td></td>
</tr>
<tr>
<td>Scholes, R., see Christidis, L.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoech, Stephan J.,</td>
<td>The effect of supplemental food on body condition and the timing of reproduction in a cooperative breeder, the Florida Scrub-Jay, 234</td>
<td></td>
</tr>
<tr>
<td>Scott, David M., and Robert E. Lemon</td>
<td>Differential reproductive success of Brown-headed Cowbirds with Northern Cardinals and three other hosts, 259</td>
<td></td>
</tr>
<tr>
<td>Screaming Cowbird</td>
<td></td>
<td>630</td>
</tr>
<tr>
<td>Scrub-Jay</td>
<td></td>
<td>474, 675</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td>322</td>
</tr>
<tr>
<td>Seasonal changes in diet, digestive morphology and digestive efficiency in the Rufous-collarred Sparrow (Zonotrichia capensis) in Central Chile, by F. Fernando Novoa, Claudio Veloso, M. Victoria Lopez-Calleja and Francisco Bozinovic, 873</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seasonal decline in clutch size of the Barnacle Goose in Svalbard, by Laila Dalhaug, Ingunn M. Tombre and Kjell Einar Erikstad</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Seasonal movements</td>
<td></td>
<td>868</td>
</tr>
<tr>
<td>Seasonal variation in diurnal and nocturnal distributions of nonbreeding shorebirds at North Humboldt Bay, California, by Sarah L. Dodd and Mark A. Colwell, 196</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seasonal, diet, and spatial dispersion patterns of Golden Eagle autumn migration in southwestern Montana, by Kristian Shawn Omland and Stephen W. Hoffman, 633</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedinger, J. S., see Derksen, D. V.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semipalmated Sandpiper</td>
<td></td>
<td>431</td>
</tr>
<tr>
<td>Serial descendant primary molt or staffelmauser in Black-crowned Night-Herons, by Gary W. Shugart and Sievert Rohwer, 222</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex roles in nest building</td>
<td></td>
<td>841</td>
</tr>
<tr>
<td>Sex-specific behavior</td>
<td></td>
<td>322</td>
</tr>
<tr>
<td>Sexual dichromatism</td>
<td></td>
<td>832</td>
</tr>
<tr>
<td>Shaughnessy, P. D., see Kato, A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shiny Cowbird</td>
<td></td>
<td>630</td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td>196, 363</td>
</tr>
<tr>
<td>Shorebirds of the Pacific Northwest, by Dennis Paulson, reviewed by R. Wayne Campbell, 667</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrikes (Laniidae) of the World: Biology and Conservation by Reuven Yosef and Fred E. Lohrer (eds.), reviewed by Chris Kellner, 891</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrub-steppe</td>
<td></td>
<td>75</td>
</tr>
<tr>
<td>Shugart, Gary W., and Sievert Rohwer</td>
<td>Serial descendant primary molt or staffelmauser in Black-crowned Night-Herons, 222</td>
<td></td>
</tr>
<tr>
<td>Siders, Melissa S., and Patricia L. Kennedy, Forest structural characteristics of accipiter nesting habitat: is there an allometric relationship?, 123</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silvereye</td>
<td></td>
<td>780</td>
</tr>
<tr>
<td>Single stranded conformation polymorphisms, 681</td>
<td>The single wing-flick display of the Black-Capped Chickadee, by Susan M. Smith, 885</td>
<td></td>
</tr>
<tr>
<td>Size variation</td>
<td></td>
<td>437</td>
</tr>
<tr>
<td>Slotow, Robert,</td>
<td>Aggression in White-crowned Sparrows: effects of distance from cover and group size, 245</td>
<td></td>
</tr>
<tr>
<td>Smith, Susan M., The single wing-flick display of the Black-Capped Chickadee, 885</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snag</td>
<td></td>
<td>483</td>
</tr>
<tr>
<td>Soler, J. J., see Martinez, J. G.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soler, M., see Martinez, J. G.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somateria mollissima</td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>Song</td>
<td></td>
<td>722</td>
</tr>
<tr>
<td>Sosa, A. L., see Wallace, G. E.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southeast Alaska, 706</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Pacific Ocean, 649</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td></td>
<td>848</td>
</tr>
<tr>
<td>Spanish moss</td>
<td></td>
<td>483</td>
</tr>
<tr>
<td>Sparrows and Buntings. A Guide to the Sparrows and Buntings of North America and the World by Clive Byers, Jon Curson and Urban Olsson, reviewed by Steven L. Hilty, 894</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spear, L. B., see Ainley, D. G.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialization</td>
<td></td>
<td>866</td>
</tr>
<tr>
<td>Species covariation</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Species diversity</td>
<td></td>
<td>337, 350</td>
</tr>
<tr>
<td>Species richness</td>
<td></td>
<td>350</td>
</tr>
<tr>
<td>Sperm</td>
<td></td>
<td>410</td>
</tr>
<tr>
<td>Sperm transfer in the Adelie Penguin, by F. M. Hunter, L. S. Davis and G. D. Miller, 410</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spur-winged Plover</td>
<td></td>
<td>858</td>
</tr>
<tr>
<td>The stability of the oriole hybrid zone in western Kansas, by James D. Rising, 658</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staffelmauser</td>
<td></td>
<td>222</td>
</tr>
<tr>
<td>Stahlecker, Dale W., and Russell B. Duncan, The Boreal Owl at the southern terminus of the Rocky Mountains: undocumented longtime resident or recent arrival?, 153</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status and trends of loon populations summering in Alaska, 1971–1993, by Deborah J. Groves, Bruce Conant, Rodney J. King, John I. Hodges and James G. King, 189</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status signaling in Dark-eyed Juncos: perceived status of other birds affects dominance interactions, by Michael J. Grasso, Udo M. Savalli and Ronald L. Mumme, 636</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


**Index to Volume 98**

**Status, Distribution and Biogeography of the Birds of Paraguay** by Floyd E. Hayes, reviewed by Robert W. Storer, 891

Steen, C., see Lombardo, M. P.

Stepwise molt, 222

Sterna antillarum, 888

Stomach, 279
temperature, 844

Stopover, 382

biology, 395

Storer, Robert W., A review of *Status, Distribution and Biogeography of the Birds of Paraguay*, by Floyd E. Hayes, 891

Stress, 850

Strip-transects, 100

Stutchbury, B. J., see Evans Ogden, L. J.

Subarctic, 820

Subspecies of the Least Tern in Mexico, by Michael A. Patten and Richard A. Erickson, 888

Supplementation, 854

Survival of Northern Pintail ducklings on the Yukon-Kuskokwim Delta, Alaska, by James B. Grand and Paul L. Flint, 48

Survivorship, 82, 312, 791

Survivorship, breeding dispersal and mate fidelity in Eastern Kingbirds, by Michael T. Murphy, 82

Svensson, Erk, and Juha Merilä, Molt and migratory condition in Blue Tits: a serological study, 825

Swainson’s Hawk, 876

Swann, S., see Yorio, P.

Symbiosis, 422

Synchromy, 272

Syntax, 557

Systematics, 418, 547

**T**

*Tachycineta bicolor*, 142, 167

Tameness, 422

Tannin and protein in the diet of a food-hoarding granivore, the Western Scrub-Jay, by David C. Fleck and Diana F. Tombac, 474

Tawny-shouldered Blackbird, 832

Technique-dependent biases in determination of diet composition: an example with Ring-billed Gulls, by Kevin M. Brown and Peter J. Ewins, 34

Telemetry, 293

Tella, José L., José A. Donazar and Fernando Hiraldo, Variable expression of sexual mosaic plumage in female Lesser Kestrels, 643

Temperate rainforest, 706

Temporal and spatial patterns in the diet of the Common Murre in California waters, by David G. Ainley, Larry B. Spear, Sarah G. Allen and Christine A. Ribic, 691

A ten-year study of the stopover patterns of migratory passerines during fall migration on Appledore Island, Maine, by Sara R. Morris, David W. Holmes and Milo E. Richmond, 395

Territoriality, 832

*Theristicus caudatus*, 440

Thermal ecology, 424

microclimate, 114

Thermoregulation, 371

Thin-billed Prion, 627

*Thinocorus rumicivorus*, 418

Thompson, Jonathan E., and Ronald D. Drobney, Nutritional implications of molt in male Canvasbacks: variation in nutrient reserves and digestive tract morphology, 512

Thorpe, P. A., see Lombardo, M. P.

Timing, 433

*Todus*, 769

Tombac, D. F., see Fleck, D. C.

Tombre, I. M., see Dalhaug, L.

Torres, A. Robin, and Paul L. Leberg, Initial changes in habitat and abundance of cavity-nesting birds and the Northern Parula following Hurricane Andrew, 483

Towles, T., see Frederick, P. C.

Trade-offs, 162

Tree Swallow, 142, 167

*Trichostrongylus tennis*, 501

*Troglohytes aedon*, 547, 841

*Tyrannus tyrannus*, 82

**U**

Understory, 350

Unsuitability of the House Finch as a host of the Brown-headed Cowbird, by Daniel R. Kozlovic, Richard W. Knapton and Jon C. Barlow, 253

*Uria aalge*, 69

The use of thermal refugia by two small desert birds, by Blair O. Wolf, Kenneth M. Wooden and Glenn E. Walsberg, 424

Using artificial food patches to evaluate habitat quality for granivorous birds: an application of foraging theory, by Stephan G. Kohlmann and Kenneth L. Risenhoover, 854

**V**


Vanellus spinosus, 858

Variable expression of sexually mosaic plumage in female Lesser Kestrels, by Jose L. Tella, Jose A. Donazar and Fernando Hiraldo, 643

Variation in egg size of the Northern Pintail, by Paul L. Flint and J. Barry Grand, 162

Veloso, C., see Novoa, F. F.

Verbeek, N. A. M., see Rendell, W. B.

Verdin, 424

Video documentation of a Brown-Headed Cowbird nestling ejecting an Indigo Bunting nestling from the nest, by Donald C. Dearborn, 645

Viñuela, Javier, Establishment of mass hierarchies in broods of the Black Kite, 93

Visual display, 885

Vocalization, 418

Vries, T. de, see DeLay, L. S.

**W**

Wachob, Douglas G., The effect of thermal microclimate on foraging site selection by wintering Mountain Chickadees, 114

Wallace, E. A. H., see Wallace, G. E.

Wallace, George E., Hiram González Alonso, Martin K. McNicholl, Daysi Rodriguez Batista, Ramona Oviedo Prieto, Alejandro Llanes Sosa,
INDEX TO VOLUME 98

Barbara Sanchez Oria and Elizabeth A. H. Wallace, Winter surveys of forest-dwelling Neotropical migrant and resident birds in three regions of Cuba, 745

Walsberg, G. E., see Wolf, B. O.

Ward, D. H., see Derksen, D. V.

Watanuki, Y., see Kato, A.

Water chemistry, 27

Weimerskirch, H., see Sagar, P. M.

Westman, M., see Christidis, L.

Western Sandpiper, 431

Wetland selection by American Green-winged Teal breeding in British Columbia, by Gil A. Paquette and C. Davison Ankey, 27

Wetlands, 837

White-crowned Sparrow, 428, 567

Whittingham, Linda A., Arturo Kirkconnell and Laurene M. Ratcliffe, Breeding behavior, social organization and morphology of Red-shouldered (A. assimilis) and Tawny-shouldered (A. humeralis) Blackbirds, 832

Wiklund, Crister G., Body length and wing length provide univariate estimates of overall body size in the Merlin, 581

Wild Turkey, 589

Wiley, R. Haven, A review of Bird Song, Biological Themes and Variations, by C. K. Catchpole and P. J. B. Slater, 670

Willow Tit, 863

Willson, Mary F., and TallChief A. Comet, Bird communities of northern forests: patterns of diversity and abundance, 337

Willson, Mary F., and TallChief A. Comet, Bird communities of northern forests: ecological correlates of diversity and abundance in the understory, 350

Wilsonia citrina, 736

Wing length, 581

Wingfield, J. C., see Holberton, R. L.

Winter distribution, 876

wintering, 653, 706

Wintering Swainson's Hawks in California's Sacramento-San Joaquin River Delta, by Sebastian K. Herzog, 876

Wolf, Blair O., Kenneth M. Wooden and Glenn E. Walsberg, The use of thermal refugia by two small desert birds, 424

Wood, C., see Kelly, J. P.

Wooden, K. M., see Wolf, B. O.

Woodpecker, 483


Woods, Christopher P., and Tom J. Cade, Nesting habits of the Loggerhead Shrike in sagebrush, 75

Woolfenden, G. E., see Fitzpatrick, J. W.

Wunderle, J. M., Jr., see Latta, S. C.

Yellow-crowned Manakin, 722

Yogev, Akiva, and Yoram Yom-Tov, Indeterminancy in a determinate layer: the Spur-winged Plover, 858

Yom-Tov, Y., see Yogev, A

Yorio, Pablo, P. Dee Boersma and Scott Swann, Breeding biology of the Dolphin Gull at Punta Tombo, Argentina, 208

Young growth, 706

Yukon, 337, 350

Zeller, T. K., see Lombardo, M. P.

Zonotrichia capensis, 873

leucophrys, 245

leucophrys oriantha, 428

leucophrys pugetensis, 567

Zosterops lateralis, 780

Bárbara Sánchez Oria and Elizabeth A. H. Wallace, Winter surveys of forest-dwelling Neotropical migrant and resident birds in three regions of Cuba, 745

Walsberg, G. E., see Wolf, B. O.

Ward, D. H., see Derksen, D. V.

Watanuki, Y., see Kato, A.

Water chemistry, 27

Weimerskirch, H., see Sagar, P. M.

Westman, M., see Christidis, L.

Western Sandpiper, 431

Wetland selection by American Green-winged Teal breeding in British Columbia, by Gil A. Paquette and C. Davison Ankey, 27

Wetlands, 837

White-crowned Sparrow, 428, 567

Whittingham, Linda A., Arturo Kirkconnell and Laurene M. Ratcliffe, Breeding behavior, social organization and morphology of Red-shouldered (A. assimilis) and Tawny-shouldered (A. humeralis) Blackbirds, 832

Wiklund, Crister G., Body length and wing length provide univariate estimates of overall body size in the Merlin, 581

Wild Turkey, 589

Wiley, R. Haven, A review of Bird Song, Biological Themes and Variations, by C. K. Catchpole and P. J. B. Slater, 670

Willow Tit, 863

Willson, Mary F., and TallChief A. Comet, Bird communities of northern forests: patterns of diversity and abundance, 337

Willson, Mary F., and TallChief A. Comet, Bird communities of northern forests: ecological correlates of diversity and abundance in the understory, 350

Wilsonia citrina, 736

Wing length, 581

Wingfield, J. C., see Holberton, R. L.

Winter distribution, 876

wintering, 653, 706

Wintering Swainson's Hawks in California's Sacramento-San Joaquin River Delta, by Sebastian K. Herzog, 876

Wolf, Blair O., Kenneth M. Wooden and Glenn E. Walsberg, The use of thermal refugia by two small desert birds, 424

Wood, C., see Kelly, J. P.

Wooden, K. M., see Wolf, B. O.

Woodpecker, 483


Woods, Christopher P., and Tom J. Cade, Nesting habits of the Loggerhead Shrike in sagebrush, 75

Woolfenden, G. E., see Fitzpatrick, J. W.

Wunderle, J. M., Jr., see Latta, S. C.

Yellow-crowned Manakin, 722

Yogev, Akiva, and Yoram Yom-Tov, Indeterminancy in a determinate layer: the Spur-winged Plover, 858

Yom-Tov, Y., see Yogev, A

Yorio, Pablo, P. Dee Boersma and Scott Swann, Breeding biology of the Dolphin Gull at Punta Tombo, Argentina, 208

Young growth, 706

Yukon, 337, 350

Zeller, T. K., see Lombardo, M. P.

Zonotrichia capensis, 873

leucophrys, 245

leucophrys oriantha, 428

leucophrys pugetensis, 567

Zosterops lateralis, 780