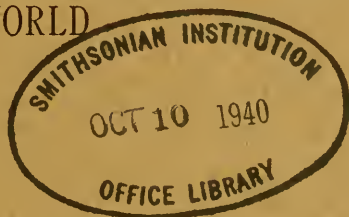


SMITHSONIAN MISCELLANEOUS COLLECTIONS

VOLUME 99, NUMBER 7

A SYSTEMATIC CLASSIFICATION FOR THE BIRDS
OF THE WORLD



BY

ALEXANDER WETMORE

Assistant Secretary, Smithsonian Institution



(PUBLICATION 3592)

CITY OF WASHINGTON
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A SYSTEMATIC CLASSIFICATION FOR THE BIRDS OF THE WORLD

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The steady demand for a systematic arrangement for the birds of the world has exhausted the edition of the revision issued in 1934¹ so that the classification is reprinted herewith, with relatively few changes based on subsequent findings.

The order Caenagnathiformes, family Caenagnathidae, has been included as a new group under the superorder Palaeognathae. *Caenagnathus collinsi*, the species on which this proposal is based, is known from a nearly complete mandible described in 1940 by Raymond M. Sternberg, from the Upper Cretaceous of Alberta, Canada. It is not absolutely certain that this is avian, but it is accepted as a bird pending further information.

A separate family, the Baptonithidae, has been listed for the Upper Cretaceous *Baptonis advenus*, since on a review of what is known this seems warranted. *Apatornis celer* also is placed in a distinct family, the Apatornithidae.

Another fossil family, the Paranyrociidae, has been included for a curious fossil Anseriform described by A. H. Miller and L. V. Compton from the Rosebud formation of the Lower Miocene of South Dakota.

The fish-hawks, or ospreys, are given under a separate family, the Pandionidae, placed in the superfamily Falconoidea. The peculiarities of the ospreys, long recognized, have been established definitely through recent researches by L. V. Compton, who has in fact proposed to transfer *Pandion* to the suborder Cathartae. The present writer feels, however, that such action is not warranted under present information, as he considers the resemblances to the New World vultures alleged to be due more probably to convergence than to actual genetic relationship. The Cathartae seem to stand quite alone.

During the preparation of volume 3 of J. L. Peters' Check-list of Birds of the World (published in 1937) Mr. Peters and I considered

¹ Wetmore, A., A systematic classification for the birds of the World, revised and amended. Smithsonian Misc. Coll., vol. 89, No. 13, April 23, 1934, pp. 1-11.

again the characters of the various groups of parrotlike species with the result that it did not seem possible to give the lories more than subfamily rank. This extends the limits of the family Psittacidae to coincide with those of the order.

The only other changes are the use of Acanthisittidae for Xenicidae, and of Tersinidae for Procnatiidae, because of current nomenclatural decisions.

It may be repeated that arrangement of the various passeriform families in linear sequence, particularly in the suborder Passeres, or song birds, is a matter of difficulty, since the problem is one of three-dimensional relationship that must be represented in a single column. Obviously, the treatment in some instances must be arbitrary and subject therefore to individual opinion. Without going too deeply into the matter, it has been suggested that such specialized families of the fringilline series as the Coerebidae and Icteridae should come at the end of the list in place of the Fringillidae. In considering the evolution of this assemblage, it appears to me that the more specialized families have been derived by modification from the Fringillidae, while the latter family has retained and carried along more general characters from which further specialization may take place, if with civilized man's disturbance of natural conditions on our earth continuation of evolution among birds is possible. The Coerebidae and Icteridae, to take these as examples, are specialized branches that are assumed now to be more or less static and fixed and therefore should stand at the side. The Fringillidae, representing the central group through which further progress may be expected, should be placed as the terminus of the central stem at the end.

Class Aves, Birds.

Subclass Archaeornithes, Ancestral Birds.

Order Archaeopterygiformes, *Archaeopteryx*, *Archaeornis*.

Family Archaeopterygidae, *Archaeopteryx*, *Archaeornis* (fossil).

Subclass Neornithes, True Birds.

Superorder Odontognathae, New World Toothed Birds.

Order Hesperornithiformes, Hesperornithes.

Family Hesperornithidae, *Hesperornis*, *Hargeria* (fossil).

Enaliornithidae,² *Enaliornis* (fossil).

Baptornithidae, *Baptornis* (fossil).

Order Ichthyornithiformes, Ichthyornithes.

Family Ichthyornithidae, *Ichthyornis* (fossil).

Apatornithidae, *Apatornis*.

Superorder Palaeognathae, Struthious Birds and Allies.

Order Caenagnathiformes, Caenagnathus.

Family Caenagnathidae, *Caenagnathus*³ (fossil).

Order Struthioniformes, Ostriches.

Family Struthionidae, Ostriches.

Order Rheiformes, Rheas.

Family Rheidae, Rheas.

Order Casuariiformes, Cassowaries, Emus.

Family Casuariidae, Cassowaries.

Dromiceidae, Emus.

Dromornithidae, *Dromornis* (fossil).

Order Dinornithiformes, Moas.

Family Dinornithidae, Moas (fossil and extinct).

Anomalopterygidae, *Anomalopteryx*, *Emeus*,
and Allies (fossil and extinct).

Order Aepyornithiformes, Elephant-birds.

Family Aepyornithidae, *Aepyornis* (fossil and extinct).

Order Apterygiformes, Kiwis.

Family Apterygidae, Kiwis.

Order Tinamiformes, Tinamous.

Family Tinamidae, Tinamous.

² Position provisional. Lambrecht, Handbuch der Palaeornithologie, 1933, pp. 255-261, unites the Baptornithidae with this group, which he considers closely related to the loons and grebes.

³ This interesting genus is listed tentatively in the above superorder since its affinities are not as yet fully known.

- Superorder Impennes, Penguins.
 Order Sphenisciformes, Penguins.
 Family Spheniscidae, Penguins.
 Cladornithidae, *Cladornis* (fossil).
- Superorder Neognathae, Typical Birds.
 Order Gaviiformes, Loons.
 Family Gaviidae, Loons.
 Order Colymbiformes, Grebes.
 Family Colymbidae, Grebes.
 Order Procellariiformes, Albatrosses, Shearwaters, Petrels,
 and Allies.
 Family Diomedeidae, Albatrosses.
 Procellariidae, Shearwaters, Fulmars.
 Hydrobatidae, Storm Petrels.
 Pelecanoididae, Diving Petrels.
 Order Pelecaniformes, Tropic-birds, Pelicans, Frigate-birds,
 and Allies.
 Suborder Phaëthontes, Tropic-birds.
 Family Phaëthontidae, Tropic-birds.
 Suborder Pelecani, Pelicans, Boobies, Cormorants, Snake-
 birds.
 Superfamily Pelecanoidea, Pelicans and Allies.
 Family Pelecanidae, Pelicans.
 Cyphornithidae, *Cyphornis*, *Palaeochenöides*
 (fossil).
 Superfamily Suloidea, Boobies, Cormorants, and Allies.
 Family Pelagornithidae, *Pelagornis* (fossil).
 Sulidae, Boobies, Gannets.
 Elopterygidae, *Elopteryx*, *Eostega*, *Actiornis*
 (fossil).
 Phalacrocoracidae, Cormorants.
 Anhingidae, Snake-birds.
 Suborder Fregatae, Frigate-birds.
 Family Fregatidae, Frigate-birds.
 Suborder Odontopteryges, *Odontopteryx*, *Pseudodontornis*
 (fossil).
 Family Odontopterygidae, *Odontopteryx* (fossil).
 Pseudodontornithidae,⁴ *Pseudodontornis* (fos-
 sil).

⁴ Position not certain; see Lambrecht, Handbuch der Palaeornithologie, 1933, pp. 305-308.

- Order Ciconiiformes, Herons, Storks, and Allies.
 - Suborder Ardeae, Herons, Bitterns.
 - Family Ardeidae, Herons, Bitterns.
 - Cochleariidae, Boat-billed Herons.
 - Suborder Balaenicipites, Whale-headed Storks.
 - Family Balaenicipitidae, Whale-headed Storks.
 - Suborder Ciconiae, Storks, Ibises, Spoonbills.
 - Superfamily Scopoidea, Hammerheads.
 - Family Scopidae, Hammerheads.
 - Superfamily Ciconioidea, Storks.
 - Family Ciconiidae, Storks, Jabirus.
 - Superfamily Threskiornithoidea, Ibises.
 - Family Threskiornithidae, Ibises, Spoonbills.
 - Suborder Phoenicopteriformes, Flamingos.
 - Family Agnopteridae, *Agnopterus* (fossil).
 - Scaniornithidae, *Scaniornis*, *Parascaniornis* (fossil).
 - Phoenicopteridae, Flamingos.
- Order Anseriformes, Screamers, Ducks, Geese, Swans.
 - Suborder Anhimae, Screamers.
 - Family Anhimidae, Screamers.
 - Suborder Anseres, Ducks, Geese, Swans.
 - Family Paranyrociidae, *Paranyroca* (fossil).
 - Anatidae, Ducks, Geese, Swans.
- Order Falconiformes, Vultures, Hawks, Falcons.
 - Suborder Cathartae, New World Vultures.
 - Family Cathartidae, New World Vultures.
 - Teratornithidae, *Teratornis*, *Cathartornis* (fossil).
 - Suborder Falcones, Secretary-birds, Hawks, Falcons.
 - Superfamily Sagittarioidea, Secretary-birds.
 - Family Sagittariidae, Secretary-birds.
 - Superfamily Falconoidea, Hawks, Falcons, and Allies.
 - Family Accipitridae, Hawks, Old World Vultures, Harriers.
 - Pandionidae, Ospreys.
 - Falconidae, Falcons, Caracaras.
- Order Galliformes, Megapodes, Curassows, Pheasants, Hoatzins.
 - Suborder Galli, Megapodes, Curassows, Grouse, Pheasants.
 - Superfamily Cracoidea, Megapodes, Curassows.
 - Family Megapodiidae, Megapodes.
 - Gallinuloididae, *Gallinuloides* (fossil).
 - Cracidae, Curassows, Guans, Chachalacas.

- Superfamily Phasianoidea, Grouse, Pheasants, Turkeys.
 - Family Tetraonidae, Grouse.
 - Phasianidae,⁵ Quails, Pheasants, Peacocks.
 - Numididae, Guinea-fowl.
 - Meleagrididae, Turkeys.
 - Suborder Opistoconi, Hoatzins.
 - Family Opisthocomidae, Hoatzins.
- Order Gruiformes, Cranes, Rails, and Allies.
 - Suborder Mesoenatides, Roatelos, Monias.
 - Family Mesoenatidae, Roatelos, Monias.
 - Suborder Turnices, Bustard-quails, Hemipodes.
 - Family Turnicidae, Bustard-quails.
 - Pedionomidae, Collared Hemipodes.
 - Suborder Grues, Cranes, Limpkins, Trumpeters, Rails.
 - Superfamily Gruoidea, Cranes, Limpkins, Trumpeters.
 - Family Geranoididae, *Geranoides* (fossil).
 - Eogruidae, *Eogrus* (fossil).
 - Gruidae, Cranes.
 - Aramidae, Limpkins.
 - Psophiidae, Trumpeters.
 - Superfamily Ralloidea, Rails.
 - Family Orthocnemidae,⁶ *Orthocnemus*, *Elaphrocnemus* (fossil).
 - Rallidae, Rails, Coots, Gallinules.
 - Suborder Heliornithes, Sun-grebes.
 - Family Heliornithidae, Sun-grebes.
 - Suborder Rhynocheti, Kagus.
 - Family Rhynochetidae, Kagus.
 - Suborder Eurypygae, Sun-bitterns.
 - Family Eurypygidae, Sun-bitterns.
 - Suborder Phororhaci, *Phororhacos* and Allies.
 - Family Phororhacidae, *Phororhacos*, *Pelecyornis*, and Allies (fossil).
 - Brontornithidae, *Brontornis*, *Liornis*, and Allies (fossil).
 - Opisthodactylidae, *Opisthodactylus* (fossil).

⁵ Includes the quails, formerly recognized as the family Perdidae.

⁶ Position provisional. See Lambrecht, *Handbuch der Palaeornithologie*, 1933, pp. 490-493.

- Suborder Cariamae, Cariamas and Allies.
 - Family Bathornithidae, *Bathornis* (fossil).
 - Hermosiornithidae, *Hermosiornis*, *Procariana* (fossil).
 - Cariamidae, Cariamas.
 - Suborder Otides, Bustards.
 - Family Otididae, Bustards.
 - Order Diatrymiformes, *Diatryma*, *Omorhamphus*, and Allies.
 - Family Diatrymidae, *Diatryma* (fossil).
 - Gastornithidae, *Gastornis*, *Remiornis* (fossil).
 - Order Charadriiformes, Shore-birds, Gulls, Auks.
 - Suborder Charadrii, Shore-birds.
 - Superfamily Jacanoidea, Jaçanas.
 - Family Jacanidae, Jaçanas.
 - Superfamily Charadrioidea, Plovers, Sandpipers, and Allies.
 - Family Rostratulidae, Painted Snipe.
 - Haematopodidae, Oyster-catchers.
 - Charadriidae, Plovers, Turnstones, Surf-birds.
 - Scolopacidae, Snipe, Woodcock, Sandpipers.
 - Recurvirostridae, Avocets, Stilts.
 - Presbyornithidae, *Præbyornis* (fossil).
 - Phalaropodidae, Phalaropes.
 - Superfamily Dromadoidea, Crab-plovers.
 - Family Dromadidae, Crab-plovers.
 - Superfamily Burhinoidea, Thick-knees.
 - Family Burhinidae, Thick-knees.
 - Superfamily Glareoloidea, Pratincoles, Coursers.
 - Family Glareolidae, Pratincoles, Coursers.
 - Superfamily Thinocoroidea, Seed-snipe.
 - Family Thinocoridae, Seed-snipe.
 - Superfamily Chionoidea, Sheath-bills.
 - Family Chionidae, Sheath-bills.
 - Suborder Lari, Gulls, Terns, Skimmers.
 - Family Stercorariidae, Skuas, Jaegers.
 - Laridae, Gulls, Terns.
 - Rynchopidae, Skimmers.
 - Suborder Alcae, Auks.
 - Family Alcidae, Auks, Auklets, Murres.
- Order Columbiformes, Sand-grouse, Pigeons, Doves.
 - Suborder Pterocletes, Sand-grouse.
 - Family Pteroclididae, Sand-grouse.

- Suborder Columbæ, Pigeons and Doves.
 - Family Raphidae, Dodos, Solitaires.
 - Columbidae, Pigeons, Doves.
- Order Psittaciformes, Lories, Parrots, Macaws.
 - Family Psittacidae, Lories, Parrots, Macaws.
- Order Cuculiformes, Plantain-eaters, Cuckoos.
 - Suborder Musophagi, Plantain-eaters.
 - Family Musophagidae, Plantain-eaters.
 - Suborder Cuculi, Cuckoos, Roadrunners, Anis.
 - Family Cuculidae, Cuckoos, Roadrunners, Anis.
- Order Strigiformes, Owls.
 - Family Protostrigidae, *Protostrix* (fossil).
 - Tytonidae, Barn-owls.
 - Strigidae, Owls.
- Order Caprimulgiformes, Oil-birds, Goatsuckers.
 - Suborder Steatornithes, Oil-birds.
 - Family Steatornithidae, Oil-birds.
 - Suborder Caprimulgi, Frogmouths, Goatsuckers.
 - Family Podargidae, Frogmouths.
 - Nyctibiidae, Potoos.
 - Aegothelidae, Owlet-frogmouths.
 - Caprimulgidae, Goatsuckers.
- Order Micropodiformes, Swifts, Hummingbirds.
 - Suborder Micropodi, Swifts.
 - Family Aegialornithidae,¹ *Aegialornis* (fossil).
 - Micropodidae, Swifts.
 - Hemiprocnidae, Crested Swifts.
 - Suborder Trochili, Hummingbirds.
 - Family Trochilidae, Hummingbirds.
- Order Coliiformes, Colies.
 - Family Coliidae, Colies.
- Order Trogoniformes, Trogons.
 - Family Trogonidae, Trogons.
- Order Coraciiformes, Kingfishers, Bee-eaters, Rollers, Horn-bills.
 - Suborder Alcedines, Kingfishers, Todies, Motmots.
 - Superfamily Alcedinoidea, Kingfishers.
 - Family Alcedinidae, Kingfishers.
 - Superfamily Todoidea, Todies.
 - Family Todidae, Todies.

¹ Placed here provisionally. See Lambrecht, *Handbuch der Palaeornithologie*, 1933, pp. 623-624.

- Superfamily Momotoidea, Motmots.
 - Family Momotidae, Motmots.
- Suborder Meropes, Bee-eaters.
 - Family Meropidae, Bee-eaters.
- Suborder Coracii, Rollers, Hoopoes.
 - Family Coraciidae, Rollers.
 - Leptosomatidae, Cuckoo-rollers and Ground-rollers.
 - Upupidae, Hoopoes.
 - Phoeniculidae, Wood-hoopoes.
- Suborder Bucerotes, Hornbills.
 - Family Bucerotidae, Hornbills.
- Order Piciformes, Jacamars, Barbets, Toucans, Woodpeckers.
 - Suborder Galbulae, Jacamars, Barbets, Toucans.
 - Superfamily Galbuloidea, Jacamars, Puff-birds.
 - Family Galbulidae, Jacamars.
 - Buconidae, Puff-birds.
 - Superfamily Capitonoidea, Barbets, Honey-guides.
 - Family Capitonidae, Barbets.
 - Indicatoridae, Honey-guides.
 - Superfamily Ramphastoidea, Toucans.
 - Family Ramphastidae, Toucans.
 - Suborder Pici, Woodpeckers.
 - Family Picidae, Woodpeckers, Piculets.
- Order Passeriformes, Perching Birds.
 - Suborder Eurylaimi, Broadbills.
 - Family Eurylaimidae, Broadbills.
 - Suborder Tyranni, Ovenbirds, Tyrant Flycatchers, and Allies.
 - Superfamily Furnarioidea, Ovenbirds, Wood-hewers, and Allies.
 - Family Dendrocolaptidae, Wood-hewers.
 - Furnariidae, Ovenbirds.
 - Formicariidae, Ant-thrushes.
 - Conopophagidae, Ant-pipits.
 - Rhinocryptidae, Tapaculos.
 - Superfamily Tyrannoidea, Tyrant Flycatchers, Pittas, and Allies.
 - Family Cotingidae, Cotingas.
 - Pipridae, Manakins.
 - Tyrannidae, Tyrant Flycatchers.
 - Oxyruncidae, Sharp-bills.

- Phytotomidae, Plant-cutters.
 Pittidae, Pittas.
 Acanthisittidae, New Zealand Wrens.
 Philepittidae, Asities.
- Suborder Menuræ, Lyre-birds.
 Family Menuridae, Lyre-birds.
 Atrichornithidae,⁸ Scrub-birds.
- Suborder Passeres, Song Birds.
 Family Alaudidae, Larks.
 Palaeospizidae, *Palaeospiza* (fossil).
 Hirundinidae, Swallows.
 Campephagidae, Cuckoo-shrikes.
 Dicruridae, Drongos.
 Oriolidae, Old World Orioles.
 Corvidae, Crows, Magpies, Jays.
 Paradiseidae,⁹ Birds of Paradise.
 Paradoxornithidae, Parrot-bills, Suthoras.
 Paridae, Titmice.
 Sittidae, Nuthatches.
 Hyposittidae, Coral-billed Nuthatches.
 Certhiidae, Creepers.
 Chamaeidae, Wren-tits.
 Timaliidae, Babbling Thrushes.¹⁰
 Pycnonotidae, Bulbuls.
 Cinclidae, Dippers.
 Troglodytidae, Wrens.
 Mimidae, Thrashers, Mockingbirds.
 Turdidae,¹¹ Thrushes.
 Zeledoniidae, Wren-thrushes.
 Sylviidae, Old World Warblers.
 Regulidae, Kinglets.
 Muscicapidae, Old World Flycatchers.
 Prunellidae, Accentors, Hedge-sparrows.
 Motacillidae, Wagtails, Pipits.
 Bombycillidae, Waxwings.
 Ptilogonatidae, Silky Flycatchers.
 Dulidae, Palm-chats.

⁸ Position not fully established.

⁹ Includes the bower-birds, sometimes recognized as the family Ptilinorhynchidae.

¹⁰ Frequently written Timeliidae but formed from the generic name *Timalia*.

¹¹ Includes the group of fork-tails placed by some in the family Enicuridae.

Artamidae, Wood-swallows.
Vangidae, Vanga Shrikes.
Laniidae, Shrikes.
Prionopidae, Wood-shrikes.
Cyclarhidae, Pepper-shrikes.
Vireolaniidae, Shrike-vireos.
Sturnidae,¹² Starlings.
Melithreptidae, Honey-eaters.
Nectariniidae, Sun-birds.
Dicaeidae, Flower-peckers.
Zosteropidae, White-eyes.
Vireonidae, Vireos.
Coerebidae, Honey-creepers.
Drepanididae, Hawaiian Honey-creepers.
Compothlypidae, Wood Warblers.
Ploceidae, Weaver-finches.
Icteridae, Blackbirds, Troupials.
Tersinidae, Swallow-tanagers.
Thraupidae, Tanagers.
Catamblyrhynchidae, Plush-capped Finches.
Fringillidae, Grosbeaks, Finches, Buntings.

¹² Includes the glossy starlings or Graculidae of various authors.