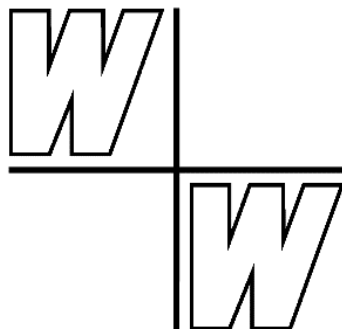


Data Collection on Intergeneric Hybrids and Basic Types: **AVES 1: non-Passeriformes**

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version 2 11.09.2026



Studiengemeinschaft Wort und Wissen
<https://www.wort-und-wissen.org/artikel/data-collection-basic-types/>

class AVES

birds = Vögel

44 extant orders, 251 families, 11167 species

part 1: non-Passeriformes

43 extant orders, 107 families, 4453 species

arranged alphabetically according to orders.

All families are listed

Delimitation of orders, families and genera as well as number of species after “birds of the world” 2026 <https://birdsoftheworld.org/>, which provides an up-to-date and comprehensive overview.

Subdivision of families mainly after en.wikipedia 2026.

Abbreviations:

° = taxa not accepted in the rank of a genus by “birds of the world” 2026, e.g.

Catharacta° *skua* = *Stercorarius skua*.

* = only family of an order

10: 50 etc. The numbers behind the names of families etc. refer to extant genera and species

IS = interspecific hybrid. **IG** = intergeneric hybrid. **IST** = intersubtribal hybrid.

IT = intertribal hybrid. **ISF** = intersubfamilial hybrid. **IF** = interfamilial hybrid.

HY = assumed intergeneric hybridogeneous origin of a taxon.

nat. hyb. = natural hybrid **art. hyb.** = artificial hybrid **capt. hyb.** hybrid in captivity

Colors within the crosses:

Red letters: intergeneric hybrids (incl. former IG).

Violet letters: plurigeneric hybrids.

Gray letters: hybridity unconfirmed or erroneous.

Green letters: notes on tribes, subfamilies etc. involved in the hybridization.

Yellow shaded: Notes concerning basic types.

Preface: how reliable are the cited hybrids?

In this paper more than thousand interspecific and intergeneric hybrids are mentioned. It is not possible to give an evaluation for all these crosses. Therefore, they must be treated with some caution. Questionable and unconfirmed hybrid combinations are written in gray letters, but certainly some more are unconfirmed. Erroneous reports are also written in gray letters but scored out. – As in other contemporary papers on bird hybrids most data before 2006 go back to McCarthy (2006). This book is very valuable, but between confirmed hybrids, there are also unconfirmed reports, cf. Graves (2008). A compilation of confirmed/reliable hybrid data is given in the avian hybrids project of Ottenburghs et al. (2015 f.), but the list is not complete.

Summary of Aves 1 + Aves 2:

517 intergeneric hybrids IG (incl. IT + ISF + IF), in 55 families.

84 preliminary basic types (species number varying from 1 to 410, average species number $4877 / 84 = 58$ species).

Basic type level: 7 < family, 74 families, 3 >1 family.

Summary of Aves 1:

333 intergeneric hybrids IG (incl. IT, ISF and IF), in 31 families.

61 preliminary basic types as for extant taxa, (species number ranging from 1 to 410, average species number $2928 / 61 = 48$ species).

Basic type level: 4 < family, 55 families, 2 >1 family.

* = only family of an order

Accipitridae subfamilies Buteoninae, Accipitrinae, and Harpaginae 33: 151. **7 IG**

Alcidae 11: 25. **2 IG**

Aegothelidae* 1: 10. – (0 IS)

Anatidae 53: 174. **86 IG**

Anhimidae 2: 3. **0 IG**

Anhingidae 1: 4. – (0 IS)

Anseranatidae 1: 1. –

Apterygidae* 1: 5. – (2 IS)

Aramidae 1: 1. –

Ardeidae subfamily Ardeinae 13: 57. **6 IG**

Balaenicipitidae 1: 1. –

Bucerotidae 16: 64. **0 IG**

Cariamidae* 2: 2. **0 IG**

Casuariidae* 2: 4. **0 IG**

Cathartidae* 5: 7. **0 IG**

Ciconiidae* 6: 20. **1 IG**

Columbidae* 52: 353. **18 IG**
 Cracidae 11: 57. **6 IG**
 Diomedeidae: 4: 20. **0 IG**
 Eurypygidae 1: 1. –
 Falconidae* subfamily Falconinae 4: 45. **0 IG**
 Fregatidae 1: 5. – (0 IS)
 Gaviidae* 1: 5. – (4 IS)
 Gruidae 4: 15. **4 IG**
 Haematopodidae 1: 12. – (6 IS)
 Laridae subfamily Larinae 11: 64. **4 IG**
 Leptosomidae* 1: 1. – (monospecific order)
 Megapodiidae 7: 21. **0 IG**
 Mesitornithidae* 2: 3. **0 IG**
 Musophagidae* subfamily Musophaginae 3: 17. **2 IG**
 Nyctibiidae* 2: 7. **0 IG**
 Opisthocomidae* (*Opisthocomus hoazin*) 1: 1. (monospecific order)
 Otididae* 12: 26. **1 IG**
 Pandionidae 1: 1. –
 Pelecanidae 1: 8. – (6 IS)
 Phaethontidae* 1: 3. – (0 IS)
 Phalacrocoracidae 7: 34. **2 IG**
 Phasianoidea = families Phasianidae / Numididae / Odontophoridae 68: 229. **81 IG**
 (incl. **18 ISF + 6 IF**)
 Phoenicopteridae 3: 6. **2 IG**
 Picidae subfamily Picinae 25: 200. **4 IG** (incl. **2 IT**)
 Podargidae* 3: 16. **0 IG**
 Podicipedidae 6: 22. **1 IG**
 Psittaciformes 101: 410. **48 IG** (incl. **8 ISF + 2 IF**)
 Psophiidae 1: 3. – (0 IS)
 Pteroclididae* 2: 16. **0 IG**
 Recurvirostridae 3: 9. **1 IG**
 Rheidae* 1: 2. – (1 IS)
 Rhynochetidae 1: 1. –
 Sagittariidae 1: 1. –
 Scopidae 1: 1. –
 Spheniscidae* 7: 20. **0 IG**
 Steatornithidae* 1: 1. – (monospecific order)
 Stercorariidae 1: 7. – (7 IS)
 Strigiformes 27: 248. **1 IT + 1 ISF + 1 IF**
 Struthionidae* 1: 2. – (1 IS)
 Sulidae 3: 11. **0 IG**
 Threskiornithidae 13: 36. **2 IG**
 Trochilidae 112: 363. **38 IG**

Trogonidae* 7: 47. **0 IG**

Turnicidae 2: 18. **0 IG**

Upupidae 1: 3. –

General references on avian hybrids:

Ackermann K (1898) Thierbastarde. Zusammenstellung der bisherigen

Beobachtungen über Bastardirung im Thierreiche nebst Litteraturnachweisen. II: Wirbelthiere. Kassel: Weber und Weidemeyer.

Aliabadian M & Nijman V (2007) Avian hybrids: incidence and geographic distribution of hybridisation in birds. *Contrib. Zool.* 76 (1), 59–61.

<http://dpc.uba.uva.nl/cgi/t/text/get-pdf?c=ctz;idno=7601a06>

avianhybrids → see Ottenburghs J et al. (2015 ff.)

avibase Avibase - The World Bird Database. Bird checklists - taxonomy - distribution - maps - links. <https://avibase.bsc-eoc.org/avibase.jsp?lang=EN>

bird-hybrids → see Dumont 2003–2017 <http://www.bird-hybrids.com/>

birds of the world <https://birdsoftheworld.org/>

Cockrum EL (1952) A check-list and bibliography of hybrid birds in North America north of Mexico. *Wilson Bull.* 64, 140–159.

Del Hoyo J et al. (1997–1999) Handbook of the birds of the world. Barcelona: Lynx.

Dumont S (2003–2017) Serge Dumont bird hybrids database: <http://www.bird-hybrids.com/> Search engine on bird hybrids. **Not all taxa with hybrids are included. Data of e.g. Gray 1958 and of McCarthy 2006 are thoroughly listed, but without critical comments! In 2017 all together 8952 bird hybrids and 5622 references were listed.**

Ericson PGP et al. (2006) Diversification of Neoaves: integration of molecular sequence data and fossils. *Biol. Lett* 2, 543–547.

Fängler H (2026) Avitaxonomicon website, <https://www.bird-phylogeny.de> private website with many phylograms and other valuable information on the systematics of birds

Fehrer J (2009) Eine neue Phylogenie der Vögel: Was sagen die Daten wirklich? *Studium Integrale J.* 16, 3–16. <https://www.si-journal.de/index2.php?artikel=jg16/heft1/sij161-1.html> general considerations concerning the taxonomy and the question of basic types in birds and critical comments as to Hackett et al. (2008)

Grant PR & Grant BR (1992) Hybridization of bird species. *Science* 256, 193–197.

Graves GR (2008) Review: Handbook of avian hybrids of the world by Eugene M. McCarthy". *The Wilson Journal of Ornithology* 120 (1), 233–235. **see the remarks to McCarthy (2006)**

Gray AP (1958) Bird hybrids: A check-list with bibliography. Farnham Royal, Bucks: Commonwealth Agricultural Bureaux. 390 p. **some data are questionable. This book is now outdated; for more recent information and critical comments, see McCarthy (2006).**

- Hackett SJ et al. (2008) A phylogenomic study of birds reveals their evolutionary history. *Science* 320, 1763–1767. cf. [Fehrer 2009](#).
- Houlton C & Blake J (1986) *Cage bird hybrids*. Nimrod Press Ltd.
- Lightner J (2013) An Initial Estimate of Avian Ark Kinds. *Answers Research Journal* 6, 409–466.
- Livezey BC & Zusi RL (2007) Higher-order phylogeny of modern birds (Theropoda, Aves: Neornithes) based on comparative anatomy. II. Analysis and discussion. *Zool. J. Linn. Soc.* 149, 1–95.
- McCarthy EM (2006) *Handbook of avian hybrids of the world*. Oxford University Press. 608 pp. <http://spinus.info/Images/books/AH743697479746.pdf> An evaluation is given for many critical or unconfirmed hybrids, but not for all, see the critical remarks of Graves (2008): “However, those who cast a wide net had better be prepared to throw back the by-catch. Unfortunately, McCarthy kept it all – the good, the bad, and the vague. The lack of discrimination reduces the usefulness of his work because readers will have to dig deeply into the cited works to evaluate the quality of the documentation.” Therefore, with regard to the hybrids cited by McCarthy in this paper, it remains a task for future research to double-check all information against the literature. – Most data are also listed in Dumont (see above) and many of them with critical remarks in Ottenburghs et al. (2015 ff.).
- Ottenburghs J et al. (2015 ff.) The avian hybrids project: gathering the scientific literature on avian hybridization. *Ibis*, 157 (4), 892–894. **avianhybrids** <https://avianhybrids.wordpress.com/overview-2/> this online-publication is much more critical than McCarthy (2006) or Dumont (2003–2017)
- Ottenburghs J (2023) How common is hybridization in birds? *Journal of Ornithology* 164, 913–920. <https://doi.org/10.1007/s10336-023-02080-w>
- Panov EN (1989) *Natural hybridisation and ethological isolation in birds*. [Russian]. Moscow: Nauka. **uncritical**
- Randler C (2006) Behavioural and ecological correlates of natural hybridization in birds. *Ibis* 148, 459–467.
- Sanders RW (ed.) (2025) *Basic types of life*. Tusla (Oklahoma): Blyth Institute.
- Short LS (1969) Taxonomic aspects of avian hybridization. *Auk* 86 (1), 84–105. <http://elibrary.unm.edu/sora/Auk/v086n01/p0084-p0105.pdf>
- Sibley CG & Ahlquist JE (1990) *Phylogeny and classification of birds: a study in molecular evolution*. New Haven (CT): Yale University Press.
- Tyler S (2025) Further candidates for basic types of birds – a resumé. pp. 299–341 in Sanders RW (ed.) *Basic types of life*. Tusla (Oklahoma): Blyth Institute. **32 prospective basic types are presented**
- Winkler DW et al. (2015) *Bird families of the world: A guide to the spectacular diversity of birds*. Lynx Edicions, Barcelona. ISBN 978-84-941892-0-3.
- zoochat
<https://www.zoochat.com/community/search/9707769/?q=hybrid&o=relevance> An interesting website with many photos of zoo animal hybrids

Accipitriformes 3 families, 252 species

hawks, eagles, kites, and allies = Greifvögel

3 families: Accipitridae 74, Pandionidae 1, Sagittariidae 1.

Accipitriformes: Accipitridae 74: 250 + extinct taxa. 7 IG (incl. 2 ISF)

eagles, buzzards, hawks and Old World vultures = Habichtartige

The subdivision varies much.

12 subfamilies:

Accipitrinae 11: 72 *Accipiter*, *Aerospiza*, *Astur*, *Circus*, *Erythrotriorchis*, *Kaupifalco*, *Megatriorchis*, *Melierax* 3, *Micronisus gabar*, *Tachyspiza* 27, *Urotriorchis*.

Aegyptiinae 6 *Aegyptius*, *Gyps*, *Necrosyrtes*, *Sarcogyps*, *Torgos*, *Trigonoceps*.

Aquilinae 9 *Aquila* 11, *Clanga* 3 *clanga*, *hastata*, *pomarina*, *Ictinaetus*, *Lophaetus*, *Lophotriorchis*, *Polemaetus*, *Spizaetus*, *Stephanoaetus*.

Buteoninae 18 *Busarellus*, *Butastur*, *Buteo* (incl. *Asturina*^o), *Buteogallus* 9, *Cryptoleucopteryx*, *Geranoaetus*, *Geranospiza*, *Haliaeetus*, *Haliaastur*, *Harpyhaliaetus*, *Helicolestes hamatus*, *Ictinia*, *Leucopternis*, *Milvus*, *Parabuteo*, *Pseudastur*, *Rostrhamus sociabilis*, *Rupornis*.

Circaetinae 4 *Terathopius*, *Circaetus*, *Spilornis*, *Pithecophaga*.

Elaninae 4 *Chelictinia*, *Elanus*, *Gampsonyx*.

Gypaetinae 3 *Gypohierax*, *Gypaetus*, *Neophron*.

Haliaetinae 2 *Haliaeetus*, *Ichthyophaga*.

Harpiinae 4: 4 *Harpia*, *Harpyopsis*, *Macheiramphus*, *Morphnus*.

Harpaginae 2: 4 *Harpagus*, *Microspizias*.

Lophospizinae 1 *Lophospiza*

Perninae 9 *Aviceda*, *Chondrohierax*, *Elanoides*, *Eutriorchis*, *Hamirostra*, *Henicopernis*, *Leptodon*, *Lophoictinia*, *Pernis*.

Polyboroidinae 1 *Polyboroides*.

Probably **basic type family Accipitridae subfamilies Buteoninae, Accipitrinae, and Harpaginae** (33: 151). A view on the phylogeny of Catanach et al. 2024 (see the figure below) shows that the 2 large subfamilies Buteoninae and Accipitridae are connected by hybridization, and that subfamily Harpaginae is included by its position between them. – Thus, the basic type is principally the same as originally described by Zimbelmann (1993, p. 187) but somewhat enlarged because of new hybrids and new systematic insights. – Zimbelmann mentions subfamilies **Aegyptiinae** and **Haliaetinae** as possible further basic types.

IS: McCarthy (2006), p. 180 ff.: *Accipiter* 8 IS, *Aquila* (incl. *Clanga*) 5 IS, *Buteo* 14 IS, *Buteogallus* 1 IS, *Circaetus* 3 IS, *Circus* 4 IS, *Geranospiza* 2 IS, *Gyps* 3 IS, *Haliastur* 1 IS, *Leucopternis* 0–1 IS, *Melierax* 1 IS, *Milvus* 2 IS, *Pernis* 1 IS.

See also: <https://avianhybrids.wordpress.com/accipitriformes/>

Accipiter gentilis × *Buteo buteo* **ISF** **Accipitrinae** × **Buteoninae** (capt. hyb.) McCarthy 2006

Accipiter cooperi × *Parabuteo unicinctus* **ISF** **Accipitrinae** × **Buteoninae** (capt. hyb.) Fox & Sherrod 1999, Dumont 2012

Aegypius monachus × *Gyps fulvus* **Aegyptiinae** (capt. hyb) McCarthy 2006, avianhybrids 2026

Aquila chrysaetos × *Clanga* (“*Aquila*”) *pomarina* **Aquilinae** McCarthy 2006 Dumont 2012
Aquila heliaca × *Buteo buteo* (capt. hyb.) **ISF** **Aquilinae** × **Buteoninae** McCarthy 2006 (capt. hyb. = pers. comm. Fox 2003), Dumont 2012 (only citation of McCarthy without comment), **questionable**, avianhybrids 2026t (this hybrid has not been published).

Buteo nitidus (= *Asturina*^o *nitida*) × *Buteo lineatus* (nat. hyb.) **IS** **Buteoninae** McCarthy 2006

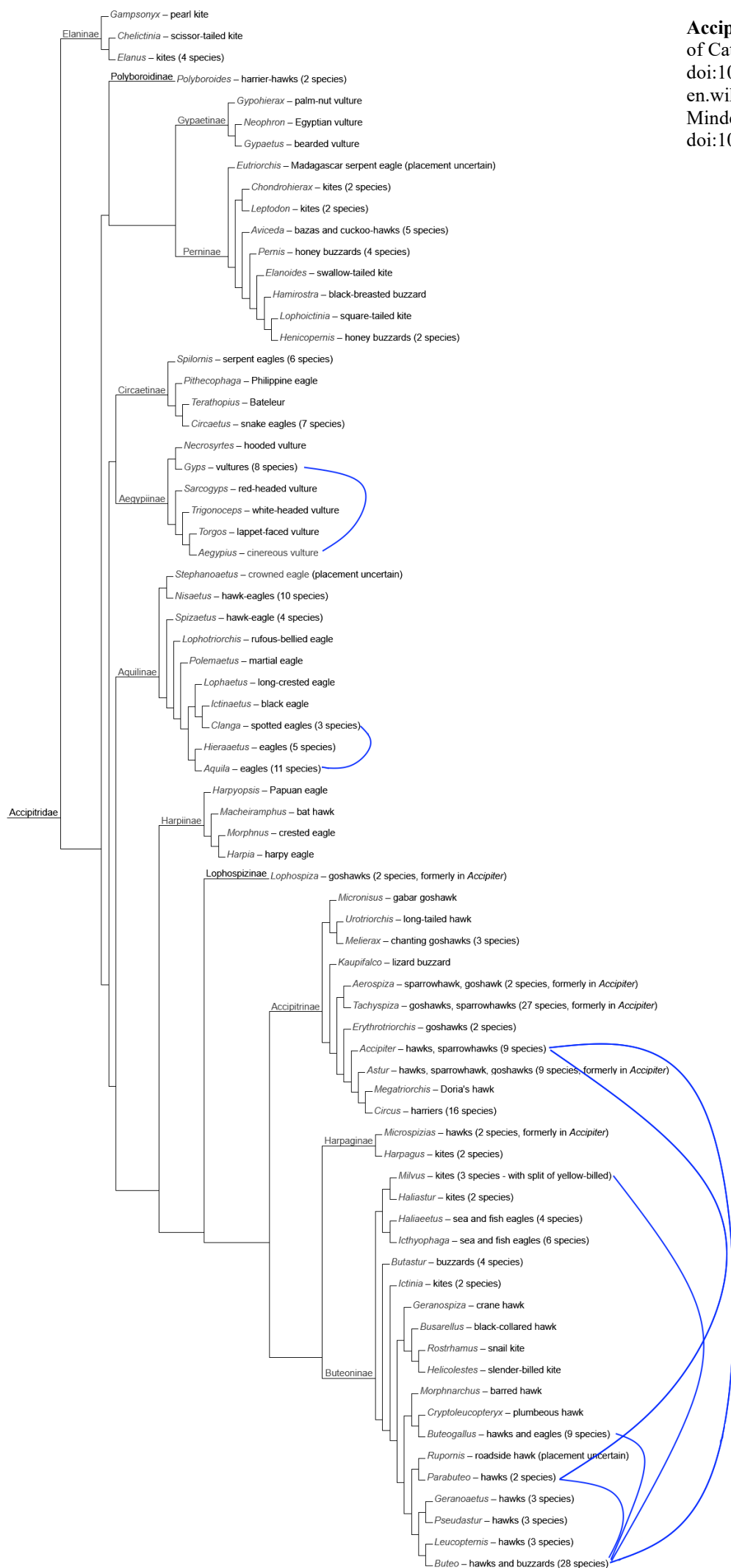
Buteo lineatus × *Buteogallus anthracinus* **Buteoninae** Moore & Coulson 2020 (nat. hyb., originally reported by Hug 2016), avianhybrids 2026

Buteo buteo × *Milvus migrans* **Buteoninae** (nat. hyb.) McCarthy 2006, avianhybrids 2026 (“possible”)

Buteo jamaicensis × *Parabuteo unicinctus* **Buteoninae** (capt. hyb., nat. hyb.) McCarthy 2006

Buteo buteo × *Pernis apivorus* **ISF** **Buteoninae** × **Perninae** (nat.hyb.) McCarthy 2006 (p. 182: “?. Old report. Suchetet 1897a.”); Ottenburghs et al. 2019 (he lists this hybrid without evaluation)

Gyps rueppelii × *Gyps* (= *Pseudogyps*^o) *africanus* **IS** **Aegyptiinae** McCarthy 2006, p. 184



Accipitridae: hybrids in the phylogeny of Catanach TA et al. (2024)
doi:10.1093/biolinnean/blae028, from en.wikipedia (2026, CC BY-SA 4.0). Cf. Mindell DP et al. (2018).
doi:10.1007/978-3-319-73745-4_1.

References:

- Catanach TA et al. (2024) Enigmas no longer: using ultraconserved elements to place several unusual hawk taxa and address the non-monophyly of the genus *Accipiter* (Accipitriformes: Accipitridae). Biological Journal of the Linnean Society 144 (2) blae028. doi:10.1093/biolinnean/blae028
- Fox NC & Sherrod (1999) The use of exotic and hybrid raptors in falconry. Information arising from the International Committee on Hybrids. International Wildlife Consultants Ltd., Carmarthen, Wales, England.
- Moore S & Coulson JF (2020) Intergeneric hybridization of a vagrant common black hawk and a red-shouldered hawk. J. Raptor Research 54, 74–80.
- Ottenburghs et al. (2026 etc.) <https://avianhybrids.wordpress.com/accipitriformes/>
- Zimbelmann F (1993) Grundtypen bei Greifvögeln (Falconiformes). pp. 185–195 in Scherer S (Hg.) Typen des Lebens. Berlin: Pascal.
- Zimbelmann F (2025) Basic types of diurnal birds of prey (Falconiformes). pp. 253–267 in Sanders RW (ed.) Basic types of life. Tusla (Oklahoma): Blyth Institute.
- English translation of Zimbelmann (1993). Aquilinae, Accipitrinae/Buteoninae, Aegypiinae, Haliaetinae

Accipitriformes: Pandionidae 1: 1

osprey = Fischadler

Sometimes considered as subfamily of Accipitridae.

Monotypic: *Pandion haliaetus*.

Probably **basic type family Pandionidae** (1: 1) as an isolated well-defined monotypic family, or possibly part of basic type Accipitridae s. l.

Accipitriformes: Sagittariidae 1: 1

secretary bird = Sekretär

Sometimes considered as subfamily of Accipitridae.

Monotypic: *Sagittarius serpentarius*.

Probably **basic type family Sagittariidae** (1: 1) as an isolated well-defined monotypic family, or possibly part of basic type Accipitridae s.l.

Aegotheliformes 1 family, 10 species

Aegotheliformes: Aegothelidae* 1: 10 + 1 extinct genus

owled nightjars = Höhlenschwalme

Sometimes associated with Caprimulgiformes or Apodiformes.

Aegotheles 10.

Probably **basic type family Aegothelidae** (1: 10) an isolated family.

IS: McCarthy (2006), Dumont (2017): no hybrids mentioned.

Anseriformes 3 extant families, 178 species + 7 extinct families

waterfowl = Gänseartige

3 extant families: Anatidae 53: 174, Anhimidae 2: 3, Anseranatidae 1: 1.

Anseriformes: Anatidae 53: 174. + extinct taxa. 86 IG (incl. 7 IT + 26 ISF)

ducks, swans and geese = Entenvögel

excl. Anseranatidae/Anseranatinae

7 subfamilies (en.wikipedia 2026):

Anatinae (3 tribes):

Anatini *Amazonetta* 1, *Anas* 53, *Lophonetta* 1, *Speculanas* 1.

Mergini *Bucephala* 3, *Clangula* 1, *Histrionicus* 1, *Lophodytes* 1 *cucullatus*, *Melanitta* 3, *Mergellus* 1 *albellus*, *Mergus* 5, *Polysticta* 1, *Somateria* 3.

Oxyurini *Heteronetta* 1, *Nomonyx* 1, *Oxyura* 5.

Anserinae *Anser* 11, *Branta* 6, *Cereopsis* 1, *Coscoroba* 1, *Cygnus* 7.

Aythiinae *Aythya* 12, *Marmornetta*, *Netta* 4

Dendrocygninae *Dendrocygna* 8, *Thalassornis* 1.

Plectropterinae *Plectropterus* 1.

Stictonettinae *Stictonetta* 1.

Tadorninae: *Alopochen* 1, *Chloephaga* 5, *Hymenolaimus* 1, *Merganetta* 1, *Neochen* 1, *Salvadorina* 1, *Tadorna* 7.

unresolved *Aix* 2, *Biziura*, *Cairina* 2, *Callonetta* 1, *Chenonetta* 1, *Cyanochen* 1, *Malacorhynchus* 1, *Marmaronetta*, *Nettapus* 3, *Pteronetta* 1, *Sarkidiornis* 1, *Tachyeres* 3.

Basic type family Anatidae (53: 174): Scherer & Hilsberg 1982, Scherer 1993.

This is the longest known basic tribe of all. The large number of **85 IG** incl. 26 interfamilial hybrids is known, which link all 11 tribes/subfamilies (see the two figures below). The former subfamily Anseranatinae is not part of the basic type and has meanwhile been separated as a family of its own taxonomically. – In 1993 no hybrid connections were known with the small subfamily Stictonettinae (and some taxa now integrated in other subfamilies). But modern molecular data show that they all are nested within the other clades. Thus, Anatidae are confirmed as a clear basic type.

IS: McCarthy (2006): *Aix* 1 IS, *Anas* 142 IS, *Anser* 22 IS, *Aythya* 34 IS, *Branta* 6 IS, *Bucephala* 3 IS, *Cairina* 1 IS, *Chloeophaga* 2 IS, *Cygnus* 13 IS, *Dendrocygna* 11 IS, *Mergus* 1 IS, *Netta* 2 IS, *Oxyura* 2 IS, *Somateria* 2 IS, *Tachyeres* 1 IS, *Tadorna* 11 IS.

For further compilations of interspecific and intergeneric hybrids, see Johnsgard 1960, Scherer & Hilsberg 1982, Gillham & Gillham 1996, 2002, Dumont 2017 and avianhybrids <https://avianhybrids.wordpress.com/anseriformes/> (2026).

Because the systematic subdivision into subfamilies and tribes is permanently changing, the following attribution to subfamilies is provisional:

Aix × *Amazonetta* unresolved × Anatinae Anatini (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aix × *Anas* unresolved × Anatinae Anatini (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aix × *Aythya* unresolved × Aythyinae (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aix × *Bucephala* IT Anatinae Anatini × Anatinae Mergini (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aix × *Callonetta* unresolved (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aix × *Chenonetta* unresolved (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006 (“?”), Dumont 2012

Aix × *Clangula* unresolved × Anatinae Mergini (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006 (“?”), Dumont 2012

Aix × *Lophodytes* (“*Mergus*”) *cucullatus* unresolved × Anatinae Mergini (nat. hyb.) McCarthy 2006, Dumont 2012

Aix × *Mergus* unresolved × Anatinae Mergini (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aix × *Netta* unresolved × Aythyinae (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aix × *Tadorna* unresolved × Tadorninae (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Alopochen × *Anas* ISF Tadorninae × Anatinae Anatini (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006 (“?”), Dumont 2012

Alopochen × *Anser* ISF Tadorninae × Anserinae (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Alopochen × *Branta* ISF Tadorninae × Anserinae (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Alopochen × *Cairina* Tadorninae × unresolved (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Alopochen × *Chenonetta* Tadorninae × unresolved (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Alopochen × *Chloeophaga* Tadorninae (capt. hyb., nat. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Alopochen × *Cyanochen* **Tadorninae** (capt. hyb., fertile) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Alopochen × *Neochen* **Tadorninae** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Alopochen × *Plectropterus* **ISF Tadorninae** × **Plectropterinae** (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Alopochen × *Tadorna* **Tadorninae** (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Amazonetta × *Anas* **Anatinae Anatini** (nat. hyb., capt. hyb.) McCarthy 2006, Dumont 2012
Amazonetta × *Aythya* **ISF Anatinae Anatini** × **Aythiinae** (capt. hyb.) McCarthy 2006, Dumont 2012
Amazonetta × *Callonetta* **Anatinae Anatini** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Anas × *Anser* **ISF Anatinae Anatini** × **Anserinae** (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Anas × *Aythya* **ISF Anatinae Anatini** × **Aythiinae** (capt. hyb., nat. hyb.) McCarthy 2006, Dumont 2012
Anas × *Branta* **Anatinae Anatini** × **Anserinae ISF** (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Anas × *Bucephala* **IT Anatinae Anatini** × **Anatinae Mergini** (nat. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Anas × *Cairina* **Anatinae Anatini** × **unresolved** (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Anas × *Callonetta* **Anatinae Anatini** × **unresolved** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Anas × *Clangula* **IT Anatinae Anatini** × **Anatinae Mergini** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Anas × *Cyanochen* **Anatinae Anatini** × **unresolved** Scherer & Hilsberg 1982, McCarthy 2006
Anas × *Hymenolaimus* **ISF Anatinae Anatini** × **Tadorninae** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006 ("?? Gray 1958 etc."), Dumont 2012
Anas × *Lophodytes* ("*Mergus*") *cucullatus* **IT Anatinae Anatini** × **Anatinae Mergini** (nat. hyb.) McCarthy 2006, Dumont 2012
Anas × *Melanitta* **IT Anatinae Anatini** × **Anatinae Mergini** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006 ("? Old record. Leverkühn 1890"), Dumont 2012
Anas × *Mergus* **IT Anatinae Anatini** × **Anatinae Mergini ISF** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012
Anas × *Neochen?* **ISF Anatinae Anatini** × **Tadorninae** Scherer & Hilsberg 1982, McCarthy 2006
Anas × *Netta* **ISF Anatinae Anatini** × **Aythiinae** (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Anas × *Nettapus* **Anatinae Anatini** × unresolved (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Anas × *Polysticta* **IT Anatinae Anatini** × **Anatinae Mergini** (nat. hyb.) McCarthy 2006, Dumont 2012

Anas × *Sarkidiornis* **Anatinae Anatini** × unresolved (nat. hyb.) McCarthy 2006, Dumont 2012

Anas × *Somateria* **IT Anatinae Anatini** × **Anatinae Mergini** (nat. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Anas × *Tadorna* **ISF Anatinae Anatini** × **Tadorninae** (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Anser × *Branta* **Anserinae** (nat. hyb., capt. hyb., fertile) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012, Kowalczyk & Lukaszewicz 2012

Anser × *Cairina* **Anserinae** × unresolved (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Anser × *Chloeophaga* **ISF Anserinae** × **Tadorninae** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Anser × *Cyanochen* **Anserinae** × unresolved (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Anser × *Cygnus* **Anserinae** nat. hyb., capt. hyb., frequent, hybrids sometimes fertile) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Anser × *Plectropterus* **ISF Anserinae** × **Plecopterinae** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Anser × *Tadorna* **ISF Anserinae** × **Tadorninae** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006 ("???"), Dumont 2012

Aythya × *Bucephala* **ISF Aythyinae** × **Anatinae Mergini** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aythya × *Callonetta* **Aythyinae** × unresolved (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aythya × *Dendrocygna* **ISF Aythyinae** × **Dendrocygninae** Scherer & Hilsberg 1982, McCarthy 2006

Aythya × *Lophodytes* ("*Mergus*") *cucullatus* **ISF Aythyinae** × **Anatinae Mergini** (capt. hyb.) McCarthy 2006, Dumont 2012

Aythya × *Marmaronetta* **Aythyinae** × unresolved (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aythya × *Mergus* **ISF Aythyinae** × **Anatinae Mergini** (capt. hyb.) Gillham & Gillham 2002, Dumont 2012

Aythya × *Netta* **Aythyinae** (fertile) (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aythya × *Oxyura* **ISF Aythyinae** × **Anatinae Oxyurini** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006 ("???"), Dumont 2012

Aythya × *Somateria* **ISF Aythyinae** × **Anatinae Mergini** (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Aythya × *Tadorna* **ISF** *Aythiinae* × *Tadorninae* (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Branta × *Cairina* *Anserinae* × unresolved (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Branta × *Cereopsis* *Anserinae* (capt. hyb.) Kear & Berger 1980, Banko & Black 1999, Dumont 2012

Branta × *Chloephaga* **ISF** *Anserinae* × *Tadorninae* (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Branta × *Coscoroba* *Anserinae* (capt. hyb.) Gillham & Gillham 2002, Dumont 2012 (not yet in Scherer & Hilsberg)

Branta × *Cygnus* *Anserinae* (nat. hyb., capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

~~*Branta* × *Tadorna*~~ **ISF** *Anserinae* × *Tadorninae* (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006 (“Erroneous. Some cite Gray (1958) for this cross. Pairing in captivity was observed, but no hybrids were reported.”), Dumont 2012

Bucephala × *Lophodytes* (“*Mergus*”) *cucullatus* *Anatinae* *Mergini* (nat. hyb.) McCarthy 2006, Dumont 2012

Bucephala × *Melanitta* *Anatinae* *Mergini* (nat. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Bucephala × *Mergellus* (“*Mergus*”) *albellus* *Anatinae* *Mergini* (nat. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Bucephala × *Mergus* *Anatinae* *Mergini* (nat. hyb.) Suchetet 1896, Sibley 1938, Gray 1958, Johnsgard 1960, McCarthy 2006, Dumont 2012

Bucephala × *Netta* **ISF** *Anatinae* *Mergini* × *Aythiinae* Scherer & Hilsberg 1982, McCarthy 2006

Cairina × *Plectropterus* unresolved × *Plectropterinae* (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Cairina × *Sarkidiornis* unresolved (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Cairina × *Tadorna* unresolved × *Tadorninae* (capt. hyb., nat. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Chenonetta × *Chloephaga* unresolved × *Tadorninae* (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006

Chloephaga × *Plectropterus* **ISF** *Tadorninae* × *Plectropterinae* (nat. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Chloephaga × *Tadorna* *Tadorninae* (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Cyanochen × *Neochen* unresolved × *Tadorninae* (capt. hyb.), Dumont 2012 (= Johnsgard 1965)

Cyanochen × *Tadorna* unresolved × *Tadorninae* (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Dendrocygna × *Netta* **ISF** *Dendrocygninae* × *Aythiinae* (nat. hyb.) Gray 1958, McCarthy 2006, Dumont 2012

Lophodytes (= *Mergus*^o) *cucullatus* × *Mergellus* (= *Mergus*^o) *albellus* Anatinae Mergini
 Scherer & Hilsberg 1982, McCarthy 2006

Lophodytes ("Mergus") *cucullatus* × *Mergus merganser, serrator* Anatinae Mergini (nat. hyb.) Scherer & Hilsberg 1982, McCarthy 2006

Melanitta × *Mergus* Anatinae Mergini McCarthy 2006

Melanitta × *Somateria* Anatinae Mergini (nat. hyb.) Scherer & Hilsberg 1982, McCarthy 2006 ("In Iceland a mixed pair was observed with three eggs in the nest, but it was not reported whether actual hybrids resulted. Gudmundsson 1932."), Dumont 2012

Mergus × *Somateria* Anatinae Mergini (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Mergus × *Tadorna* ISF Anatinae Mergini × Tadorninae (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Neochen × *Tadorna* Tadorninae (capt. hyb., fertile) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

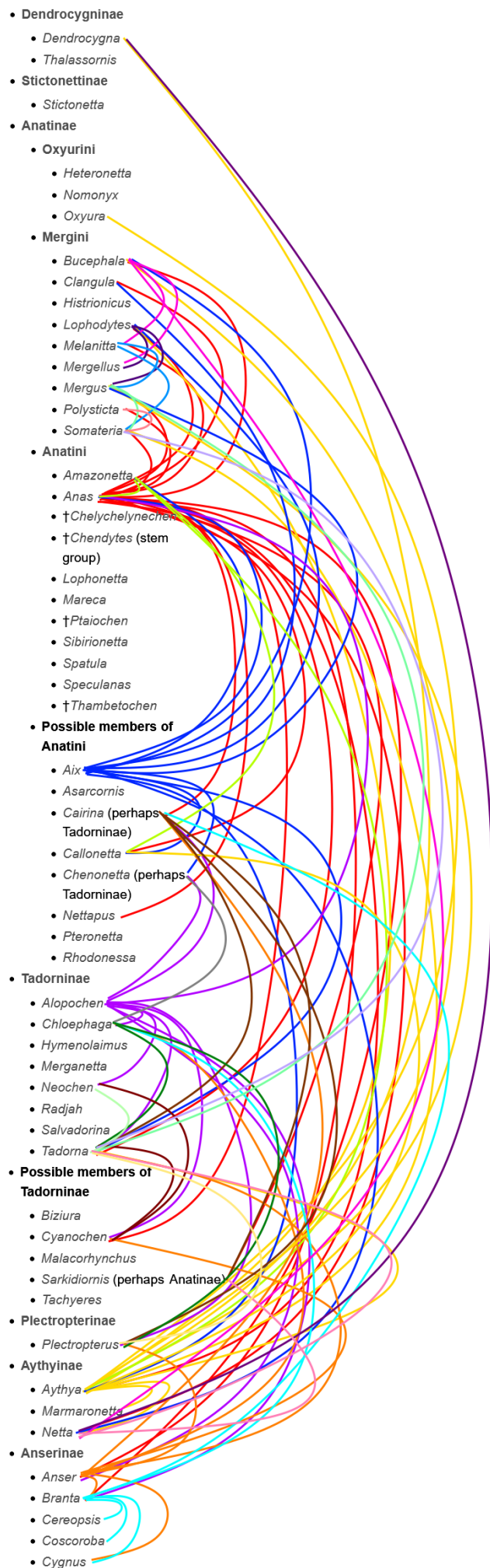
Netta × *Sarkidiornis* Aythyinae × unresolved (capt. hyb.) Scherer & Hilsberg 1982, McCarthy 2006, Dumont 2012

Netta × *Tadorna* ISF Aythyinae × Tadorninae (capt. hyb.) McCarthy 2006, Dumont 2012

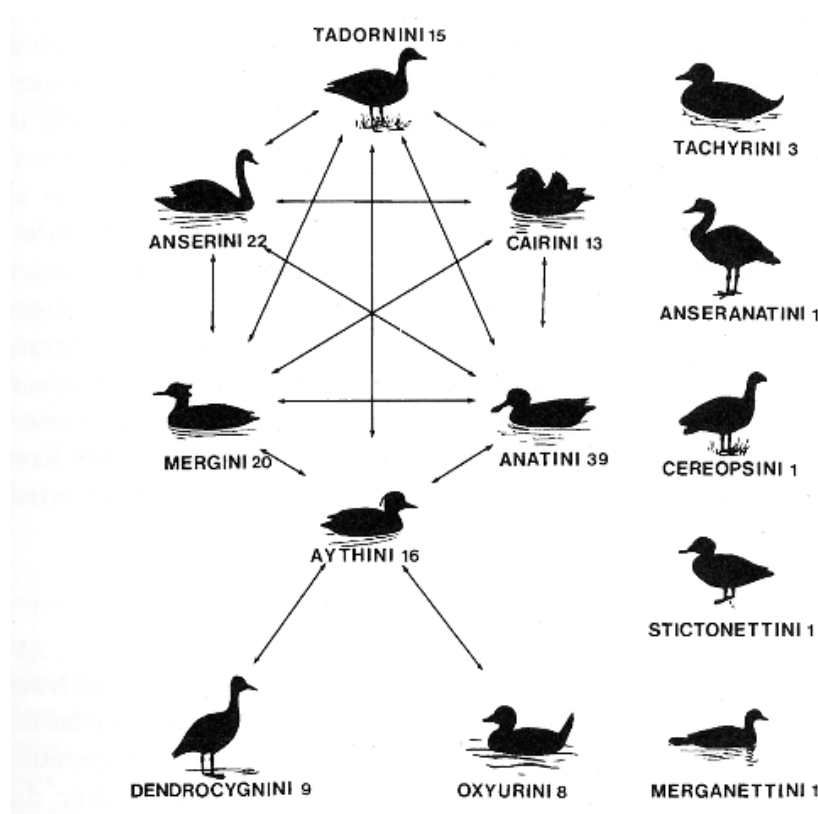
Plectropterus × *Tadorna* ISF Plectropterinae × Tadorninae (capt. hyb.) Gillham & Gillham 2002, McCarthy 2006, Dumont 2012

Polysticta × *Somateria* Anatinae Mergini (nat. hyb.) McCarthy 2006, Dumont 2012

Somateria × *Tadorna* ISF Anatinae Mergini × Tadorninae (nat. hyb.) Wackernagel 1972, Scherer & Hilsberg 1982 (= Wackernagel 1972), Gillham & Gillham 2002, McCarthy 2006, Dumont 2012



Anatidae: hybrids in the phylogeny of Soo HE et al. (2008, fig. 3. doi:10.1111/j.1463-6409.2008.00382.x), from en.wikipedia (2025, CC BY-SA 4.0).



Anatidae: classical picture of crossing affinities between the tribes in the system of Johnsgard (1978), from Scherer (1993). The numbers mean species numbers. Most tribes have now the rank of subfamilies. – “Anseranatini” belong to a separate basic type and are now a family of its own.

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Anseriformes: Anhimidae 2: 3 + 1 extinct genus

[screamers = Wehrvögel](#)

Anhima 1 *vornuta*, *Chauna* 2 *chavaria*, *torquata*.

Probably **basic type family Anhimidae (2: 3)**: This family is monophyletic with unique characteristics, and in morphological and molecular respect it is sister to the rest of the order Anseriformes.

IS: McCarthy (2006), p. 67: *Chauna* 1 **IS** (*chavaria* × *torquata*).
[avianhybrids](#) (2026): likewise.

Anseriformes: Anseranatidae 1: 1 + 2–3 extinct genera

[magpie-goose = Spaltfußgänse](#)

Formerly part of family Anatidae.

Monotypic: *Anseranas* 1 *semipalmata*.

Basic type family Anseranatidae (1: 1): Scherer (1993, 2025). As a basic type, the family is distinct from Anatidae.

Apodiformes 3 families, 132: 476

Apodidae 19: 109, Hemiprocnidae 1: 4, Trochilidae 112: 363.

Apodiformes: Apodidae 19: 109

swifts = Segler

4 tribes.

IS: McCarthy (2006), p. 143: *Apus* 2 IS, *Collocalia* 2 IS, *Neafrapus* 1 IS, *Tachymarptis* 2 IS.

“Note: the unobliging habits and slight plumage differences of swifts mean hybridization may be underreported in these birds.”

avianhybrids <https://avianhybrids.wordpress.com/apodiformes/> 2026: *Apus* 4 IS.

Apodiformes: Hemiprocnidae 1: 4

crested-swifts = Baumsegler

Hemiprocne 4.

McCarthy (2006), p. 143: *Hemiprocne* intersubspecific.

Apodiformes: Trochilidae 112: 363 + extinct taxa. 38 IG (incl. 10 IT + 2 ISF)

hummingbirds = Kolibris

Sometimes considered as a separate order. For differences to other families of the order see Weller (2004).

The former distinction between 2 subfamilies Trochilinae (94: 294) and Phaethornithinae (6: 36) is no longer valid.

6 subfamilies (see the figure below):

Florisuginae 2: 4 *Florisuga* 2 (incl. *Melanotrochilus*°), *Topaza* 2.

Lesbiinae 32 (2 tribes):

Heliantheini.

Lesbiini.

Patagoninae 1 *Patagona*.

Phaethornithinae 6: 39 *Anopetia*, *Eutoxeres*, *Glaucis*, *Phaethornis*, *Ramphodon*, *Threnetes*.

Polytminae 12: 30 *Androdon*, *Anthracothonax*, *Avocettula*, *Chrysolampis*, *Colibri*, *Doryfera*, *Eulampis*, *Heliactin*, *Heliathryx*, *Polytmus*, *Schistes*.

Trochilinae 59 (3 tribes):

Lampornithini.

Mellisugini.

Trochilini.

Basic type family Trochilidae (112: 363): Weller (1999). Isolated family with unique characteristics and **38 IG** (incl. IT + ISF). No hybrid connections to the 3 small basal subfamilies Florisuginae (2: 4), Phaethornithinae (6: 39), and Polytmidae (12: 30) are so far known. But the family is uniform so that the basic type covers the whole family, see the figure below; and see also Weller 2004. – See also the comments of Tyler (2025, p. 313) in her list of “other potential candidates for basic type status”. She restricts the preliminary basic type status to the former subfamily Trochilinae, i.e. she excludes the hermits (Phaethornithinae) due to lack of hybrids.

IS: McCarthy (2006) p. 144 f.: *Aglaeactis* 2 IS, *Agelaiocercus* 2 IS, *Amazilia* 10 IS, *Archilochus* 1 IS, *Calypte* 1 IS, *Campylopterus* 1 IS, *Chalybura* 1 IS, *Chaetocercus* 3 IS (incl. *Acestrura*°), *Chlorostilbon* 2 IS, *Coeligena* 3 IS, *Colibri* 3 IS, *Cynanthus* 2 IS, *Eriocnemis* 3 IS, *Heliodoxa* 1 IS, *Heliothryx* 1 IS, *Lampornis* 3 IS, *Lesbia* 1 IS, *Lophornis* 1 IS, *Metallura* 1 IS, *Oreotrochilus* 1 IS, *Phaethornis* 4 IS, *Schistes* 0–1 IS, *Selasphorus* 3 IS, *Thalurania* 2 IS, *Threnetes* 1 IS, *Trochilus* 1 IS, *Urosticte* 1 IS.

See also <https://avianhybrids.wordpress.com/apodiformes/> (2026).

Agelaiocercus × *Lesbia* **Lesbiinae Lesbiini** (nat. hyb.) McCarthy 2006, Dumont 2012

Agelaiocercus × *Metallura* **Lesbiinae Lesbiini** (nat. hyb.) Graves 1998, McCarthy 2006, Dumont 2012

Agelaiocercus × *Ramphomicron* **Lesbiinae Lesbiini** (nat. hyb.) McCarthy 2006, Dumont 2012

Agelaiocercus × *Thalurania* **ISF Lesbiinae Lesbiini × Trochilinae Trochilini** (nat. hyb.) McCarthy 2006, Dumont 2012

Amazilia × *Chrysuronia* **Trochilinae Trochilini** (nat. hyb.) McCarthy 2006, Dumont 2012

Amazilia × *Cynanthus* **Trochilinae Trochilini** (nat. hyb.) Graves 2003a (**HY**, hybridogeneous origin of *Cyanomyia salvini*), McCarthy 2006, Dumont 2012

Amazilia × *Eugenes* **IT Trochilinae Trochilini × Trochilinae Lampornithini** (nat. hyb.) McCarthy 2006 (p. 146: “?”), Dumont 2012

Amazilia fimbriata × *Hylocharis cyanus* **Trochilinae Trochilini** (nat. hyb.) Weller & Schuchmann 1997, McCarthy 2006, Dumont 2012

Amazilia × *Saucerottia* **Trochilinae Trochilini** (nat. hyb.) van Dort 2011

Amazilia × *Thalurania* **Trochilinae Trochilini** (capt. hyb.) Elgard 1977, Dumont 2012

Anthracothorax × *Chrysolampis* **Polytmidae** (nat. hyb.) Dumont 2012

Archilochus × *Calothorax* **Trochilinae Mellisugini** (nat. hyb.) McCarthy 2006, Dumont 2012

Archilochus × *Calypte anna, costae* **Trochilinae Mellisugini** (nat. hyb.) McCarthy 2006, Dumont 2012

Archilochus × *Lampornis* **IT** Trochilinae Mellisugini × Trochilinae Lampornithini (nat. hyb.) McCarthy 2006, Dumont 2012

Archilochus × *Selasphorus platycercus, sasin* **IT** Trochilinae Mellisugini × Trochilinae Trochilini (nat. hyb.) McCarthy 2006, Dumont 2012

Archilochus × *Selasphorus* (= *Stellula*°) *calliope* Trochilinae Mellisugini (nat. hyb.) McCarthy 2006, Dumont 2012

Basilinna leucotis × *Selasphorus platycercus* **IT** Trochilinae Trochilini × Mellisugini Graves 2007 (cited after avianhybrids 2026)

Boissonneaua × *Helianthus* **IT** Lesbiinae Heliantheini × Lesbiinae Lesbiini (nat. hyb.) McCarthy 2006, Dumont 2012

Calliphlox (= *Philodice*°) *mittelli* × *Chaetocercus* (= *Acestrura*°) *multant* Trochilinae Mellisugini (nat. hyb.) Graves 2003b, McCarthy 2006, Dumont 2012

Calliphlox × *Chlorostilbon* **IT** Trochilinae Mellisugini × Trochilinae Trochilini (nat. hyb.) Graves 1999a, McCarthy 2006, Dumont 2012

Calypte anna × *Lampornis clemenciae* **IT** Trochilinae Mellisugini × Trochilinae Lampornithini (nat. hyb.) McCarthy 2006, Graves 2007b, Dumont 2012

Calypte costae × *Selasphorus* div. spec. (incl. *Stellula*° *calliope*) Trochilinae Mellisugini (nat. hyb.) Graves 2006, McCarthy 2006, Dumont 2012

Chalcostigma × *Lesbia* Lesbiinae Lesbiini (nat. hyb.) Graves 1999b **HY** (→ hybridogeneous origin of *Zodalia glyceria*), McCarthy 2006 ("?"), Dumont 2012

Chlorestes × *Hylocharis* Trochilinae Trochilini (nat. hyb.) McCarthy 2006, Dumont 2012

Chlorestes × *Thalurania* Trochilinae Trochilini (nat. hyb.) McCarthy 2006, Dumont 2012

Chlorostilbon × *Hylocharis* Trochilinae Trochilini (nat. hyb.) McCarthy 2006, Dumont 2012

Chlorostilbon × *Leucochloris* Trochilinae Trochilini (nat. hyb.) McCarthy 2006, Dumont 2012

Chrysouronia × *Thalurania* Trochilinae Trochilini (nat. hyb.) McCarthy 2006, Dumont 2012

Coeligena × *Lafresnaya* Lesbiinae Heliantheini (nat. hyb.) McCarthy 2006, Dumont 2012

Cynanthus × *Eugenes* **IT** Trochilinae Trochilini × Trochilinae Lampornithini (nat. hyb.) McCarthy 2006, Dumont 2012

Eriocnemis × *Helianthus* (nat. hyb.) **IT** Lesbiinae Heliantheini × Lesbiinae Lesbiini McCarthy 2006, Dumont 2012

Eugenes × *Lampornis* Trochilinae Lampornithini (nat. hyb.) McCarthy 2006, Dumont 2012

Eulidia yarrelli × *Thaumastura cora* Trochilinae Mellisugini van Dongen et al. 2012, 2013 (, cited after avianhybrids 2026)

Florisuga (= *Melanotrochilus*°) *fusca* × *Thalurania glaucopis* ISF Florisuginae × Trochilinae Trochilini Ruschi 1944 (see McCarthy 2006: nat. hyb. Brasilia, with picture of the hybrid, breeding range overlap), Gray 1958, Dumont 2012, AviBase 2025, an actual confirmation is lacking

Haplophaedia × *Helianthus* Lesbiinae Lesbiini (nat. hyb.) McCarthy 2006 ("?"; not in fig. 6), Dumont 2012

Heliangelus × *Heliodoxa* **IT** **Lesbiinae** **Lesbiini** × **Lesbiinae** **Heliantheini** (nat. hyb.)
 Graves & Zusi 1990, McCarthy 2006, Dumont 2012

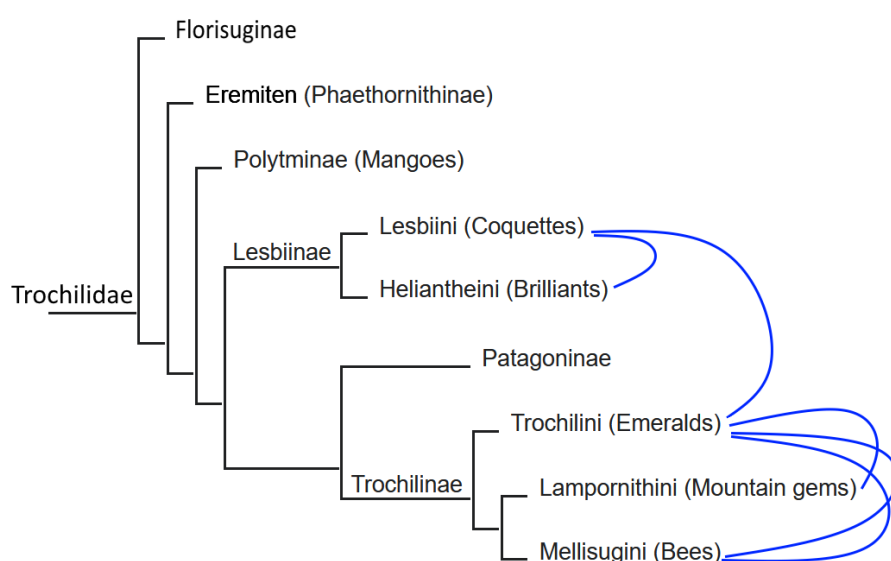
Heliangelus × *Ramphomicron* **Lesbiinae** **Lesbiini** (nat. hyb.) McCarthy 2006, Dumont 2012

Hylocharis × *Selasphorus* **IT** **Trochilinae** **Trochilini** × **Trochilinae** **Mellisugini** (nat. hyb.)
 Graves 2007a, McCarthy 2006, Dumont 2012

Lesbia × *Ramphomicron* **Lesbiinae** **Lesbiini** (nat. hyb.) McCarthy 2006, Dumont 2012

Selasphorus × *Stellula*^o (= *Selasphorus* p.p.) **IS** **Trochilinae** **Mellisugini** (nat. hyb.)
 McCarthy 2006, Dumont 2012

Thalurania furcata × *Trochilus scitulus* **Trochilinae** **Trochilini** (nat. hyb.) McCarthy 2006
 (= Krueget et al. 1982), Dumont 2012



Trochilidae: hybrids in the phylogeny of McGuire et al. (2014) and Winkler et al. (2015), from de.wikipedia (2025, CC BY-SA 4.0)

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Amazilia × *Saucerottia*
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Amazilia × *Hylocharis*
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Apterygiformes 1 family, 5 species + 1 extinct family (Palaeognathae)

Apterygiformes: Apterygidae* 1: 5 + 1 extinct species

Kiwis

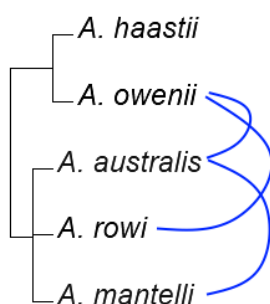
Flightless birds. New Zealand.

Apteryx 5 *australis*, *rowi*, *mantelli*, *maxima* (incl. *haastii*), *owenii*.

Basic type family Apterygidae* (1: 5): isolated and well-defined family with only one genus. All 5 species are connected by hybridization. – It is unresolved if the extinct family Aepyornithidae belongs to the same basic type.

IS: McCarthy (2006), p. 39, Dumont (2017): *Apteryx* 2 IS (*australis* × *mantelli*; *australis* × *owenii*).

avianhybrids (2026): <https://avianhybrids.wordpress.com/apterygiformes/> add: *Apteryx owenii* × *rowi*, and cite that *A. haastii* turned out to be a hybrid between these two species (Shepherd et al. 2012).



Apterygidae (*Apteryx*): hybrids in the phylogeny of Shepherd LD et al. (2021, fig. 2.)
<https://doi.org/10.1186/s40657-021-00257-6>), from en.wikipedia (2025, CC BY-SA 4.0).

Bucerotiformes 3 families, 75 species

Bucerotiformes: Bucerotidae 16: 64

hornbills = Nashornvögel

Possibly **basic type family Bucerotidae** (16: 64) because of its unique morphology of the bill etc. But intergeneric hybrids have not been reported. – See also the comment of Tyler (2025, p. 313) in her “list of other potential candidates for basic type status”!

IS: McCarthy (2006), p. 114: *Anorrhinus* 1 IS, *Anthracoceros* 3 IS, *Buceros* 1 IS, *Ceratogymna* 1 IS, *Tockus* 6 IS.

avianhybrids (2026): *Anthracoceros* (*albirostris* × *coronata*), *Buceros* (*bicornis* × *rhinoceros*), *Bycanistes* (*fistulator* × *sharpei*, conspecific), *Lophoceros* (*fasciatus* × *semifasciatus*), *Tockus* (*damarensis* × *erythrorhynchus*; *deckeni* × *jacksoni*; *erythrorhynchus* × *flavirostris*; *erythrorhynchus* × *jacksoni*; *erythrorhynchus* × *leucomelas*; *flavirostris* × *leucomelas*).

Bucerotiformes: Phoeniculidae (incl. *Rhinopomastidae*) 2: 8

woodhoopoes = Baumhopfe

Tropical Africa.

Phoeniculus 4, *Rhinopomastus* 4.

IS: McCarthy (2006), p. 115: *Phoeniculus* 3 IS, *Rhinopomastus* 1 IS (own family, p. 116).
avianhybrids (2026): *Phoeniculus* 3 IS, *Rhinopomastus* (*aterrima* × *cynomelas*).

Bucerotiformes: Upupidae 1: 3 (or 1)

hoopoes = Wiedehopfe

Upupa † *antaios*, *epops*, *marginata*.

Probably **basic type Upupidae** (1: 3) as a well-defined monogeneric family. All species are closely related and often lumped. Several intersubspecific hybrids exist within *Upupa epops*.

Caprimulgiformes 1 family, 22: 98

Caprimulgiformes: Caprimulgidae* 22: 98

nightjars = Nachtschwalben

Incl. the former family Eurostopodidae (1: 7 *Eurostopodus*).

IS: McCarthy (2006), p. 158: *Caprimulgus* 2 IS (*arizonae* × *vociferus*; *guttifer* × *poliocephalus*).

avianhybrids (2026): no hybrids in peer-reviewed papers.

Cariamiformes 1 family, 2 species

Cariamiformes: Cariamidae* 2: 2 + extinct genera

seriemas = Seriemas

Cariama cristata, *Chunga burmeisteri*.

Probably **basic type family Cariamidae*** (2: 2): isolated order with only 1 family and 2 species.

Casuariiformes 1 family, 2: 4 + extinct taxa (Palaeognathae)

Casuariiformes: Casuariidae* 2: 4 + extinct taxa

emus and cossowaries = Emus und Kasuare

Flightless birds of Australia-New Guinea. The 2 extant genera are sometimes split into 2 subfamilies or families.

Casuarius 3 *bennetti*, *casuarius*, *unappendiculatus*, *Dromaius* 1 *novaeollandiae*.

Probably **basic type family Casuariidae*** (2: 4) as an isolated well-defined family and sole family of the order. – The fossil genus *Emuarius* (Oligocene) with a skull and femur like *Casuarius* and a lower leg and foot like *Dromaius* seems to belong to the same basic type.

IS: *Casuarius* 1 IS (*bennetti* × *unappendiculatus*) Aviron Zoo (Rodriguez, Philippines) (see photo: <https://zooinstitutes.com/animals/cassowary-hybrid-aviron-zoo-19302.html> 2012; https://www.galerie.pierrewildlife.com/main.php?g2_itemId=134157) 2018.

Cathartiformes 1 family, 5: 7

Cathartiformes: Cathartidae* 5: 7

New World vultures = Neuweltgeier

Probably **basic type family Cathartidae*** (5: 7): Zimbelmann 1993, p. 189, because of its isolated position, though hybrids are unknown. There is no connection to Old World vultures which are now part of family Accipitridae.

Cathartes aura × *Coragyps atratus* (nat. hyb.) McCarthy 2006 (p. 194: “??. Obviously a hoax. ... Palmer ... says: an individual ... alleged to be a hybrid ... with the Black Vulture, proved to be the latter when red paint that had been applied to it wore off its head ...”), Dumont 2012

Charadriiformes 3 suborders, 19 families, 392 species + extinct taxa

shorebirds and allies = Regenpfeiferartige

The division of the order into families is matter of debate!

3 suborders:

Charadrii: 8 families.

Scolopaci: 5 families.

Lari: 6 families.

The phylogeny of the order Charadriiformes is debated – this network of different relationships is a challenge for evolutionary models and important for basic type studies as well.

Charadriiformes



Charadriiformes: different phylogenies of Charadriiformes (according to Mayr (2011, Fig. 1+2); cf. Baker AJ et al. (2007); Černý & Natale (2021)). This example illustrates that it is often impossible to create a final phylogram of taxa.

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Charadriiformes: Alcidae 11: 25 + extinct taxa. 2 IG (suborder Lari)

auks, murres, and puffins or alcids = Alken

2 extant subfamilies (+ basal taxa and incertae sedis):

Alcinae 6 *Alca* 1, *Alle* 1, *Brachyramphus* 3, *Cephus* 3, *Synthliboramphus* 5, *Uria* 2.

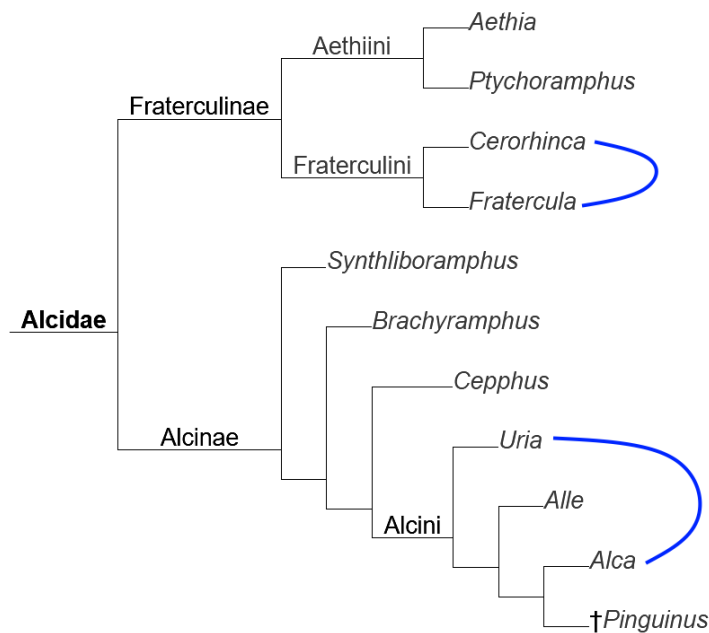
Fraterculinae 5 *Aethia* 4, *Cerorhinca* 1, *Fratercula* 3, *Pinguinus* 1 †, *Ptychorhamphus* 1.

Possibly **family Alcidae** represents a **basic type** (11: 25), but the few hybrids (**2 IG**) are not sufficient to decide this definitely, see the figure below.

IS: McCarthy (2006): *Aethia* 1 IS, *Brachyramphus* 2 IS, *Cephus* 2 IS, *Synthliboramphus* 1 IS, *Uria* 1 IS.

Alca torda × *Uria aalge* **Alcinae Alcini** McCarthy 2006 (divergence time according to Smith & Clarke 2015, fig. 2: 17 mya)

Cerorhinca × *Fratercula* **Fraterculinae Fraterculini** Douma & Carlson 1994, Dumont 2012 (divergence time according to Smith & Clarke 2015, fig. 2: 12 mya)



Alcidae: hybrids in the phylogeny of extant genera after Smith (2011). doi: [10.3897/zookeys.91.709](https://doi.org/10.3897/zookeys.91.709) and Smith (2014) <https://doi.org/10.1080/14772019.2012.742147>, from fr.wikipedia (2026, CC BY-SA 4.0)

References:

- Douma B & Carlson M (1994) Breeding alcids at the Seattle Aquarium. International Zoo Yearbook 33 (1), 142–147.
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Charadriiformes: Burhinidae 3: 10 (suborder Charadrii)

thick-knees or stone-curlews

Related to Chionidae and Pluvianellidae.

Burhinus 6, *Esacus* 2, *Hesperoburhinus* 2.

Charadriiformes: Charadriidae 13: 69 (suborder Charadrii)

plovers and lapwings = Regenpfeifer und Kiebitze

3 subfamilies:

Charadriinae 10 *Anarhynchus* 24, *Charadrius* 4, *Eudromias* 1, *Oreopholus* 1, *Hoploxypterus* 1, *Peltohyas* 1, *Oreophilus* 1, *Phegornis* 1, *Thinornis* 7, *Zonibyx* 1.

Pluvialinae 1 *Pluvialis* 4.

Vanellinae 2 *Erythrogonis* 1, *Vanellus* 23.

IS: McCarthy (2006), p. 169 (sub Scolopacidae): *Charadrius* 1 IS, *Pluvialis* 2–3 IS, *Vanellus* 4 IS.

https://en.wikipedia.org/wiki/Hybridisation_in_shorebirds: no hybrids mentioned for Charadriidae.

Calidris (= *Philomachus*°) *pugnax* × *Vanellus coronatus* IF Scolopacidae × Charadriidae (capt. hyb.) Antonius 1933, McCarthy 2006 (= Braithwaite & van Tets 1975), Dumont 2012. **unconfirmed**

Thinornis ("Charadrius") *novaeseelandiae* × *Vanellus miles* ISF Charadriinae × Vanellinae (nat. hyb.) Panov 1989, McCarthy 2006, Dumont 2012. **unconfirmed**

Charadriiformes: Chionidae 1: 2 (suborder Charadrii)

sheathbills = Scheidenschnäbel

Related to Burhinidae and Pluvianellidae.

Chionis 2 *albus*, *minor*.

Charadriiformes: Dromadidae 1: 1 (suborder Lari)

crab plover = Reiherläufer

Monotypic: *Dromas ardeola*. Arabia/Iran.

Charadriiformes: Glareolidae 4: 17 (suborder Lari)

pratincoles and coursers = Brachschwalbenartige

Cursorius 5, *Glareola* 8, *Rhinoptilus* 3, *Smitsornis* 1.

IS: McCarthy (2006), p. 172: *Glareola* 2 IS. (*nuchalis liberiae* × *nuchalis*, now intersubspecific; *maldivarum* × *pratincola*; *nordmanni* × *pratincola*).

Charadriiformes: Haematopodidae 1: 12 (suborder Charadrii)

oystercatchers = Austernfischer

Sometimes included in Ibidorhynchidae.

Haematopus 12.

Probably **basic type family Haematopodidae** (1: 12). *Haematopus* as sole genus is clearly distinct morphologically from other genera of the order Charadriiformes and its species are connected by hybridization. But possibly the basic type is larger, including e.g. family Ibidorhynchidae, see the different phylogenies of order Charadriiformes above.

McCarthy (2006), p. 171: *Haematopus* >6 IS.

https://en.wikipedia.org/wiki/Hybridisation_in_shorebirds *Haematopus* 2 IS (*bachmani* × *palliatu*s *frazari*; *finschii* × *unicolor*).

avianhybrids (2026): *Haematopus* 3 IS (*ater* × *leucopodus*; *bachmani* × *palliatu*s; *finschii* × *unicolor*).

Charadriiformes: Ibisornithidae 1: 1 (suborder Charadrii)

ibisbill = Ibischnabel

Ibisornis struthersii.

Charadriiformes: Jacanidae 6: 8 (suborder Scolopaci)

jacanas = Blatthühnchen

Actophilornis 2, *Jacana* 2, ...

IS: McCarthy (2006), p. 171: *Jacana*: 1 IS.

Charadriiformes: Laridae 23: 115 (5 IG) (suborder Lari)

gulls, terns, and skimmers = Möwenverwandte

Incl. Sternidae.

3–5 subfamilies: see below.

Larinae 11: 64.

Rhynchopinae 1: 3.

Sterninae 11: 48 (incl. Anoinae 1: 3, Gyginae 1: 5).

Larinae 11: 64. 4 IG

gulls = Möven

Chroicocephalus 10, *Creagrus* 1, *Hydrocoloeus* 1, *Ichthyaelus* 6, *Larus* 25, *Leucophaeus* 5, *Pogophila* 1, *Rhodostethia* 1, *Rissa* 2, *Saundersilarus* 1 (= *Chroicocephalus*) *saundersi*, *Xerna* 1. – Please note that other authors include the following genera in *Larus*:

Chroicocephalus, *Hydrocoloeus*, *Ichthyaelus*, *Leucophaeus*, *Saundersilarus*.

In **Laridae subfamily** (11: 64) the greatest part belongs to the former **genus *Larus* s.l.** (5: 46) which is now divided into 5 genera. 4 of them are connected by hybridization (4 IG) and therefore belong to the same basic type, see the figure below. – See also the comment of Tyler (2025) in her list of “other potential candidates for basic type status”.

McCarthy (2006), p. 173, 174 *Chroicocephalus* 5 IS (sub *Larus*), *Ichthyaelus* 1 IS (sub *Larus*), *Larus* s. l. 48 IS.

https://en.wikipedia.org/wiki/Hybridisation_in_gulls

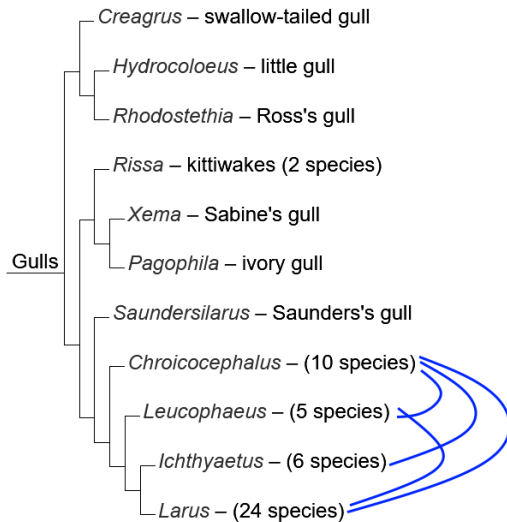
Chroicocephalus (“*Larus*”) *brunnicephalus*, *ridibundus* × *Ichthyaelus* (“*Larus*”) *ichthyaelus*, *relictus* (nat. hyb., capt. hyb.) McCarthy 2006 (sub *Larus*), Dumont 2012 (sub *Larus*)

Chroicocephalus (“*Larus*”) *div. spec.* × *Larus div. spec.* (nat. hyb.) McCarthy 2006 (sub *Larus*), Dumont 2012 (sub *Larus*)

Chroicocephalus (“*Larus*”) *cirrocephalus*, *novaehollandiae*, *ridibundus* × *Leucophaeus* (“*Larus*”) *atricilla* (capt. hyb.) McCarthy 2006 (sub *Larus*), Dumont 2012 (sub *Larus*)

Chroicocephalus ridibundus × *Ichthyiaetus melanocephalus* Zielinski et al. 2019 (cited after Tyler 2025)

Larus canus, delawarensis × *Leucophaeus* (“*Larus*”) *atricilla, pipixcan* (capt. hyb., nat. hyb.) McCarthy 2006 (sub *Larus*), Dumont 2012 (sub *Larus*)



Laridae subfamily Larinae: hybrids in the phylogeny of Černý & Natale (2021) doi: 10.1016/j.jympev.2022.107620, from en.wikipedia (2026, CC BY-SA 4.0).

Rynchopinae 1: 3

skimmers = Scherenschnäbel

Rynchops 3 *albicollis, flavirostris, niger*.

Sterninae 11: 48. 1 IG

terns and noddies = Seeschwalben

incl. Anoinae 1: 5, Gyginae 1: 3.

Anous 5 (incl. *Procelsterna*°), *Chlidonias* 4, *Gelochelidon* 2 *macrotarsa, nilotica*, *Gygis* 3, *Hydroprogne* 1 *caspia*, *Larosterna* 1 *inca*, *Onychoprion* 4, *Phaetusa* 1 *simplex*, *Sterna* 13, *Sternula* 7, *Thalasseus* 7.

IS: McCarthy (2006) p. 173 f.: *Anous* 2 IS (incl. *Procelsterna*°), *Gygis* 1 IS, *Sterna* 12 IS, *Sternula* 1 IS (sub *Larus*), *Thalasseus* 2–3 IS (sub *Larus* s. l.).

Ottenburghs & Nisbet (2025): *Chlidonias* 1–2 IS, *Sterna* 6 IS, *Sternula* 2 IS, *Thalasseus* 4 IS,

https://en.wikipedia.org/wiki/Hybridisation_in_terns *Chlidonias* 1 IS.

Sterna hirundo × *Sternula albifrons* McCarthy 2006 (sub *Sterna*), Dumont 2012 (sub *Sterna*), Ottenburghs & Nisbet 2025 (“not evaluated”)

Gelochelidon (“*Sterna*”) *nilotica* × *Sterna forsteri* McCarthy 2006 (sub *Sterna*), Dumont 2012 (sub *Sterna*), Ottenburghs & Nisbet 2025 (“refuted”)

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- Černý D & Natale R (2021) Comprehensive taxon sampling and vetted fossils help clarify the time tree of shorebirds (Aves, Charadriiformes), Preprint, <https://doi.org/10.1101/2021.07.15.452585> (Now published in Molecular Phylogenetics and Evolution. doi: 10.1016/j.ympev.2022.107620).
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Charadriiformes: Pedionomidae 1: 1 (suborder Scolopaci) plains-wanderer = Steppenläufer

Monotypic: *Pedionomus torquatus*. Australia.

Charadriiformes: Pluvianellidae 1: 1 (suborder Charadrii) magellanic plover

Distinct from Charadriidae by behavior and DNA. Related to Chionidae and Burhinidae. South America.

Pluvianellus socialis.

Charadriiformes: Pluvianidae 1: 1 (suborder Charadrii) Egyptian plover

Pluvianus aegyptius.

Charadriiformes: Recurvirostridae 3: 9. 1 IG (suborder Charadrii) stilts and avocets = Säbelschnäbler

The subdivision of the family, i. e. the relations of the three genera to one another are matter of debate,

Cladorhynchus 1 *leucocephalus* (= banded stilt), *Himantopus* *himantopus*, *leucocephalus* (pied stilt, not to be confused with *Cladorhynchus leucocephalus*!), *mexicanus*, *novaezelandiae*, *Recurvirostra* 4.

Probably basic type family Recurvirostridae (3: 9): well-defined family. 2 of the 3 genera and 8 of the 9 species are linked by hybridization. – It is possible but unresolved if families Haematopodidae or Ibisoridae belong to the same basic type. – See also the comment of Tyler (2025, p. 320) in her list of “other potential candidates for basic type status”.

IS: McCarthy (2006), p. 172: *Himantopus* 3-4 IS (*himantopus* × *leucocephalus*; *himantopus* × *mexicanus*; *leucocephalus* × *novaezelandiae*; *melanurus* × *mexicanus*, conspecific).
https://en.wikipedia.org/wiki/Hybridisation_in_shorebirds: *Himantopus* 1 IS (*leucocephalus* × *novaezelandiae*).

Himantopus himantopus, *mexicanus* × *Recurvirostra americana* (capt. hyb., nat. hyb.)
McCarthy 2006; Dumont 2012,
https://en.wikipedia.org/wiki/Hybridisation_in_shorebirds_2026, avianhybrids
2026 (Principe 1977)

Charadriiformes: Rostratulidae 2: 3 (suborder Scolopaci)

painted snipes = Goldschnepfen

Aberrant family.

Rostratula 2, *Nycticryptes* 1.

Charadriiformes: Scolopacidae 15: 98 (suborder Scolopaci)

sandpipers and allies = Schnepfenvögel

Isolated family.

Actitis 2, *Arenaria* 2, *Bartramia* 1, *Calidris* 24 (incl. *Philomachus*° 1 *pugnax*, *Tryngites*°),
Gallinago 20, *Coenocorypha* *Limnodromus* 3, *Limosa* 3, *Lymnocyrtes* 1, *Numenius* 9,
Phalaropus 3, *Prosobonia* 4, *Scolopax* 8, *Tringa* 13, *Xenus* 1.

IS: Mc Carthy (2006), p. 169: *Calidris* 9 IS, *Gallinago* 1 IS, *Numenius* 1-2 IS?, *Phalaropus*
1 IS, *Tringa* 4 IS.

https://en.wikipedia.org/wiki/Hybridisation_in_shorebirds *Calidris* several IS/HY

Calidris canutus × *Limosa lapponica* **ISF** *Arenariinae* × *Limosinae* (nat. hyb.) McCarthy
2006 ("This hybrid has a ring number, but there seems to be no published report.
Internet: FOTO5" = engelstedsgade.dk/Foto05-Faunaen/euringnummer.htm. link
no longer active) **unconfirmed**

Calidris ferruginea × *Calidris* (= *Philomachus*°) *pugnax* IS McCarthy 2006 (p. 169:
erroneous)

Calidris bairdii, *fuscicollis* × *Tryngites*° (*Calidris*) *subruficollis* **IS** (nat. hyb.) McCarthy
2006, Dumont 2012

Calidris (= *Philomachus*°) *pugnax* × *Vanellus coronatus* **IF** *Scolopacidae* × *Charadriidae*
(capt. hyb.) McCarthy 2006 (= Antonius 1933), Dumont 2012. **unconfirmed**

Charadriiformes: Stercorariidae 1: 7 (suborder Lari)

jaegers and skuas = Raubmöven

Stercorarius 7 (incl. *Catharacta*° *skua*) *antarcticus*, *chilensis*, *longicaudus*, *maccormicki*,
parasiticus, *pomarius*.

Probably **basic type family Stercorariidae** (1: 7). Isolated family. All 7 species are connected by hybridization!

IS: McCarthy (2006), p. 173: sub *Catharacta*[°] and *Stercorarius* 6 **IS** (*antarctica* × *chilensis*; *antarctica* × *maccormicki*; *chilensis* × *maccormicki*; *maccormicki* × *skua*; *parasitica* × *pomarius*; *pomarius* × *skua*, see below).

Dumont (2017) lists in addition also: *Catharacta*[°] *skua* × *Stercorarius longicaudus*.
See also Ritz (2009).

Catharacta[°] (= *Stercorarius*) *skua* × *Stercorarius pomarius* **IS** (hybridogeneous) McCarthy 2006, Dumont 2012

References:

Ritz M (2009) Speciation and hybridisation in skuas (*Catharacta* spp.). Dissertation, Universität Jena. <https://d-nb.info/99431499x/34>

Charadriiformes: Thinocoridae 2: 4 (suborder Scolopaci)

seedsnipes = Höhenläufer

Attagis 2, *Thinocoris* 2.

Charadriiformes: Turnicidae 2: 18 (suborder Lari)

buttonquails or hemipodes = Laufhühnchen oder Kampfwachteln

Isolated family. Traditionally placed in Galliformes or Gruiformes.

Ortyxelos 1, *Turnix* 17.

Probably **basic type family Turnicidae** (2: 18). Isolated family.

Ciconiiformes 1 family, 6: 20

Excl. Ardeidae and Threskornithidae, which have been shifted to Pelecaniformes.

Ciconiiformes: Ciconiidae* 6: 20 + several extinct genera. 1 IG

storks = Störche

Anastomus 2, *Ciconia* 7 *abdimii*, *boyciana*, *ciconia*, *episcopus*, *microscelis*, *muagari*, *stormi*, *nigra*, *Ephippiorhynchus* 2, *Jabiru mycteria*, *Leptoptilos* 3, *Mycteria* 4.

Probably **basic type family Ciconiidae*** (6: 20): Scholl 2023. The family is uniform in morphological, behavioral and molecular respect. But hybrids are rare. Only 1 intergeneric hybrid has been reported. Most cladograms (Scholl 2023, fig. 3) including the entered IG show that this is a basic type. – See also the comment of Tyler (2025, p. 317) in her “list of other potential candidates for basic type status”!

IS: McCarthy (2006), p. 194: *Ciconia* 3 IS (*abdimii* × *episcopus*, *boyciana* × *ciconia*; *boyciana* × *nigra*).

Scholl (2023): *Mycteria* 1 IS (*cinerea* × *leucocephala*), *Ciconia* 2 IS (*abdimii* × *episcopus*; *ciconia* × *nigra*).

avianhybrids (2026): *Mycteria* 1 IS (*cinerea* × *leucocephala*).

Leptoptilos javanicus × *Mycteria leucocephala* McCarthy 2006 (capt. hyb., hybrids resemble *Leptoptilos*), Dumont 2012. Closely related, unconfirmed.

References:

Scholl B (2023) Schwarz- und Weißstorch-Paar zieht Junge in freier Wildbahn auf. Studium Integrale J. 30, 103–107.

Coliiformes 1 family, 6 species + extinct families

Coliiformes Coliidae* 2: 6 + many extinct taxa

mousebirds = Mausvögel

Africa.

Colius 4, *Urocolius* 2.

IS: McCarthy (2006), p. 120: *Colius striatus*: hybrids between races.

Columbiformes 1 family

Columbiformes: Columbidae* 52: 353 + some extinct and fossil taxa. 18 IG

pigeons and doves = Tauben

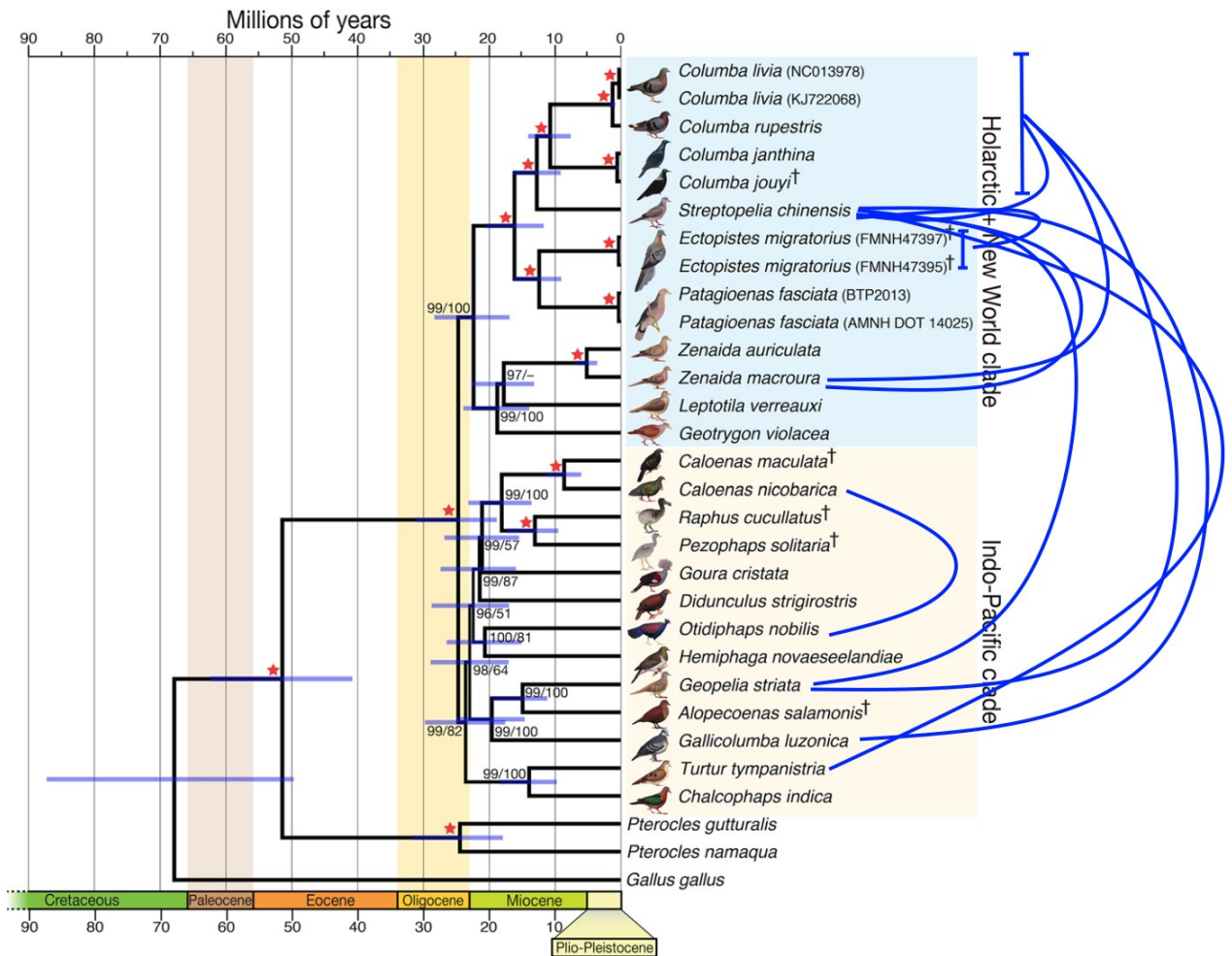
Subdivisions of the family vary much and are therefore omitted here.

Basic type family Columbidae* (52: 353). Isolated family with unique characteristics. All larger clades are connected by hybridization (18 IG), see the figure below. This was already stated by Siegler (1973) and Lönnig (1993). The family is uniform, and attempts to subdivide it are still matter of debate. But in any case, there are many connections between the subgroups. – See also the comment of Tyler (2025, p. 325) in her list of “other potential candidates for basic type status”.

IS: Mc Carthy (2006): *Chalcophaps* 1 IS, *Columba* 19 IS, *Columbina* 2 IS, *Ducula* 1 IS, *Gallicolumba* 3 IS, *Geopelia* 4 IS, *Geophaps* 2 IS, *Goura* 3 IS, *Phaps* 1 IS, *Streptopelia* 32 IS, *Treron* 1 IS (races), *Turtur* 3 IS.

For further IS and intersubspecific hybrids see: Dumont (2017) (bird-hybrids) and avianhybrids (2026).

Caloenas × Otidiphaps (capt. hyb.) McCarthy 2006, Dumont 2012
Columba × Geopelia (capt. hyb.) McCarthy 2006, Dumont 2012
Columba × Leucosarcia melanoleuca (capt. hyb.) McCarthy 2006, Dumont 2012
Columba × Streptopelia McCarthy 2006, Dumont 2012 (ca. 15 combinations)
Columba livia × Zenaida (= Zenaidura^o) macroura McCarthy 2006, Dumont 2012
Columbina piculi × Geopelia striata (capt. hyb.) McCarthy 2006, Dumont 2012
Columbina talpacoti × Metriopelia melanoptera (capt. hyb.) McCarthy 2006, Dumont 2012
Ectopistes migratorius × Streptopelia turtur (capt. hyb.) McCarthy 2006, Dumont 2012
Gallicolumba × Streptopelia (capt. hyb.) McCarthy 2006
Geopelia × Geophaps (nat. hyb.) McCarthy 2006, Dumont 2012
Geopelia cuneata × Streptopelia turtur McCarthy 2006, Dumont 2012
Oena capensis × Spilopelia ("Streptopelia") chinensis (fertile) Gray 1958, Dumont 2012
Oena capensis × Spilopelia ("Streptopelia") senegalensis (capt. hyb.) McCarthy 2006,
Dumont 2012
Oena × Turtur tympanistria (capt. hyb.) McCarthy 2006, Dumont 2012
Spilopelia (= Streptopelia p.p.) chinensis × Streptopelia turtur (fertile) Gray 1958, Dumont
2012
Stigmatopelia^o (= Spilopelia, Streptopelia p.p.) × Streptopelia IS (fertile) Gray 1958
Streptopelia senegalensis × Turtur chalcospilos (capt. hyb.) McCarthy 2006, Dumont 2012
Streptopelia decaocto × Zenaida aurita Dumont 2012 (capt. hyb.)
Streptopelia decaocto × Zenaida (= Zenaidura^o) macroura (capt. hyb.) McCarthy 2006,
Dumont 2012
Streptopelia roseogrisea × Zenaida asiatica (capt. hyb.) Dumont 2012
Turtur afer, chalcospilos × Tympanistria^o (= Turtur p.p.) IS Gray 1958, Dumont 2012
Zenaida aurita, graysoni × Zenaidura^o (= Zenaida) macroura IS (nat. hyb., capt. hyb.)
McCarthy 2006



Columbidae: important hybridizations in the phylogeny of Soares AER et al. (2016, fig. 1, Complete mitochondrial genomes of living and extinct pigeons revise the timing of the columbiform radiation. BMC Evolutionary Biology 16, 230. doi: 10.1186/s12862-016-0800-3, CC BY 4.0).

References:

- Johnson KP & Clayton DH (2000) Nuclear and mitochondrial genes contain similar phylogenetic signal for pigeons and doves (Aves: Columbiformes). *Molecular Phylogenetics and Evolution* 14, 141–151.
- Lönnig WE (1993) *Artbegriff, Evolution und Schöpfung*. Köln
<http://www.weloennig.de/AesIITaEnHu.html> with a long list of interspecific and intergeneric hybrids after Siegler (1973)
- More ERJ (1998) The created kind – Noah's doves, ravens, and their descendants. In Walsh RE (ed.) *Proc. Fourth Int. Conf. Creationism*. Creation Science Fellowship, Pittsburgh, pp. 407–419.
- Siegler H (1973) *Evolution or degeneration – which?* Milwaukee, Wisconsin. with a long list of hybrids within Columbidae, see Lönnig (1993)

Coraciiformes 6 families, 34: 185

rollers, kingfishers and allies = Rackenvögel

For Bucerotidae, Phoeniculidae, and Upupidae see Bucerotiformes, for Leptosomidae see Leptosomiformes.

6 families: Alcedinidae 18: 117, Brachypteraciidae 4: 5, Coraciidae 2: 13, Meropidae 3: 31, Momotidae 6: 14.

For a phylogeny (genus level time tree) of the order see: <https://www.bird-phylogeny.de/superorders/coraciimorphae/coraciiformes/>

Coraciiformes: Alcedinidae 18: 117

kingfishers = Eisvögel

3 subfamilies.

Actenoides 6, *Alcedo* 8, *Ceyx* 23, *Dacelo* 5, *Halcyon* 12, *Pelargopsis* 3, *Syma* 2, *Todiramphus* 27, ...

McCarthy (2006), p. 118/119 (sub Alcedinidae and Dacelonidae): *Alcedo* 1 IS, *Ceyx* 1 IS, *Dacelo* 1 IS, *Halcyon* 1–2 IS, *Pelargopsis* 1 IS, *Syma* 1 IS, *Todirhamphus* 3 IS.

Coraciiformes: Brachypteraciidae 4: 5

ground rollers = Erdracken

Madagascar. Sometimes subfamily of Coraciidae.

Brachypteracias, ...

McCarthy (2006): no hybrids mentioned.

Coraciiformes: Coraciidae 2: 13

rollers = Racken

Coracias 9, *Eurystomus* 4 *azureus*, *gularis*, *glaucurus*, *orientalis*.

McCarthy (2006), p. 117: *Coracias* s. str. 9 IS.

Coraciiformes: Meropidae 3: 31

bee-eaters = Bienenfresser

Meropogon 1 *forsteni*, *Merops* 28, *Nyctornis* 2.

McCarthy 2006), p. 119: *Merops* 3 IS.

Coraciiformes: Momotidae 6: 14. 1 IG

motmots = Sägeracken

Aspatha 1, *Baryphthengus* 2 *masrtiii*, *ruficapillus*, *Electron* 2, *Eumomota* 1, *Hylomanes* 1, *Momotus* 7.

McCarthy (2006), p. 117: *Momotus* 1 IS.

Baryphthengus × *Momotus momota* Marcondes et al. 2013 (*B. ruficapillus* × *M. momota*)
Cerqueira et al. 2020 (*B. martii* × *M. momota*), avianhybrids 2026. The 2 genera are closely related.

References:

Cerqueira PV et al. (2020) Two intergeneric hybrids between motmots from the Amazon forest: Rufous Motmot (*Baryphthengus martii*) × Amazonian Motmot (*Momotus momota*). Ornithology Research 28, 57–60.
Marcondes RS et al. (2013) Occurrence of hybrids between *Momotus momota* and *Baryphthengus ruficapillus* (Momotidae) in central Brazil. The Wilson Journal of Ornithology 125, 674–679. <https://doi.org/10.1676/13-024.1>

Coraciiformes: Todidae 1: 5 + extinct taxa

todies = Todids

Todus 5.

McCarthy (2006), p. 118: no hybrids mentioned.

Cuculiformes 1 family

For Musophagidae and Opisthocomidae see Musophagiformes and Opisthocomiformes.

Cuculiformes: Cuculidae* 36: 156 + fossil genera

cuckoos = Kuckucke

Including the former families Centropidae and Coccozidae.
5 subfamilies.

McCarthy (2006), p. 120: *Cacomantis* 0–1 IS, *Centropus* 3 IS, *Chrysococcyx* 1 IS, *Coccyzus* 1 IS?, *Cuculus* 0–1 IS.

Eurypygiformes 2 families 2: 2

Eurypygiformes: Eurypygidae 1: 1

sunbittern = Sonnenrallen

Monotypic: *Eurypygia helias*.

Probably basic type family Eurypygidae (1: 1) as a monotypic family with an isolated position.

Eurypygiformes: Rhynochetidae 1: 1

kagu = Kagu

Rhynochetos jubatus.

Probably **basic type family Rhynochetidae** (1: 1) as a monotypic family with an isolated position.

Falconiformes 1 family

Falconiformes: Falconidae* 10: 68 + extinct genera

falcons and caracaras = Falkenartige

4 subfamilies:

Falconinae 4: 45 *Falco* 39, *Microhierax* 5 *caerulescens*, *erythrogenys*, *latifrons*, *melanoleucos*, *Neohierax* 1 *insignis*, *Polihierax* 1 *semitorquatus*,

Herpetotherinae 2: 8 *Herpetotheres* 1 *cachinnans*, *Micrastur* 7.

Polyborinae/Caracarinae 4: 11 *Caracara* (incl. *Polyborus*^o *plancus*, + *lutosa*), *Daptrius* 7 (incl. *Phalcoboenus*^o), *Ibycter* 1 *americanus*, *Spiziapteryx* 1 (the position is matter of debate).

Probably **basic type Falconidae* subfamily Falconinae** (4: 45), because the 39 species of the main genus *Falco* are linked by many hybrids, see also Zimbelmann (1993). The most distant species of the genus *Falco* (*cherrug/peregrinus* and *tinnunculus/sparverius*) are linked by hybridization in the cytochrome-C based phylogeny of Wink (2018, fig. 2).

IS: Falconinae: McCarthy (2006, 184), Dumont 2017 *Falco* ca. 33 IS.

For some further information see Eastham & Nicholls (2005).

Polyborinae: McCarthy (2006, 184) *Phalcoboenus*^o (= *Daptrius*) 3 IS (*P. albogularis* × *P. megalopteris* → *Ibycter circumcinctus*), *Caracara* (sub *Polyborus*^o) 1 IS.

References (see also Accipitriformes):

Eastham CP & Nicholls MK (2005) Morphometric analysis of large falco species and their hybrids with implications for conservation. J. Raptor Res. 9, 386–393.

<https://digitalcommons.usf.edu/jrr/vol39/iss4/4/>

Wink M (2018) Phylogeny of Falconidae and phylogeography of Peregrine Falcons. Ornis Hungarica 26 (2), 27–37. DOI: 10.1515/orhu-2018-013

Galliformes 5 extant families 86: 307

land fowl or galliforms = Hühnervögel

Megapodiidae 7: 21.

Cracidae 11: 57.

superfamily Phasianoidea 68: 229: (81 IG (incl. 18 ISF + 6 IF))

Numididae 4: 8.

Odontophoridae 10: 34.

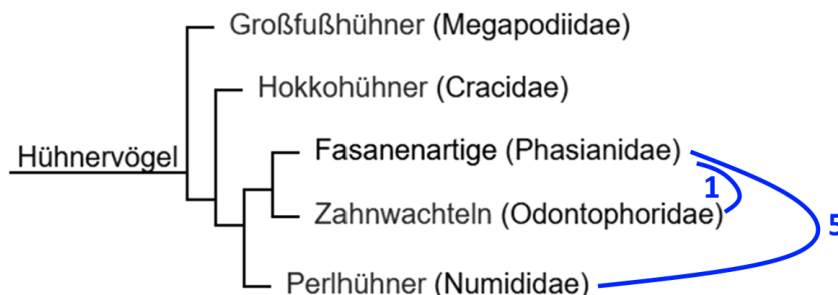
Phasianidae (incl. Tetraonidae and Meleagridae) 54: 187.

In this order, there are probably 3 basic types: Klemm (1993):

1. superfamily Phasianoidea (= families Phasianidae/Numididae/Odontophoridae) (68: 229). The question, if Cracidae can be included in this basic type is unresolved. But the majority of facts favour the idea that they can not: There are markable differences so that they are generally not accepted as part of the superfamily Phasianoidea, and hybrids between the two groups are either erroneous or very old. – Brophy & McConnachie (2021) as well as Tyler (2025) prefer the inclusion of Cracidae, obviously due to the erroneous or unconfirmed hybrids cited in McCarthy (2006), but see Alfieri et al. (2023).

2. family Cracidae (11: 57): all 4 subfamilies are connected by hybridization.

3. family Megapodiidae (7: 21) is a separate basic type, see below.



Galliformes: interfamilial hybrids in the phylogeny of Chen D et al. (2021) doi: 10.1186/s12862-021-01935-1, from de.wikipedia (2025, CC BY-SA 4.0). There are probably 3 basic types: 1. Megapodiidae, 2. Cracidae, 3. Phasianidae + Odontophoridae + Numididae.

References:

Ahlquist JE & Lightner J (2019) Strategies for more clearly delineating, characterizing, and inferring the natural history of baramins I: Establishing baraminic status, with application to the order Galliformes (Class: Aves). Creation Research Society Quarterly 56, 97–104.

https://www.researchgate.net/publication/340066359_Strategies_for_More_Cl

Alfieri JM et al. (2023) Genomic investigation refutes record of most diverged avian hybrid. Ecology and Evolution 13, 1 e9689. <https://doi.org/10.1002/ece3.9689>
important paper: The often-cited putative morphology-based hybrid *Numida*

meleagris (Numididae) × *Penelope superciliaris* (Cracidae) is erroneous, and is in fact a hybrid *Numida meleagris* (Numididae) × *Gallus gallus* (Phasianidae) as shown by molecular methods.

Besserer Freih. von L (1914) Über einen Bastard von Fasan und Birkwild. Verh. Ornith. Ges. 1914, (48–52).

Brophy TR & McConnachie [Mullis] M (2021) A baraminological analysis of the landfowl (Aves: Galliformes). Journal of Creation Theology and Science Series B: Life Sciences 11, 55–64.

https://digitalcommons.liberty.edu/bio_chem_fac_pubs/195 cf. McConnachie & Brophy (2008)

Johnsgard PA (1970) A summary of intergeneric new world quail hybrids, and a new intergeneric hybrid combination. The Condor 72, 85–88.

<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1076&context=biosciornithology>

Johnsgard PA (2008) Grouse and quails of North America, 4. Hybridization. University of Nebraska – Lincoln.

<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1005&context=biosciorgrouse> *Callipepla* × *Colinus* 4, *Callipepla* × *Oreortyx* 1, *Callipepla* × *Philortyx*. grouse = Phasianidae p.p., quails = Odontophoridae.

Klemm R (1993) Die Hühnervögel (Galliformes): Taxonomische Aspekte unter besonderer Berücksichtigung artübergreifender Kreuzungen. pp. 159–184 in Scherer S (Hg.) Typen des Lebens. Berlin: Pascal.

Klemm R (2025) The gallinaceous birds (Galliformes). Interspecific hybridization and classification. pp. 219–251 in Sanders RW (ed.) Basic types of life. Tusla (Oklahoma): Blyth Institute. [English translation of Klemm \(1993\)](#)

McConnachie M (2007) A baraminological analysis of the Land Fowl (Class Aves, Order Galliformes). Senior Thesis. Liberty University.

https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=1062&context=bio_chem_fac_pubs

McConnachie M & Brophy TR (2008) A baraminological analysis of the landfowl (Aves: Galliformes). Journal of Creation Theology and Science, Series B: Life Sciences 2.

Peterle TJ (1951) Intergeneric Galliform hybrids: a review. The Wilson Bulletin 63 (3), 219–224. <http://elibrary.unm.edu/sora/Wilson/v063n03/p0219-p0224.pdf>

Ruschi A & Amadon D (1959) A supposed hybrid between the families Numididae and Cracidae. Ostrich 30 (sup1), 440–442. Only based on morphology, and later proved by Alfieri (2023, see above) with molecular methods to be erroneous. Online 2010: <https://www.tandfonline.com/doi/abs/10.1080/00306525.1959.9633357?journalCode=tost20>

http://en.wikipedia.org/wiki/Chicken_hybrids#Chicken_Hybrids

http://en.wikipedia.org/wiki/Gamebird_hybrids

<http://www.messybeast.com/genetics/hybrid-birds.htm>

Galliformes: Cracidae 11: 57. 6 IG (incl. 3 ISF)

chachalacas, curassows, guans = Hokkohühner

4 subfamilies:

Cracinae 4: 14 *Crax* 7, *Mitu* 4, *Nothocrax* 1, *Pauxi* 2.

Oreophasinae 1: 1 *Oreophasis derbianus*.

Ortalinae 1: 16 *Ortalis* 16.

Penelopinae 5: 24 *Aburria* 1, *Chamaepetes* 2, *Penelope* 16, *Penelopina* 1, *Pipile* 5.

Probably **basic type family Cracidae** (11: 57): the 4 subfamilies are connected by hybridization. Hybrid connections to other families of the order Galliformes have been proposed but are either erroneous or unconfirmed, see the comments to basic types in the order Galliformes above, and the comments below.

IS: McCarthy (2006), p. 41: *Crax* 8 IS, *Mitu* 2 IS, *Ortalis* 8 IS, *Penelope* 9 IS, *Pipile* 4 IS.

Crax alberti × *Gallus gallus* ~~IF~~ **Cracidae × Phasianidae** (capt. hyb.) McCarthy 2006 ("All listings of this hybrid seem to trace back to a single very old report. Aquarone 1869."), Alfieri et al. 2023 ("anecdotal reports")

Crax blumenbachii × *Gallus gallus* ~~IF~~ **Cracidae Cracinae × Phasianidae** (capt. hyb.) McCarthy 2006, this is an error: McCarthy cites Ruschi & Amadon 1959, but this paper is about "Numididae × Cracidae", see below

Crax alberti × *Mitu mitu*, *tuberosa* **Cracinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Crax alberti, *rubra* × *Penelope jacucaca*, *pileata* **ISF Cracinae × Penelopinae** (capt. hyb.) Klemm 1993, McCarthy 2006 (= Del Hoyo 1994), Dumont 2012

Crax rubra × *Penelopina nigra* **ISF Cracinae × Penelopinae** McCarthy 2006 ("erroneous. Some authors cite Gray (1958) for this cross, but she does not list it."), Dumont 2012 (= Gray 1958)

Gallus gallus × *Ortalis guttata*, *vetula* ~~IF~~ **Phasianidae × Cracidae** (capt. hyb.) McCarthy 2006 (2 very old anecdotal, questionable reports), Dumont 2012

Gallus gallus × *Penelope* ~~IF~~ **Phasianidae × Cracidae** McCarthy 2006. McCarthy cites two reports:

1. *Gallus gallus* × *Penelope* spec.: very old and very dubious reports.
2. *Gallus gallus* × *Penelope superciliaris*. This is an error: McCarthy cites Ruschi & Amadon 1959, but this paper is about *Numida* × *Penelope*, which in 2023 turned out to be *Gallus* × *Numida*, see Numididae)

Mitu tomentosa × *Ortalis poliocephala* **ISF Cracinae × Ortalinae** (capt. hyb.) McCarthy 2006 (= Del Hoyo 1994), Dumont 2012

Mitu tuberosa × *Pauxi unicornis* **Cracinae** McCarthy 2006 (nat. hyb.), Dumont 2012

Numida meleagris × *Penelope superciliaris* ~~IF~~ **Numididae × Cracidae** (capt. hyb.)

McCarthy 2006 (cites Esteban 1963), Dumont 2012, avianhybrids 2026 (→ *Gallus gallus* × *Numidia meleagris*). This famous interfamilial hybrid was published by Ruschi & Amadon 1959 as a putative hybrid, based on morphology. Alfieri et al. 2023 investigated the preserved skin genetically with molecular methods and could show that this hybrid is in fact *Gallus gallus* × *Numida meleagris*.

Ortalis canicollis × *Pipile cumanensis* **ISF** **Ortalinae** × **Penelopinae** (capt. hyb.)

McCarthy 2006 (= Del Hoyo 1994), Dumont 2012

Penelope × *Pipile* **Penelopinae** (capt. hyb.) McCarthy 2006 (3 crosses), Dumont 2012

Galliformes: Megapodiidae 7: 21

mound builders or megaodes = Großfußhühner

Alectura 1, *Aepyodius* 2, *Eulipoa* 1, *Leipoa* 1, *Macrocephalon* 1, *Megapodius* 12, *Talegalla* 3.

Basic type family Megapodiidae (7: 21): Klemm (1993). – See also McConnachie 2007, McConnachie & Brophy 2008, Brophy & McConnachie 2021).

McCarthy (2006), p. 39–40: *Megapodius* 6 IS, *Talegalla* 1–2 IS.

Alectura lathamii × *Gallus gallus* **IF** **Megapodiidae** × **Phasianidae** McCarthy 2006

(“dubious report; Gray lists this report on the basis of ... Kwartland 1901.”)

Galliformes: Numididae 4: 8. 6 IG (incl. 5 IF) (superfamily Phasianoidea)

guineafowl = Perlhühner

Formerly subfamily of Phasianidae.

Acryllium 1, *Agelastes* 2, *Guttera* 4, *Numida* 1.

Part of basic type superfamily Phasianoidea, see above.

Acryllium vulturinum × *Gallus gallus* **IF** **Numididae** × **Phasianidae** (capt. hyb.)

McCarthy 2006, Dumont 2012

Acryllium vulturinum × *Numida meleagris* **Numididae** (capt. hyb., fertile) Klemm 1993,

McCarthy 2006, Dumont 2012

Gallus gallus × *Numida meleagris* **IF** **Phasianidae** × **Numididae** (nat. hyb.) McCarthy

2006, Dumont 2012, 2026, avianhybrids 2026 (several citations!)

<https://avianhybrids.wordpress.com/galliformes/>, Alfieri et al. 2023: 47 mya divergence time (they report of one of these hybrids, which erroneously was published as *Numida* × *Penelope*, see below)

Meleagris gallopavo × *Numida meleagris* **IF** **Phasianidae** × **Numididae** (capt. hyb.)

Klemm 1993, McCarthy 2006, Dumont 2012

Numida meleagris × *Pavo cristatus* **IF** **Numididae** × **Phasianidae** (capt. hyb.) Klemm

1993, McCarthy 2006, Dumont 2012

Numida meleagris × *Penelope superciliosa* **IF** **Numididae** × **Cracidae** erroneous, see

Cracidae

Numida meleagris × *Phasianus colchicus* **IF** **Numididae** × **Phasianidae** (capt. hyb.)

Klemm 1993, McCarthy 2006, Dumont 2012

Numida meleagris × *Tragopan caboti* IF Numididae × Phasianidae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Galliformes: Odontophoridae 10: 34. 4 IG (incl. 1 IF) **(superfamily Phasianoidea)**

New World quails = Zahnwachteln

Formerly subfamily of Phasianidae.

Callipepla 4, *Colinus* 4, *Cyrtonyx* 2, *Dactylortyx* 1, *Dendrortyx* 3, *Odontophorus* 15, *Oreortyx* 1, *Philortyx* 1, *Rhynchortyx* 1.

Part of basic type superfamily Phasianoidea (see above).

IS: McCarthy (2006), p. 65–67: *Callipepla* 6 IS, *Colinus* 2 IS, *Cyrtonyx* 1 IS, *Odontophorus* 1 IS.

Ammoperdix heyi × *Callipepla californica* IF Phasianidae × Odontophoridae, see Phasianidae

Callipepla douglasii, *gambelii*, *squamata* × *Colinus virginianus* (nat. hyb. + capt. hyb.) Klemm 1993, McCarthy 2006 (4 crosses), Dumont 2012

Callipepla (= *Lophortyx*^o) *californica* × *Oreortyx pictus* (nat. hyb.) Johnsgard 1970, Klemm 1993, McCarthy 2006, Johnsgard 2008, Dumont 2012

Callipepla squamata × *Philortyx fasciatus* (capt. hyb.) Klemm 1993, McCarthy 2006 (= Johnsgard 1973), Johnsgard 2008, Dumont 2012

Colinus × *Coturnix* IF Odontophoridae × Phasianidae McCarthy 2006 (p. 45: “??”)

Colinus × *Perdix* IF Odontophoridae × Phasianidae McCarthy 2006 (p. 45: “??”)

Galliformes: Phasianidae 56: 193. 71 IG (incl. 18 ISF) (+ 6 IF) **(superfamily Phasianoidea)**

pheasants = Fasanenartige

4 subfamilies:

Meleagridinae 1: 2, Perdicinae 26: 111, Phasianinae 16: 54, Tetraoninae 8: 19.

Part of basic type superfamily Phasianoidea (see above).

McCarthy 2006, p. 41 f: *Alectoris* 8 IS, *Arborophila* 2 IS, *Chrysolophus* 1 IS, *Coturnix* 5 IS.

Acryllium vulturinum × *Gallus gallus* IF Numididae × Phasianidae (capt. hyb.) McCarthy 2006 (plausible), Dumont 2012

Agriocharis^o (= *Meleagris*) *ocellata* × *Meleagris gallopavo* IS Meleagridinae (capt. hyb., fertile) McCarthy 2006, Dumont 2012

Alectoris graeca × *Gallus gallus* ISF **Perdicinae** × **Phasianinae** (capt. hyb.) Klemm 1993, McCarthy 2006 (“??”; modern listings of this cross trace to the 19th century papers cited by Ackerman 1898.”), Dumont 2012

Alectoris graeca, rufa × *Perdix perdix* **Perdicinae** (nat. hyb.) Klemm 1993, McCarthy 2006 (“??”), Dumont 2012

Ammoperdix heyi × *Callipepla californica* IF **Phasianidae** × **Odontophoridae** (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

“Bonasa” (= *Tetrastes*) *bonasia* × *Gallus gallus* ISF **Tetraoninae** × **Phasianinae** McCarthy 2006 (“dubious report; this cross is attested by a single very old report of Suchetet 1997a”)

Bonasa umbellus × *Dendragapus canadensis, obscurus* **Tetraoninae** (nat. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Bonasa umbellus × *Gallus gallus* ISF **Tetraoninae** × **Phasianinae** Klemm 1993, McCarthy 2006 (“dubious report; this cross, listed by many modern authors, is attested only by an anonymous report from ... 1886”)

Bonasa umbellus × *Phasianus colchicus* ISF **Tetraoninae** × **Phasianinae** (nat. hyb.) McCarthy 2006 (the specimen has been lost), Dumont 2012

Canachites (“*Falcipennis*”, “*Dendragapus*”) *canadensis* × *Dendragapus obscurus* **Tetraoninae** Klemm 1993, McCarthy 2006

Canachites (“*Falcipennis*”) *canadensis* × *Lagopus lagopus* **Tetraoninae** (nat. hyb.) Klemm 1993, McCarthy 2006, Johnsgard 2008, Dumont 2012

Catreus wallichi × *Chrysolophus pictus* **Phasianinae** (capt. hyb.) McCarthy 2006 (“??”)

Catreus wallichi × *Lophophorus impejanus* **Phasianinae** (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Catreus wallichi × *Lophura* div. spec. **Phasianinae** (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Catreus wallichi × *Phasianus colchicus* **Phasianinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Catreus wallichi × *Pucrasia macrolopha* **Phasianinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Catreus wallichi × *Syrnaticus reevesi* **Phasianinae** (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Catreus wallichi × *Tragopan temminckii* **Phasianinae** (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Centrocercus urophasianus × *Dendragapus obscurus* **Tetraoninae** (nat. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Centrocercus urophasianus × *Tympanuchus phasianellus* **Tetraoninae** (nat. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012, avianhybrids 2026

Chrysolophus pictus × *Gallus gallus* **Phasianinae** Klemm 1993, McCarthy 2006

Chrysolophus amherstiae × *Lophophorus impejanus* **Phasianinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Chrysolophus amherstiae, pictus × *Lophura leucomelanos, nycthemera* **Phasianinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Chrysolophus pictus × *Meleagris gallopavo* ISF Phasianinae × Meleagridinae Klemm 1993

Chrysolophus amherstiae, *pictus* × *Phasianus colchicus*, *versicolor* Phasianinae (capt. hyb., nat. hyb., fertile) Klemm 1993, McCarthy 2006, Dumont 2012

Chrysolophus amherstiae, *pictus* × *Syrnaticus* div. spec. Phasianinae (capt. hyb., fertile) McCarthy 2006, Dumont 2012

Chrysolophus amherstiae × *Tragopan caboti* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Coturnix japonica × *Gallus gallus* ISF Perdicinae × Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Coturnix japonica × *Meleagris gallopavo* ISF Perdicinae × Meleagridinae (capt. hyb.) McCarthy 2006 (“fertile eggs by artificial insemination”), Dumont 2012

Coturnix spec. × *Perdix perdix* Perdicinae (capt. hyb.) McCarthy 2006 (“???”)

Coturnix japonica × *Phasianus colchicus* Perdicinae × Phasianinae ISF (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

~~*Crax* × *Gallus*~~ IF Cracidae × Phasianidae erroneous, see Cracidae

Crossoptilon mantchuricum × *Lophophorus impejanus* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Crossoptilon spec. × *Lophura nycthemera* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006 (= Beever 1932), Dumont 2012

Dendragapus obscurus × *Lagopus lagopus* Tetraoninae Klemm 1993

Dendragapus obscurus × *Phasianus colchicus* (nat. hyb.) Klemm 1993, McCarthy 2006, Johnsgard 2008, Dumont 2012

Dendragapus obscurus × *Tympanuchus phasianellus* Tetraoninae (nat. hyb.) Klemm 1993, McCarthy 2006, Johnsgard 2008, Dumont 2012, avianhybrids (sub *Tympanuchus*)

Francolinus pictus × *Pternistis* (“*Francolinus*”) *clappertonii* Perdicinae (nat. hyb.) McCarthy 2006, Dumont 2012

Gallus gallus × *Lagopus lagopus* ISF Phasianinae × Tetraoninae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Gallus gallus × *Lophophorus impejanus* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Gallus gallus × *Lophura diardi*, *leucomelanos*, *nycthemera* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Gallus gallus × *Meleagris gallopavo* ISF Phasianinae × Meleagridinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Gallus gallus × *Numida meleagris* IF Phasianidae × Numididae (nat. hyb.) McCarthy 2006, Dumont 2012, Alfieri et al. 2023 (a genetic investigation of the authors revealed the famous putative hybrid *Numida* × *Penelope* as *Numida* × *Gallus*, divergence time 47 Ma)

~~*Gallus gallus* × *Ortalis guttata*, *vetula*~~ IF Phasianidae × Cracidae (capt. hyb.) McCarthy 2006 (2 very old reports, “questionable”), Dumont 2012, see Cracidae

~~*Gallus gallus* × *Penelope*~~ IF Phasianidae × Cracidae (capt. hyb.) McCarthy 2006, Dumont 2012, erroneous, see Cracidae

Gallus gallus × *Pavo cristatus* Phasianinae (art. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Gallus gallus × *Perdix perdix* ISF Phasianinae × Perdicinae (capt. hyb.) McCarthy 2006, Dumont 2012

Gallus gallus × *Phasianus colchicus, versicolor* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012, avianhybrids 2026

Gallus gallus × *Pipile jacutinga* IF Phasianidae × Cracidae McCarthy 2006 (= Ruschi & Amadon 1959), Dumont 2012, unconfirmed

Gallus gallus × *Syrnaticus soemerringi* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Gallus gallus × *Tetrao tetrix, urogallus* Phasianinae × Tetraoninae ISF (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Gallus gallus × *Tetrastes* ("Bonasa") bonasia Phasianinae × Tetraoninae ISF Klemm 1993 (without special reference)

Lagopus lagopus × *Perdix perdix* ISF Tetraoninae × Perdicinae (nat. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Lagopus lagopus, mutus × *Phasianus colchicus* ISF Tetraoninae × Phasianinae (nat. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Lagopus lagopus × *Tetrao tetrix, urogallus* Tetraoninae (nat. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Lagopus lagopus, mutus × *Tetrastes* ("Bonasa") bonasia Tetraoninae (nat. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Lagopus leucurus × *Tympanuchus phasianellus* Tetraoninae (nat. hyb.) McCarthy 2006, Dumont 2012

Lophophorus impejanus × *Lophura leucomelanos, nycthemera* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Lophophorus impejanus × *Pucrasia macrolopha* Phasianinae (capt. hyb.) McCarthy 2006, Dumont 2012

Lophura leucomelanos, nycthemera × *Phasianus colchicus, versicolor* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Lophura nycthemera × *Perdix perdix* ISF Phasianinae × Perdicinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Lophura swinhoi × *Phasianus versicolor* Phasianinae (capt. hyb.) McCarthy 2006, Dumont 2012

Lophura div. spec. × *Syrnaticus* div. spec. Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Lophura nycthemera × *Tetrao tetrix* ISF Phasianinae × Tetraoninae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Lophura swinhoi × *Tragopan satyri* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Lyrurus^o (= *Tetrao*) *tetrix* × *Phasianus*, see *Phasianus* × *Tetrao*

Meleagris gallopavo × *Numida meleagris* IF Phasianidae × Numididae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Meleagris gallopavo × *Pavo cristatus* ISF Meleagridinae × Phasianinae (capt. hyb.)
Klemm 1993, McCarthy 2006, Dumont 2012

Meleagris gallopavo × *Phasianus colchicus* ISF Meleagridinae × Phasianinae (nat. hyb.)
Klemm 1993, McCarthy 2006, Dumont 2012

~~*Meleagris gallopavo* × *Tetrao urogallus*~~ ISF Meleagridinae × Tetraoninae McCarthy 2006
("erroneous. All modern listings of this cross appear to trace back to a single, very old report. Beckmann 1832.")

Numida meleagris × *Pavo cristatus* IF Numididae × Phasianidae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Numida meleagris × *Phasianus colchicus* IF Numididae × Phasianidae (capt. hyb.)
Klemm 1993, McCarthy 2006, Dumont 2012

Numida meleagris × *Tragopan caboti* IF Numididae × Phasianidae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Ortygornis (= *Dendroperdix*°, "*Francolinus*") *sephaena* × *Pternistis* (= *Falcolinus*°) *swainsonii* *Perdicinae* (nat. hyb.) Dumont 2012 (= Engelbrecht & Grosel 2007)

Perdix perdix × *Phasianus colchicus* ISF *Perdicinae* × Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006 ("? Ghigi 1936a, Gray 1958), Dumont 2012

Pavo cristatus × *Phasianus colchicus* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Phasianus colchicus, *versicolor* × *Syrnaticus ellioti*, *reevesii*, *soemmerringi* Phasianinae (capt. hyb.) McCarthy 2006, Dumont 2012

Phasianus colchicus × *Tetrao tetrix*, *urogallus* (nat. hyb.) McCarthy 2006, Dumont 2012

Phasianus colchicus × *Tragopan caboti* Phasianinae (capt. hyb.) McCarthy 2006, Dumont 2012

Phasianus colchicus × *Tympanuchus cupido* ISF Phasianinae × Tetraoninae (nat. hyb.)
Klemm 1993, McCarthy 2006, Dumont 2012

Pucrasia macrolopha × *Tragopan temminckii* Phasianinae (capt. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

Tetrao tetrix × *Tetrastes* ("*Bonasa*") *bonasia* Tetraoninae (nat. hyb.) Klemm 1993, McCarthy 2006, Dumont 2012

References on Galliformes: see above.

Gaviiformes 1 family, 1: 5

Gaviiformes: Gaviidae* 1: 5 + fossil taxa.

loons, divers = Seetaucher

No relatives are known. Fossil taxa reach back to the Paleocene.

Gavia 5 *adamsii*, *arctica*, *immer*, *pacifica*, *stellata*.

Basic type family Gaviidae* (1: 5). Isolated family with only 1 genus and unique characteristics. All 5 species are connected by hybridization. – See also the interesting

comments of Tyler (2025, p. 303 f.) in her “candidates for basic type status” and Matthews et al. (2022) who discuss the possible inclusion of the extinct genus *Columboides*.

IS: McCarthy (2006), p. 195: *Gavia* 4 IS (*adamsii* × *immer*; *arctica* × *immer*; *arctica* × *stellata* (capt. hyb.); *immer* × *pacifica*; *immer* × *stellata*).

According to Roselaar et al. (2006) all species can overlap in range. Hybridization has been reported between all species, but only *Gavia adamsii* × *G. immer* has been confirmed.



Gaviidae: hybrids of the sole genus *Gavia* in the phylogeny of Lindsay AR (2002)
<https://hdl.handle.net/2027.42/132444>, cf. Fänger 2026.

References:

- Sprenkelmeyer QD (2014) A phylogenetic reevaluation of the genus *Gavia* (Aves, Gaviiformes) using next generation sequencing. All NMU Master's Theses. 1.
<https://commons.nmu.edu/theses/1>
- Lindsay AR (2002) Molecular and vocal evolution in loons (Aves: Gaviiformes) Doctoral dissertation, University of Michigan.
<https://hdl.handle.net/2027.42/132444>
- Matthews M-C et al. (2022) A baraminological analysis of the loons (Gaviiformes: Gaviidae) reveals their holobaraminic status. CBS Annual Conf. Abstracts, JCTS Series B.
- Roselaar C et al. (2006). Hybrids in divers (Gaviiformes). Journal of Ornithology 147, 24–30.

Gruiformes 2 suborders, 6 families, 50: 193 + many extinct taxa

cranes, rails and allies = Kranichartige

Many extant families formerly placed in this order are no longer placed here.

2 suborders, 6 families:

suborder Gruī: Aramidae 1: 1, Gruidae 4: 15, Psophiidae 1: 3.

suborder Ralli: Heliornithidae 3: 3, Rallidae 38: 156, Sarothruridae 3: 15.

Gruiformes: Aramidae 1: 1 (suborder Gru)

limpkins = Rallenkraniche

Aramus guarauna.

Probably **basic type family Aramidae** (1: 1) because of the isolated position as a monotypic family. Further studies must show if Gruidae belongs to the same basic type.

Gruiformes: Gruidae 4: 15 + extinct genera. 4 IG (suborder Gru)

cranes = Kraniche

Antigone 4 *antigone*, *canadensis*, *rubicunda*, *vipio*, *Balearica pavonina*, *regulorum*, *Grus* 8 (incl. *Anthropoides*^o *paradisea*, *virgo*, *Bugeranus*^o *carunculatus*) *americanus*, *grus*, *japonensis*, *monachal*, *nigricollis*, *Leucogeranus leucogeranus*.

Basic type Gruidae (4: 15): Fehrer 1994. Well-defined, isolated family. All genera are linked by hybridization and often lumped as 1 genus. In total 23 hybrid combinations have been observed. New data confirm Gruidae as a clear basic type, see the figure below. Further studies must show if the monotypic family is separate or belongs to the same basic type. – See also the comments of Tyler (2025, p. 300 f.) in her “candidates for basic type status”.

IS: McCarthy (2006), p. 165: *Antigone* 2 IS (*antigone* × *rubicunda*; *canadensis* × *vipio*, sub *Grus*), *Balearica* 1 IS (*pavonina* × *regulorum*), *Grus* s. str. 6 IS (*carunculatus* × *paradisea*; *grus* × *japonensis*; *grus* × *monacha*; *grus* × *virgo*; *grus* × *paradisea*; *monacha* × *nigricollis*). See also avianhybrids incl. comments (sub Gruiformes)

Antigone (“*Grus*”) *canadensis* × *Bugeranus*^o (= *Grus*) *carunculatus* **Gruinae** (capt. hyb.)

McCarthy 2006, Dumont 2012

Antigone canadensis × *Grus americana*, *grus*, *japonica* McCarthy 2006 (sub *Grus*)

Antigone vipio × *Grus grus*, *japonensis*, *paradisea*, *virgo* McCarthy 2006

Antigone canadensis, *vipio* × *Leucogeranus leucogeranus* McCarthy 2006 (sub *Grus*)

Antigone vipio × *Leucogeranus leucogeranus* Maksudov & Panchenko 2002 (art.

insemination, sub *Grus*), McCarthy 2006 (sub *Grus*)

Balearica regulorum × *Grus paradisea* (capt. hyb.) McCarthy 2006, Dumont 2012

Bugeranus^o (= *Grus*) *carunculatus* × *Grus paradisea* IS (nat. hyb.) McCarthy 2006, Dumont 2012

Grus grus × *Leucogeranus leucogeranus* McCarthy 2006 (nat. hyb., sub *Grus*),

Kashentseva & Postelnykh 2013 (art. insemination, cited after Tyler 2025, p. 302)



Gruidae: hybrids in a cladogram of Krajewski et al. (2010, Figs. 1–3), from en.wikipedia (2025, CC BY-SA 4.0). Not all connections are shown. See also: Nováková & Robovský (2021, Fig. 3); Krajewski & Fetzner (1994, Figs. 1–3).

References:

- Fehrer J (1994) Schnelle Mikroevolution beim Grundtyp der Kraniche? Studium Integrale J. 1, 38–39.
- Johnsgard PA (1983) Cranes of the world. Indiana University Press, Bloomington.
[lists all known hybrids within the family](#)
- Kashentseva T & Postelnykh K (2013) The morphology of hybrid of Eurasian and Siberian cranes. Proc. VIIth European Crane Conference. Stralsund, Germany.
[Grus grus × Leucogeranus leucogeranus](#)
- Krajewski C & Fetzner JW (1994): Phylogeny of cranes (Gruiformes: Gruidae) based on cytochrome-b DNA sequences. Auk 1994, 111 (2), 351–365.
- Krajewski C et al. (2010) Complete mitochondrial genome sequences and the phylogeny of cranes (Gruiformes: Gruidae). The Auk 127, 440–452.
<https://academic.oup.com/auk/article/127/2/440/5148392>
- Maksudov GY & Panchenko VG (2002) Obtaining an interspecific hybrid of cranes by artificial insemination with frozen-thawed semen. Biology Bulletin 29, 196–199.
[Antigone vipio × Leucogeranus leucogeranus](#)

Nováková N & Robovský J (2021) Behaviour of cranes (family Gruidae) mirrors their phylogenetic relationships. Avian Res. 12, 40. <https://doi.org/10.1186/s40657-021-00275-4>.

Gruiformes: Heliornithidae 3: 3 (suborder Ralli)

finfoots = Binsenrallen

Heliornis fulica, *Heliopais personatus*, *Podica senegalensis*.

Gruiformes: Psophiidae 1: 3 (suborder Grui)

trumpeters = Trompetervögel

Psophia 3.

Probably **basic type family Psophiidae** (1: 3) as an isolated monotypic family.

Gruiformes: Rallidae 38: 156 + many extinct genera. 1 IG

rails = Rallen

3 extant subfamilies: Gallinulinae, Porphyroninae, Rallinae.

McCarthy (2006): „Family Rallidae is an assemblage of small to large, terrestrial, marsh and aquatic birds. Many are flightless island endemics and thus lack contact with close relatives with which they might plausibly hybridize.“

IS: McCarthy (2006), p. 167: *Aramides* 1 IS, *Fulica* 3 IS, *Gallirallus* 1 IS, *Porphyrio* 2 IS, *Rallus* 2 IS.

See also avianhybrids (sub Gruiformes).

Fulica div. spec. × *Gallinula* div. spec. **Gallinulinae Gallinulini** (nat. hyb., capt. hyb.)

McCarthy 2006, Dumont 2012 (many reports)

~~*Fulica atra* × *Podiceps grisegena*~~ **IF/IO Gruiformes Rallidae Gallinulinae ×**

Podicipediformes Podicipedidae Dumont 2012 (no hybrids, only mixed nesting = „Mischgelege“)

Gruiformes: Sarothruridae 3: 15

flufftails = Besenschwanzrallen

Mentocrex 2, *Sarothrura* 9, *Rallacula* 4.

Leptosomiformes 1 family

Leptosomiformes: Leptosomidae* 1: 1

courels or cuckoo roller = Kurole, Kuckucksroller

Formerly part of Coraciiformes

Leptosomus discolor.

Probably **basic type family Leptosomidae*** (1: 1): isolated family with *Leptosomus discolor* as the sole species of the whole order.

McCarthy (2006), p. 117: hybrids between two subspecies (or species).

Mesitornithiformes 1 family

Mesitornithiformes: Mesitornithidae* 2: 3

mesites = Stelzenrallen

Formerly part of Gruiformes, Columbiformes, Galliformes or Passeriformes.

Madagascar.

Mesitornis 2, *Monias* 1.

Probably **basic type Mesitornithidae*** (2: 3) because of its isolated position with a unique set of anatomical characteristics.

Musophagiformes 1 family, 23 species + extinct taxa

Musophagiformes: Musophagidae 5–7: 23. 2 IG

turacos = Turakos

Africa. 3 subfamilies:

Corythaeolinae 1: 1 *Corythaeola* 1.

Criniferinae 1: 5 *Crinifer* 5.

Musophaginae 3: 17 *Gallirex* 2 *johnstoni*, *porphyreolophus*, *Menelikornis* 2 *leucotis*, *ruspolii*, *Tauraco* 13 (incl. *Musophaga*°, *Protacurus*°) – *Tauraco* has been split into 3 genera by Perktas et al. 2020 (see the figure below): *Musophaga*° *macrorhynchus*, *rossae*, *verreauxii*, *violacea*, *Proturacus*° *bannermani*, *erythrolophus*, *leucolophus*.

Probably **basic type family Musophagidae* subfamily Musophaginae** (3: 17). All 3 (–6) genera are connected by hybridization, see the figure below. Possibly the basic type covers the whole family, but this is unresolved.

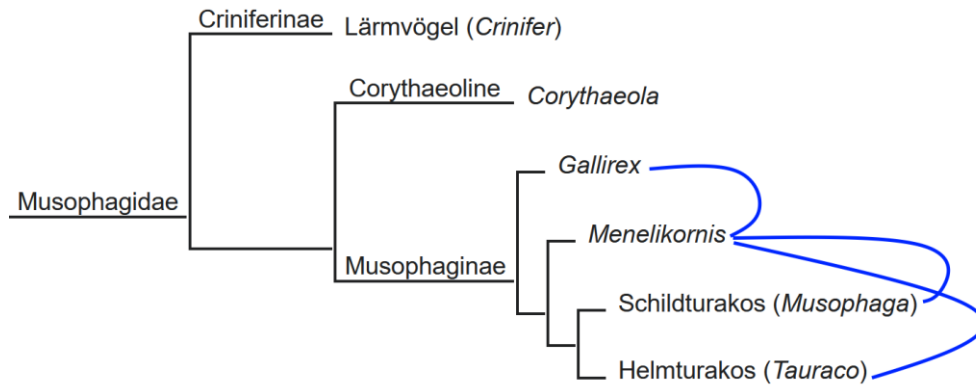
IS: McCarthy (2006), p. 155: *Menelikornis* 1 IS (*leucotis* × *ruspolii*, sub *Tauraco*), *Tauraco* 4 IS (*corythaix* × *hartlaubi*; *corythaix* × *livingstonii*; *hartlaubi* × *persa*).

Gallirex porphyreolophus × *Tauraco* (= *Proturacus*°) *erythrolophus* **Musophaginae** (capt. hyb.) McCarthy 2006 (sub *Musophaga* × *Tauraco*)

Menelikornis leucotis × *Tauraco persa*, *schalowi* **Musophaginae** McCarthy 2006 (sub *Tauraco*)

Menelikornis leucotis × *Tauraco violaceus* (= *Musophaga*^o *violacea*) Musophaginae

McCarthy 2006 (sub *Musophaga* × *Tauraco*)



Musophagidae: hybridization in the phylogeny of Perktas et al. (2020)

<https://doi.org/10.1206%2F3949.1>, from de.wikipedia (2026, CC BY-SA 4.0).

Nyctibiiformes 1 family, 7 species

Nyctibiiformes: Nyctibiidae* 2: 7+ extinct taxa

potoos = Tagschläfer

Neotropics

Nyctibius 6, *Phyllaemulor* 1.

Probably **basic type family Nyctibiidae*** (2: 7): as an enigmatic isolated family with only two genera.

IS: McCarthy (2006), p. 143: no hybrids mentioned.

Opisthocomiformes 1 family, 1 species

Opisthocomiformes: Opisthocomidae* 1: 1 + extinct genera

hoatzin = Hoatzin

Opisthocomus hoazin.

Basic type family Opisthocomidae* (1: 1): Junker 2012. The hoatzin is the only species of the whole order and is distinct from other birds by anatomy, behavior and molecular genetics.

References:

Junker R (2012) Hoatzin: Schräger Vogel mit verzwickter Biographie. Studium Integrale J. 19 (1), 56–57.

Otidiformes 1 family, 12: 26 + 4 extinct genera.

Otidiformes: Otididae* 12: 26. 1 IG

bustards = Trappen

Isolated group of terrestrial birds, systematic position and subdivision are matter of discussion.

Afrotis afra, *afraoides*, *Ardeotis* 4, *Otis* 1, *Chlamydotis* 2, *Eupodotis* 2 *caerulescens*, *senegalensis*, *Neotis* 4, *Tetrax* 1, *Heterotheca rueppelii*, ...

Possibly **basic type family Otididae*** (12: 26) because of its isolated position. But only one intergeneric hybrid is known so far.

McCarthy (2006), p. 165: *Afrotis* 1 IS (*afra* × *afraoides*, sub *Eupodotis*).

avianhybrids (2026): *Otis tarda* hybrids between the 2 subspecies of *Otis*.

Heterotetrax vigorsii × *Heterotheca rueppelii* McCarthy 2006 (sub *Eupodotis*). The two genera are closely related.

Pelecaniformes 5 extant families, 34: 120 + extinct families

pelicans, herons and allies = Pelikanartige

For families Anhingidae, Fregatidae, Phalacrocoracidae, and Sulidae see order Suliformes.

5 families:

Ardeidae, Balaenicipitidae, Pelecanidae, Scopidae, Threskornithidae.

Pelecaniformes: Ardeidae 18: 74 + extinct taxa (6 IG)

herons and egrets = Reiher

Formerly placed in Ciconiiformes or as a separate order Ardeiformes.

3–5 subfamilies:

Agamiinae 1: 1 *Agamia* 1.

Ardeinae 12: 50 see below.

Cochleariinae 1: 1 *Cochlearius* 1.

Botaurinae 3: 15 *Botaurus* 14, *Ixobrychus*, *Zebrilus* 1.

Tigrisomatinae 2: 4 *Tigriornis* 1, *Tigrisoma* 3

Ardeinae 13: 57. 6 IG

Ardea 16 (incl. *Casmerodius*° *albus*, *Bubulcus*° *ibis*), *Ardeola* 6, *Butorides* 4, *Calherodius* 1, *Egretta* 12, *Gorsachius* 4, *Mesophoyx intermedia*, *Nycticorax* 6, *Nyctanassa* 2, *Oroanassa* 1, *magnifica*, *Pilherodius* 1, *Syrigma* 1, *Zonerodius* 1.

Probably **basic type Ardeidae subfamily Ardeinae** (13: 57): several hybrids connect the main clades, see the figure below. – See also the comments of Tyler (2025, p. 300 f.) in her “candidates for basic type status”.

McCarthy 2006, p. 189: *Ardea* 5 IS (incl. *Casmerodius*° *albus*, *Mesophoyx intermedia*), *Butorides* 2 IS, *Egretta* 8 IS, *Nycticorax* 1 IS.

Ardea cinerea, *herodias* × *Casmerodius*° *albus* (= *Ardea alba*) IS (nat. hyb.) McCarthy 2006, Dumont 2012

Ardea cinerea, *picata* × *Egretta garzetta* (nat. hyb.) McCarthy 2006, Dumont 2012

Ardeola bacchus × *Egretta garzetta* Mashiko et al. 2012 (Japan, cited after avianhybrids 2026)

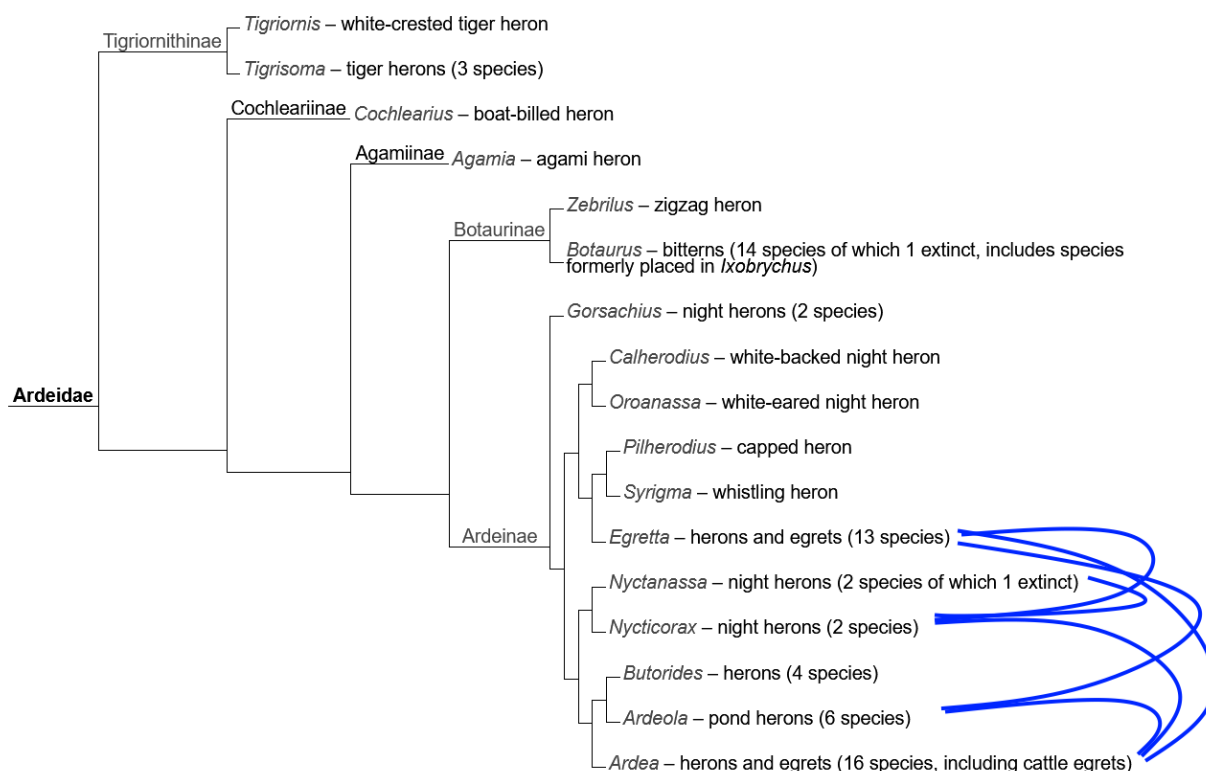
Ardeola grayii × *Mesophoyx* (“*Ardea*”) *intermedia* (capt. hyb.) McCarthy 2006, Dumont 2012

Bubulcus° (= *Ardea*) *ibis* × *Egretta caerulea*, *thula* (nat. hyb.) McCarthy 2006, Dumont 2012

Casmerodius° *albus* (= *Ardea alba*) × *Nycticorax caledonicus* (capt. hyb.) McCarthy 2006, Dumont 2012

Egretta div. spec. × *Nycticorax nycticorax* (nat. hyb., capt. hyb.) McCarthy 2006, Dumont 2012

Nyctanassa violacea × *Nycticorax nycticorax* (capt. hyb.) McCarthy 2006, Dumont 2012



Ardeidae: hybrids in the phylogram from en.wikipedia (2025, CC BY-SA 4.0; cf. Hruska JP et al. 2023. doi: 10.1093/ornithology/ukad005). – Similar data has <http://john-boyd.com/Taxo/List8.html>

Pelecaniformes: Balaenicipitidae 1: 1

shoebill = Schuhschnabel

Monotypic. *Balaeniceps rex*. Clearly distinct, but in the same clade as Pelecanidae and Scopidae.

Basic type family Balaenicipitidae (1: 1) as a clearly distinct monospecific family.

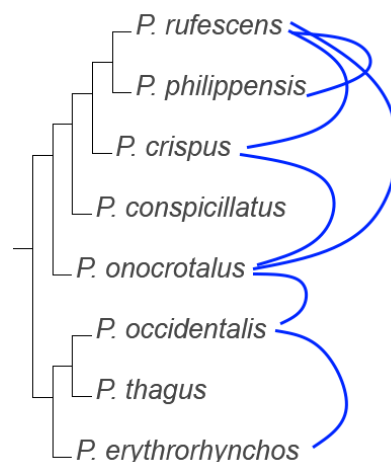
Pelecaniformes: Pelecanidae 1: 8 + extinct taxa

pelicans = Pelikane

Pelecanus 8. Clearly distinct, but in the same clade as Balaenicipitidae and Scopidae.

Basic type family Pelecanidae (1: 8) as a distinct monogeneric family. All species are linked by hybridization, see the figure below. – See also the comments of Tyler (2025, p. 300 f.) in her “candidates for basic type.” She points out that fossil pelicans date back to the Oligocene, mostly placed within the same genus *Pelecanus*, and that evidently the pelican structure has changed little since then.

IS: McCarthy (2006), p. 193: *Pelecanus* 6 IS (*crispus* × *onocrotalus*; *crispus* × *rufescens*; *erythrorhynchos* × *occidentalis*; *occidentalis* × *onocrotalus*; *onocrotalus* × *rufescens*; *philippensis* × *rufescens*).



Pelecanidae: hybrids of *Pelecanus* in the phylogeny of Kennedy et al. M (2013) doi:10.1016/j.ympev.2012.09.034ram, from en.wikipedia (2025, CC BY-SA 4.0).

Pelecaniformes: Scopidae 1: 1

hamerkop = Hammerkopf

Monotypic: *Scopus umbretta*.

Basic type family Scopidae (1: 1) as a monotypic family with unique characteristics.

Pelecaniformes: Threskiornithidae = Plataleidae 13: 36 + extinct genera. 2 IG

ibises and spoonbills = Ibis und Löffler

Uniform. Monophyletic. Formerly 2 subfamilies. Not related with Ciconiiformes.

Bostrychia 5, *Cercibis oxycerca*, *Eudocimus* 2, *Geronticus* 2, *Lophotibis cristata*, *Mesembrinibis cayennensis*, *Nipponia nippon*, *Phimosus infuscatus*, *Platalea* 6 (incl. *Ajaja*^o *ajaja*). *Plegadis* 3, *Pseudibis* 3, *Theristicus* 4, *Threskiornis* 6.

Probably **Basic type Threskiornithidae** (13: 36): uniform family. The most distant genera (incl. ibises and spoonbills) are linked by hybridization, see the figure below. Further data are necessary to confirm the family as basic type, because the hybrid reports are not actually confirmed. – See also the comment of Tyler (2025, p. 312) in her “list of candidates for basic type status! She points out the interesting phenomenon that two morphologically different types as ibises and spoonbills belong to the same basic type.

IS: McCarthy (2006): *Eudocimus* 1 IS (*albus* × *ruber*), *Platalea* 1 IS (*alba* × *leucorodia*), *Plegadis* 1 IS (*chihi* × *falcinellus*), *Threskiornis* 4 IS (*aethiopicus* × *melanocephala*; *aethiopicus* × *molucca*; *aethiopicus* × *spenicollis*; *melanocephalus* × *spenicollis*).

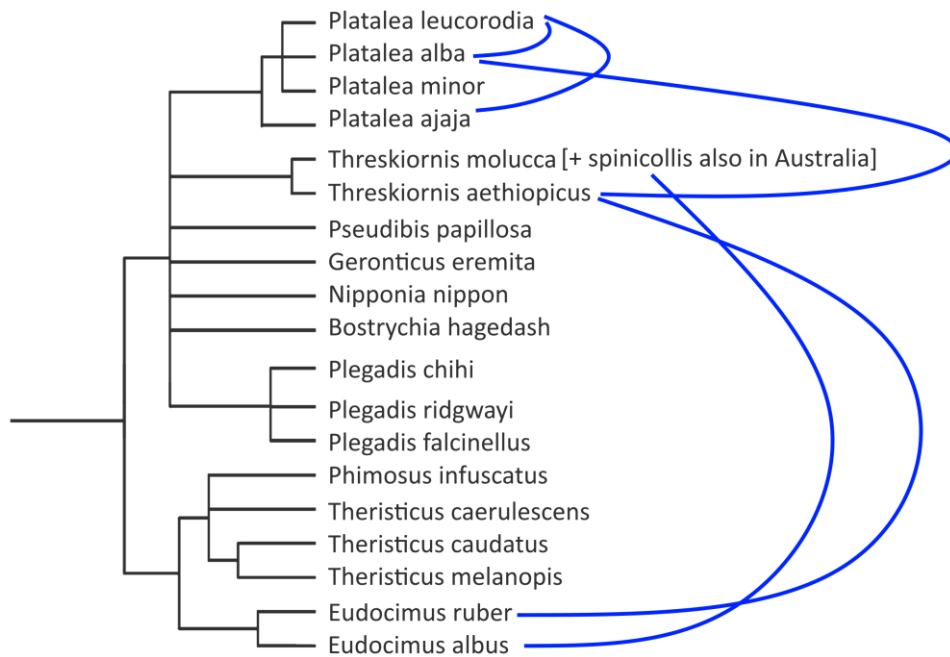
avianhybrids (2026) adds *Platalea* (*leucorodia* × *minor*) and *Plegadis* (*chihi* × *ridgwayi*).

Ajaja^o (= *Platalea*) *ajaja* × *Eudocimus ruber* McCarthy 2006 (p. 192: “?”), Dumont 2012

Ajaja^o (= *Platalea*) *ajaja* × *Platalea leucorodia* **IS** (capt. hyb.) McCarthy 2006, Dumont 2012, avianhybrids 2026

Eudocimus × *Threskiornis* (capt. hyb.) McCarthy 2006 (*E. albus* × *T. spenicollis*, *E. ruber* × *T. aethiopicus*), Dumont 2012. old reports, confirmation needed

Platalea × *Threskiornis* (capt. hyb.) McCarthy 2006 (*P. alba* × *T. aethiopicus*; *P. minor* × *T. melanocephalus*), Dumont 2006. Not actually confirmed.



Threskiornithidae: hybrids in the phylogram of Ramirez JL et al. 2013, Fig. 1. doi: 10.4238/2013.July.30.11

Phaethontiformes 1 family

Phaethontidae* 1: 3 + extinct genera

tropicbirds = Tropikvögel

No close relatives exist. Formerly part of Pelecaniformes.

Monotypic: *Phaethon* 3.

Probably **basic type family Phaethontidae*** (1: 3) as a monogeneric isolated family, sole family of the order.

Phoenicopteriformes 1 family 3: 6

Phoenicopteriformes: Phoenicopteridae* 3: 6. 2 IG

flamingoes = Flamingos

Phoeniconaias 1 *minor*, *Phoenicoparrus* 2 *andinus*, *jamesi*, *Phoenicopus* 3 *chilensis*, *roseus*, *ruber*.

Basic type family Phoenicopteridae* (3: 6) as an anatomically and molecularly distinct family. All 3 genera are linked by hybridization. Indeed, they are often lumped because of their uniformity. – See also the comments of Tyler (2025, p. 300 f.) in her “candidates for basic type status”.

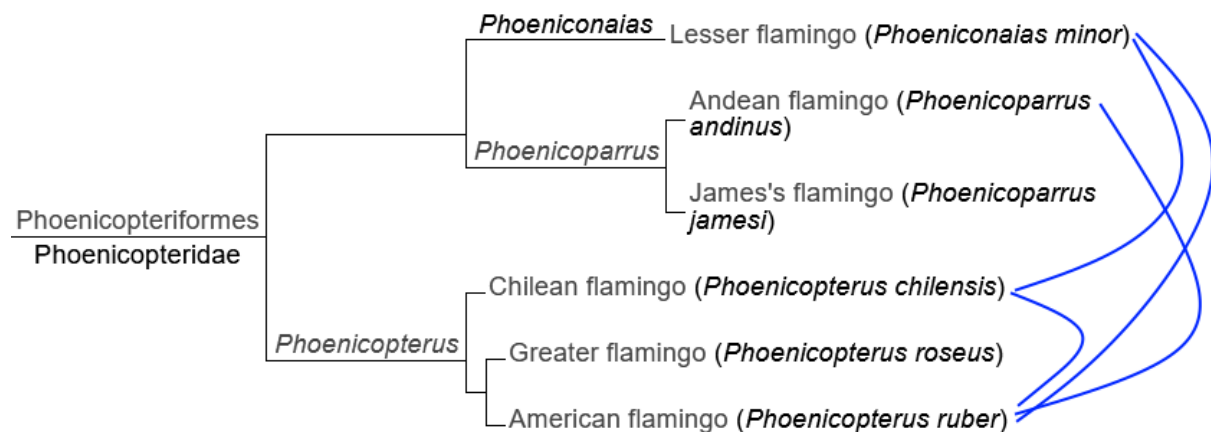
IS: McCarthy 2006, p. 192: *Phoenicopterus* s. str. 1 IS (*chilensis* × *ruber*).

Phoeniconaias (= *Phoenicopterus*) *minor* × *Phoenicopterus chilensis, ruber* (nat. hyb.)

McCarthy 2006 (sub *Phoenicopterus*), Dumont 2012

Phoenicoparrus (= *Phoenicopterus*) *andinus* × *Phoenicopterus ruber* (capt. hyb.) McCarthy

2006 (sub *Phoenicopterus*), Dumont 2012



Phoenicopteridae: hybrids in the phylogeny of Frias-Soler et al. (2022) doi:10.1093/zoolinnean/zlac040. from en.wikipedia (2025, CC BY-SA 4.0).

Piciformes 2 suborders, 9 families, 439 species + extinct taxa

woodpeckers and allies = Spechtartige

Suborder Galbuli (or separate order Galbuliformes): 2 families Bucconidae 10: 37, Galbulidae 5: 18.

Suborder Pici: 7 families Capitonidae, Indicatoridae, Lybiidae, Megalaimidae, Picidae, Ramphastidae, Semnornithidae.

Piciformes: Bucconidae 10: 33–37 (suborder Galbuli)

puffbirds = Faulvögel

Bucco 4, *Hypnelus* 2, *Monasa* 4, *Notharchus* 6, *Nystalus* 5, ...

IS: McCarthy (2006), p. 114: *Hypnelus* 1 IS (*bicinctus* × *ruficollis*), *Monasa* 1 IS (*fidelis* × *morphoeus*, now conspecific).

avianhybrids 2026: *Nyctalus* 1 IS (*maculatus* × *striatipectus*).

Piciformes: Capitonidae 2: 15 (suborder Pici)

American barbets = Amerikanische Bartvögel

excl. Lybiidae and Megalaimidae, and Semnornithidae.

Capito 11, *Eubucco* 4.

IS: McCarthy (2006), p. 110: *Capito* 1 IS (*auratus* × *niger*), *Eubucco* 1 IS (*bourcierii* × *richardsoni*).

References:

Ostrow EN et al. (2022) Phylogenomic analysis confirms the relationships among toucans, toucan-barbets, and New World barbets but reveals paraphyly of *Selenidera* toucanets and evidence for mitonuclear discordance. *Ornithology* 140, 3, ukad022. <https://doi.org/10.1093/ornithology/ukad022>

Piciformes: Galbulidae 5: 18 (suborder Galbuli)

jacamars = Glanzvögel

Brachygalba 3, *Galbula* 10, ...

McCarthy (2006), p. 114: *Galbula* 3 IS (*galbula* × *leucogastra*; now conspecific; *melanogenta* × *ruficauda*; *melanogenta* × *rufiviridis*).

avianhybrids 2026: *Galbula* 1 IS (*chalcothorax* × *leucogastra*).

Piciformes: Indicatoridae 4: 16 (suborder Pici)

honeyguides = Honiganzeiger

Indicator 10, *Prodotiscus* 3, ...

McCarthy (2006), p. 102: *Indicator* 2 IS (*conirostris* × *minorn*, now conspecific; *exilis* × *wilcocksii*, *Prodotiscus* 1 IS (*insignis* × *zambesiae*).

Piciformes: Lybiidae 10: 43 (suborder Pici)

African barbets = Afrikanische Bartvögel

Gymnobucco 4, *Lybius* 6, *Pogoniolus* 10, *Trachylaemus* 2, *Tricholaema* 5, ...

McCarthy (2006), p. 111: *Lybius* 4 IS (now intersubspecific), *Pogoniolus* 3 IS, *Tricholema* 2 IS.

Piciformes: Megalaimidae 2: 35 (suborder Pici)

Asian Barbets = Asiatische Bartvögel

Some authors have lumped them with Ramphasidae

Calorhamphus 2 *fuliginosus*, *hayii*, *Psilopogon* 33 (incl. *Megalaima*° *australis*, *franklinii*).

IS: McCarthy 2006, p. 111: *Psilopogon* 2 IS (*australis* × *franklinii*; *cyanotis* × *duvaucelii*, sub *Megalaima*°)

Piciformes: Picidae 30: 236 + extinct taxa (suborder Pici)

woodpeckers, piculets, and wrynecks= Spechte und Wendehälse

4 subfamilies:

Jynginae 1: 2, Picumninae 1: 27, Picinae 26: 200, Sasiinae 2: 3.

Jynginae 1: 2

wrynecks = Wendehälse

Jynx 2.

Picinae 26: 200. 4 IG (incl. 2 IT)

true woodpeckers = Eigentliche Spechte

6 tribes (see the figure below):

Hemicircini 1: 2.

Nesocitini 1 *Nesocitis micromegas*.

Picini 14: 88.

Campephilini 3: 24.

Melanerpini 13: 95.

Probably **basic type Picidae subfamily Picinae** (25: 200) as a uniform subfamily with its well-known characteristics. On the one hand, Picinae have much in common, on the other hand they differ from the other subfamilies with their own special characteristics. The three large tribes Picini (14: 88), Campephilini (4: 24), and Melanerpini (13: 95) are linked by hybridization, see the figure below. Hybrid connections to the two small basal tribes Hemicircini (1: 2) and Nesocitini (1: 1) are unknown. – See also the results and discussion of Garner (2014) who proposes to give the “holobaramin status” to the whole family, and the comment of Tyler (2025, p. 322) in her list of “other potential candidates for basic type status”.

IS: McCarthy (2006), p. 102–110: *Campethera* 5 IS, *Celeus* 4 IS, *Colaptes* 4 IS, *Dendrocopos* 9 IS, *Dendropicos* 5 IS, *Dinopium* 1 IS, *Dryocopus* 3 IS, *Melanerpes* IS, *Picoides* 6 IS, *Piculus* 2 IS, *Picus* 5 IS, *Sphyrapicus* 3 IS, *Veniliornis* 1 IS.

Ottenburghs & Nicolai (2024): table 1 gives an overview of all reliable hybrids in woodpeckers.

Garner (2014) gives an overview of “established and putative interspecific hybrids within the Picidae” with 56 entries.

Campephilus × *Melanerpes* **IT** *Campephilini* × *Melanerpini* **HY** Fuchs et al. 2013 (ancient hybridization), avianhybrids 2026

Campephilus × *Sphyrapicus* *Campephilini* **HY** Fuchs et al. 2013 (ancient hybridization), avianhybrids 2026

~~*Celeus castaneus* × *Piculus* (*Colaptes*) *rubiginosus*~~ *Picini* (nat. hyb.) McCarthy 2006 (“??”), Dumont 2012, avianhybrids 2026 (“mistake”)

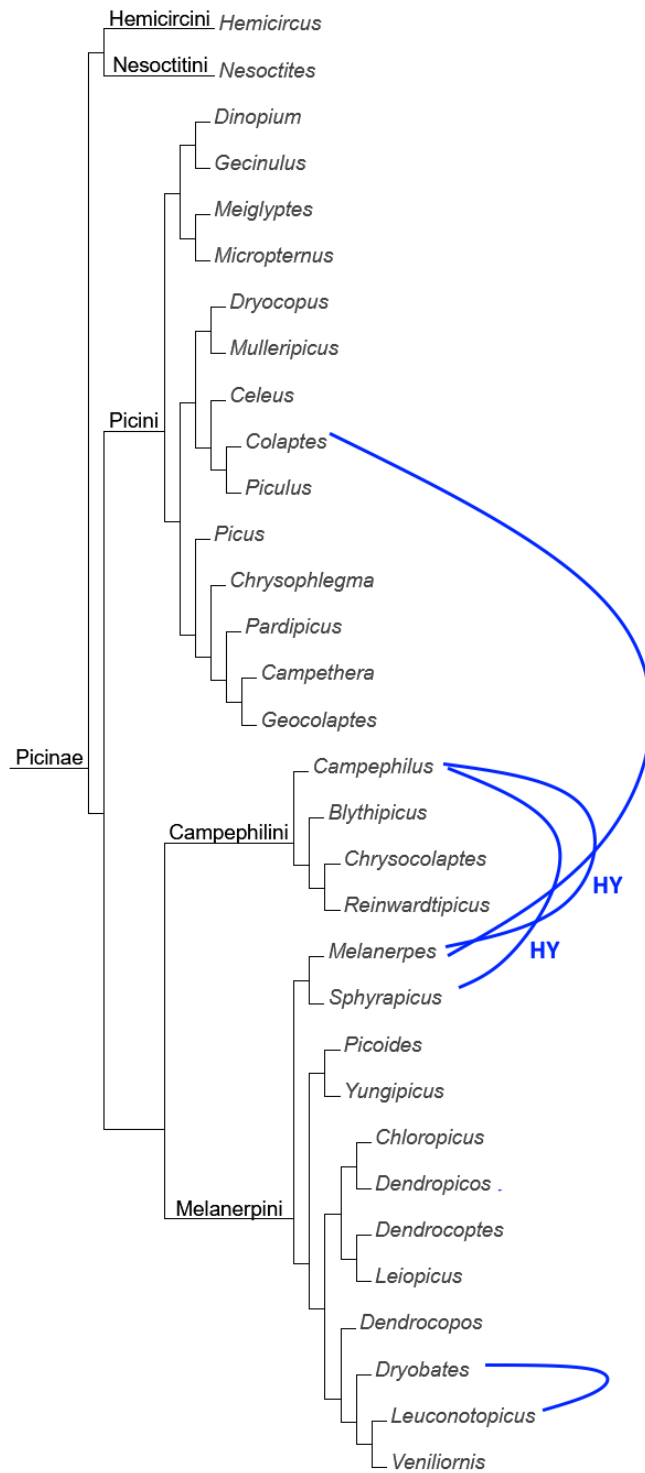
Colaptes chrysoides × *Melanerpes uropygialis* IT Picini × Melanerpini (capt. hyb.)

McCarthy 2006, Dumont 2012, Ottenburghs & Nicolai 2024 (not mentioned as reliable)

~~*Dendropicos spodocephalus* × *Picus viridis*~~ IT Melanerpini × Picini (nat. hyb.) Ivanchev

1995, Dumont 2012, avianhybrids 2026 (“This hybrid record is based on a faulty interpretation of a Russian reference.”)

Dryobates × *Leuconotopicus* Melanerpini Ottenburghs & Nicolai (2024 (*D. pubescens* × *L. villosus*; *D. scalaris* × *L. villosus*) The genera are closely related and members of a mimicry complex)



Picidae subfamily Picinae: hybrids in the phylogeny of Shakya et al. (2017), from en.wikipedia (2025, CC BY-SA 4.0).

Picuminae 1: 27

piculets = Zwergspechte

Picumnus 27.

Possibly **basic type family Picidae subfamily Picumninae** (1: 27) as a monogeneric subfamily which is connected by several hybrids and differs from the other subfamilies by several unique characteristics. – Garner (2014) proposes the whole family as created kind.

IS: McCarthy (2006): *Picumnus* 12 IS,
Ottenburghs & Nicolai (2024): 7 reliable IS in *Picumnus*.

Sasiinae 2: 3.

piculets p.p. = Mausspechte

Sasia 2, *Verreauxia* 1 *africana*.

IS: McCarthy (2006) 1 IS.

References:

Fuchs J et al. (2013) A multi-locus phylogeny suggests an ancient hybridization event between *Campephilus* and melanerpine woodpeckers (Aves: Picidae). *Molecular Phylogenetics and Evolution* 67, 578–588.

<https://doi.org/10.1016/j.ympev.2013.02.014>

Garner PA (2014) Baraminological analysis of the Picidae (Vertebrata: Aves: Piciformes) and implications for creationist design arguments. *Journal of Creation Theology and Science Series B: Life Sciences* 4, 1–11.

<https://www.coresci.org/jcts/index.php/jctsb/article/view/24>

Ivanchev VP (1995) Additional data on the question about hybridization between Grey-headed and Green Woodpeckers. [Russian] *Proc. of Oka Biosphere Nature Reserve “Scientific bases of conservation and wise management of birds”*. Ryazan’: Russkoe slovo Publishers.

Ottenburghs J & Nicolai MPJ (2024) Hybridization constrains the evolution of mimicry complexes in woodpeckers. *Journal of Avian Biology* 5–6 e03228.

<https://doi.org/10.1111/jav.03228> Table 1: Overview of reliable woodpecker hybrids

Shakya SB et al. (2017) Tapping the woodpecker tree for evolutionary insight. *Molecular Phylogenetics and Evolution* 116, 182–191.

<http://dx.doi.org/10.1016/j.ympev.2017.09.005>

Piciformes: Ramphastidae 5: 37 (suborder Pici)

toucans = Tukane

Some authors include Megalaimidae.

Andigena 4, *Aulacothynchus* 8, *Pteroglossus* 12 (whole genus connected via hybridization; cf. doi:10.1016/j.ympev.2010.10.016), *Ramphastos* 7, *Selenidera* 6.

McCarthy (2006), p. 112: *Aulacorhynchus* 2 IS, *Pteroglossus* 12 IS (e.g. *azara* × *inscriptus*), *Ramphastos* 8 IS, *Selenidera* 1 IS.

Piciformes: Semnornithidae 1: 2 (suborder Pici)

toucan-barbets = Tukan-Bartvögel

related to Ramphastidae and Capitonidae s. l.

Semnornis 2.

McCarthy (2006): no hybrids mentioned.

Podargiformes 1 family

Podargiformes: Podargidae* 3: 16

frogmouths = Eulenschwalme

Podargus 3, *Batrachostomus* 12, *Rigidipenna* 1.

McCarthy (2006), p. 158 (sub Caprimulgidae): three races of *Podargus* hybridize extensively.

Possibly **basic type family Podargidae*** (3: 16) because of its isolated position and sole family of the order.

Podicipediformes 1 family

Podicipediformes: Podicipedidae* 6: 22 + 5 extinct genera. 1 IG

grebes = Lappentaucher

The similarity with Gaviidae (loons = Seetaucher) is a result of similar lifestyle.

The subdivision of the family is matter of debate.

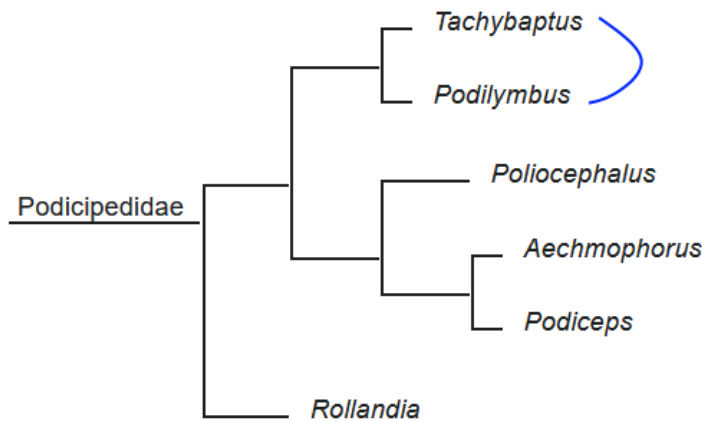
Aechmophorus 2, *Podiceps* 9, *Podilymbus* 2, *Poliocephalus* 2, *Rollandia* 2, *Tachybaptus* 5.

Probably **basic type family Podicipedidae*** (6: 22) as an isolated family with unique characteristics. Depending on the cladogram, the hybrid network between *Podilymbus* and *Tachybaptus* connects either two sister groups (Ksepka et al. 2013, fig. 11), see the figure below), or one half of the family (cf. Bochenki 1994, Fig. 85) or the entire family (Ksepka et al. 2013, figs. 9+10;). At least all 9 species of *Podiceps* are connected by IS in the phylogram of Ksepka et al. (2013, figs. 9–11).

McCarthy (2006), p. 187: *Aechmophorus* 1 IS (*clarkii* × *occidentalis*), *Podiceps* 3 IS (*auritus* × *nigricollis*; *cristatus* × *grisegena*?; *gallardoi* × *occipitalis*; *juninensis* × *occipitalis* ?), *Podilymbus* 1 IS († *gigas* × *podiceps*), *Tachybaptus* 2 IS.

avianhybrids (2026): *Aechmophorus* 1 IS (*clarkii* × *occidentalis*), *Podiceps* 1 IS (*gallardoi* × *occipitalis*), *Tachybaptus* 1 IS (*ruficollis* × † *rufolavatus*).

~~*Fulica atra* × *Podiceps grisegena*~~ IF/IO **Gruiformes Rallidae × Podicipediformes**
Podicipedidae Dumont 2012 [no hybrids, only mixed nesting = „Mischgelege“]
Podilymbus podiceps × *Tachybaptus ruficollis* (nat. hyb.) McCarthy 2006, Dumont 2012



Podicipedidae: hybrids in the phylogeny of Fjeldså (2004) ISBN 0-19-850064-5, from de.wikipedia (2025, CC BY-SA 4.0).

References:

- Bochenski ZM (1994) The comparative osteology of grebes (Aves: Podicipediformes) and its systematic implications. *Acta Zoologica Cracoviensia* 37 (1), 191–346.
<https://www.researchgate.net/publication/285839426>
 Fjeldså J (2004) *The Grebes*. Oxford University Press. ISBN 0-19-850064-5.
 Ksepka DT et al. (2013) Fossil grebes from the Truckee formation (Miocene) of Nevada and a new phylogenetic analysis of Podicipediformes (Aves). *Palaeontology* 56, 1149–1169. <https://doi.org/10.1111/pala.12040>

Procellariiformes 4 families, 148 species

tubenoses = Röhrennasen

4 families.

Procellariiformes: Diomedidae 4: 20

albatrosses = Albatrosse

Diomedea 6, *Phoebastria* 4, *Phoebastria* 2, *Thalassarche* 8.

Probably **basic type family Diomedidae** (4: 20) because of its unique characteristics, though intergeneric hybrids are so far unknown.

McCarthy (2006), p. 198: *Diomedea* 5 IS.

avianhybrids (2026): *Phoebastria* 1 IS (*immutabilis* × *nigripes*), *Thalassarche* 2 IS (*cauta* × *melanophris*; *melanophris impavida* × *melanophris melanophris*).

Procellariiformes: Hydrobatidae 1: 18

Northern storm petrels = Wellenläufer

excl. family Oceanitidae (southern storm petrels), which was formerly considered as subfamily of Hydrobatidae.

Monophyletic: *Hydrobates* 18.

Procellariiformes: Oceanitidae 5: 10

Southern storm petrels = Sturmschwalben

Monophyletic

Fregetta 4, *Garrodia* 1, *Nesofregetta* 1 *fuliginosa*, *Oceanites* 3, *Pelagodroma* 1.

McCarthy 2006, Dumont 2012: *Fregetta* 1 IS (*grallaria* × *tropica* (nat. hyb.))

Procellariiformes: Procellariidae 16: 100. 1 IG

shearwaters, petrels and prions = Sturmvögel

Aphrodroma 1, *Ardenna* 7, *Bulweria* 3, *Calonectris* 4, *Daption* 1, *Fulmarus* 2, *Halobaena* 1, *Macronectes* 2, *Pachyptila* 7, *Pagodroma* 1, *Pelecanoidea* 4 (sometimes own family), *Procellaria* 5, *Pseudobulweria* 4, *Pterodroma* 36, *Puffinus* 21, *Thalassoica* 1.

McCarthy (2006), p. 196 f.: *Calonectris* 1 IS (*borealis* × *diomedea*), *Macronectes* 1 IS (*giganteus* × *halli*), *Pachyptila* 5 IS (*belcheri* × *desolata*; *crassirostris* × *turtur*; *desolata* × *vittata*; *salvini* × *vittata*), *Pagodroma* 1 IS (*confusa* × *nivea*), *Pterodroma* 1 IS (*cahow* × *feae*, *Puffinus* 3 IS (*assimilis* × *lherminieri*; *bulleri* × *griseus*?; *carneipes* × *creatopus*).

avianhybrids (2026): *Macronectes* (*giganteus* × *halli*, fertile), *Pachyptila* (*desolata* × *vittata*), *Pterodroma* (*arminjoniana* × *neglecta*; *arminjoniana* × *heraldica*; *lessonii* × *mollis*), *Puffinus* *maurezanicus* × *yelkouan*)

Calonectris diomedea × *Puffinus gravis* (nat. hyb.) McCarthy 2006, Pyle et al. 2008, Dumont 2012. The genera are closely related.

Pagodroma × *Puffinus* McCarthy 2006 ("Internet: FOTO5") very questionable

References:

Pyle P, Howell SNG & Ruck S (2008) Identification guide to North American birds. Part II. Point Reyes Station, California. Slate Creek Press.

Welch AJ et al. (2014). Phylogenetic relationships of the extinct St. Helena petrel, *Pterodroma rupinarum* Olson, 1975 (Procellariiformes: Procellariidae), based on ancient DNA. Zoological Journal of the Linnean Society, 170 (3), 494–505.

<https://doi.org/10.1111/zoj.12078>

Psittaciformes 4 families, 101: 410. 48 IG (incl. 8 ISF + 2 IF)

parrots = Papageienartige

3 superfamilies, 4 families:

Strigopoidea 1 family Strigopidae incl. Nestoridae: 2: 4

Cacatuoidea 1 family Cacatuidae 7: 22.

Psittacoidea 2 families: Psittacidae 37: 177, Psittaculidae (incl. Psittichadidae) 53: 202.

Basic type order Psittaciformes (101: 410): Landgren, Gustafsson & Kutzelnigg (2011). Psittaciformes are as a whole uniform and have several unique characteristics in common. The large families Psittacidae and Psittaculidae are connected by hybridization (90: 379). An interfamilial mating between Cacatuidae and Psittacidae and resulting fertile eggs which were not incubated has been reported. Hybrids with the small basal group Nestoridae (2: 4) are unknown. –See also the comments of Tyler (2025, p. 305 f.) in her “candidates for basic type status”.

Psittaciformes: Cacatuidae 7: 22. (3 IG + 1 ISF + 1 IF)

cockatoos = Kakadus

Cacatuinae 4: 15 *Cacatua* 13 (incl. *Lophochroa*^o *leadbeateri*), *Callocephalon fimbriatum*, *Eolophus* (“*Cacatua*”) *roseicapilla*, *Probosciger aterrimus*.

Calyptorhynchinae 2: 5 *Calyptorhynchus* 2 *banksii*, *lathamii*, *Zanda* 3 (“*Calyptorhynchus*”) *funerea*, *latirostris*, *baudinii*.

Nymphicinae 1: 1 *Nymphicus hollandicus*.

Part of basic type Psittaciformes (see above).

IS: McCarthy (2006): *Cacatua* (incl. *Eolophus roseicapilla*) 15 IS, *Calyptorhynchus* 2 IS.

Cacatua div. spec. × *Cacatua* (= *Lophochroa*^o) *leadbeateri* **IS** *Cacatuinae* (capt. hyb., nat. hyb.) McCarthy 2006, Dumont 2012

Cacatua sanguinea × *Callocephalon fimbriatum* *Cacatuinae* (nat. hyb., capt. hyb.) McCarthy 2006, Dumont 2012

Cacatua div. spec. (incl. *Lophochroa*^o) × *Eolophus roseicapilla* *Cacatuinae* (nat. hyb., capt. hyb.) McCarthy 2006, Dumont 2012, avianhybrids 2026 (putative cross *C. sanguinea* × *E. roseicapillus*, Hingston 2022)

Callocephalon fimbriatum × *Eolophus* (“*Cacatua*”) *roseicapilla* *Cacatuinae* (capt. hyb.) McCarthy 2006, Dumont 2012

Eolophus (“*Cacatua*”) *roseicapilla* × *Nymphicus hollandicus* **ISF** *Cacatuinae* × *Nymphicinae* **ISF** Marshall 2005a = <http://www.talkingbirds.com.au/galatiel.php>

Eolophus (“*Cacatua*”) *roseicapilla* × *Platycercus eximius* **IF** *Cacatuidae* × *Psittacidae* (capt. hyb.) McCarthy 2006 (p 136: “fertile eggs; ... as however the cock (after the manner of most Parakeets, who think their wives should do all the work) refused to

incubate, the exasperated hen, who expected her husband to take his turn at sitting, threw in her hand so the eggs failed to hatch. Brooksbank 1949.”), Dumont 2012

Neophema chrysostoma × *Nymphicus hollandicus* IF **Psittaculidae** × **Cacatuidae**, see **Psittaculidae**

Nymphicus hollandicus × *Psephotus haematonotus* IF **Cacatuidae** × **Psittaculidae** (capt. hyb.) McCarthy (p. 133, “??”), Dumont 2012

Psittaciformes: Psittacidae 37: 183 + extinct genera. (11 IG + 1 IF)

true parrots or New World and African parrots = Echte Papageien

The circumscription of the genera has much changed since 2011. Many species were formerly placed in *Ara* s. l.

2 subfamilies:

Arinae 33: 162 *Amazona* 34, *Anodorhynchus* 3, *Ara* s. str. 8, *Aratinga* 6, *Bolborhynchus*, *Brotogeris* 8, *Cyanoliseus* 1, *Cyanopsitta* 1, *Diopsittaca nobilis*, *Eupsittula* 4, *Forpus* 9, *Myiopsitta*, *Pionites*, *Pionopsitta* 1 *pileata*, *Primolius* 3 (incl. *Propyrrhura*°), *Pionus* 7, *Psittacara*, *Pyrilia* 7 (= *Pionopsitta* p.p.), *Touit* 8, ...

Psittacinae 2: 10 *Poicephalus* 9. *Psittacus* 1 *erithacus*.

Part of basic type Psittaciformes.

IS: McCarthy (2006): *Amazona* 22 **IS**, *Ara* (incl. *Diopsittaca nobilis* und *Propyrrhura* = *Primolius auricollis*, *couloni*, *maracana*) 12 **IS**, *Brotogeris* 7 **IS**, *Forpus* 7 **IS**, *Pionites* 1 **IS**, *Primolius* 1 **IS**, *Pyrhura* 6 **IS**, *Rhynchopsitta* 1 **IS**.

Amazona amazonica × *Pionus maximiliani* **Arinae** Hernandez-Brito et al. 2021, Ottenburghs 2023

Amazona aestiva × *Psittacara* **Arinae** (capt. hyb. in a Belgian zoo) see comment of “BrianL” in Ottenburghs 2023

Anodorhynchus hyacinthinus, *leari* × *Ara* **div. spec.** **Arinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Ara severa × *Primolius* (“*Ara*”) *auricollis* **Arinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Aratinga jandaya × *Eupsittula* (“*Aratinga*”) *aurea* **Arinae** Leandro et al. 2023

<https://www.researchsquare.com/article/rs-3754352/v1>

Aratinga jandaya, *solstitialis* × *Aratinga* (= *Nandayus*°) *nenday* **IS** **Arinae** (capt. hyb.) McCarthy 2006, Dumont 2012

~~*Brotogeris pyrrhoptera* × *Psittacula krameri* IF **Arinae** × **Psittaculinae** McCarthy 2006 (p. 130: “mixed pair ... no hybrid”)~~

Cyanoliseus patagonus × *Primolius* (= *Ara*) *maracana* **Arinae** (capt. hyb.) McCarthy 2006, (p. 128: “?”), Dumont 2012

Cyanopsitta spixii × *Primolius* ("Ara", *Propyrrhura*) *maracana* **Arinae** (nat. hyb.)
 McCarthy 2006, Dumont 2012, avianhybrids 2026, Ottenburghs 2023

Diopsittaca ("Ara") *nobilis* × *Primolius* ("Ara") *auricollis* **Arinae** (capt. hyb.) McCarthy
 2006, Dumont 2012

Diopsittaca ("Ara") *nobilis* × *Psittacara* ("Aratinga") *holochlorus, leucophthalmus, mitratus*
Arinae Silva 1996

Eolophus ("Cacatua") *roseicapilla* × *Platycercus eximius* **IF Cacatuidae × Psittacidae** (capt.
 hyb.) McCarthy 2006 (p 136: "fertile eggs; ... as however the cock (after the manner
 of most Parakeets, who think their wives should do all the work) refused to
 incubate, the exasperated hen, who expected her husband to take his turn at
 sitting, threw in her hand so the eggs failes to hatch. Brooksbank 1949."),
 Dumont 2012

Eupsittiula ("Aratinga") *aurea* × *Myiopsitta monachus* **Arinae** (capt. hyb.) Mc Carthy
 2006 ("??"), Dumont 2012

Pionites melanocephala × *Pionus maximiliani* **Arinae** (capt. hyb.) McCarthy 2006,
 Dumont 2012

Pionopsitta pileata × *Platycercus elegans* **IF Psittacidae × Psittaculidae** (capt. hyb.)
 McCarthy 2006, Dumont 2012

Poicephalus senegalus × *Psittacus erithacus* **Psittacinae** (capt. hyb.) McCarthy 2006,
 Dumont 2012

Psittaciformes: Psittaculidae 47: 201. (24 IG + 7 ISF)

Incl. Psittichadidae.

6 subfamilies:

Agapornithinae 3: 23, *Agapornis* 9, *Loriculus* 15, *Bolbopsittacus* 1 *lunulatus*.

Loriinae 12: 52: *Cyclopsitta* 4, *Lorius* 6, ...

Platycercinae 13: 69 *Barnardius* 1 (= *Platycercus*) *zonarius*, *Eunymphicus* 2, *Neophema* 6,
Platycercus 6, *Psephotus* 1, *Purpureicephalus* 1, *Trichoglossus* 22,

Psittacellinae 1: 4 *Psittacella* 4.

Psittaculinae 10: 55 *Alisterus* 3, *Aprosmictus* 2, *Eclectus* 5, *Polytelis* 3, *Psittacula* 16, ...

Psittichadinae 2: 5 *Coracopsis* 4, *Psittichas fulgidus*.

Part of basic type Psittaciformes.

IS: McCarthy (2006): *Agapornis* 14 IS, *Alisterus* 1 IS, *Chalcopsitta* 1 IS, *Charmosyna* 1 IS,
Eos 5 IS, *Eunymphicus* 1 IS, *Glossopsitta* 2 IS, *Lorius* 3 IS, *Neophema* 4 IS, *Platycercus* 32
 IS (but consider that *Barnardius* is included and *P. elegans* ssp. *flaveolens*, so 12 IS
 remain), *Poicephalus* 6 IS, *Polytelis* 3 IS, *Prosopieia* 2 IS, *Psephotus* 7 IS, *Psittacula* 8 IS,
Trichoglossus 6 IS.

Agapornis div. spec. × *Melopsittacus* **ISF Agapornithinae × Loriinae** (capt. hyb.)
 McCarthy 2006 (p. 121, 124: "?"), Dumont 2012

Alisterus amboinensis, scapularis × *Aprosmictus erythropterus* **Psittaculinae** (nat. hyb., capt. hyb.) McCarthy 2006, Dumont 2012

Alisterus scapularis × *Platycercus elegans* **ISF Psittaculinae** × **Platycercinae** (nat. hyb.) McCarthy 2006, Dumont 2012

Alisterus amboinensis, scapularis × *Polytelis alexandrae, anthopeplus, swainsonii* **Psittaculinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Alisterus scapularis × *Psephotus haematonotus* **ISF Psittaculinae** × **Platycercinae** (capt. hyb.) McCarthy 2006 (p. 125: “?”), Dumont 2012

Aprosmictus erythropterus × *Northiella haematogaster* **ISF Psittaculinae** × **Platycercinae** (capt. hyb.) McCarthy 2006 (p. 127: “?”), Dumont 2012

Aprosmictus erythropterus × *Polytelis alexandrae, anthopeplus, swainsonii* **Psittaculinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Barnardius (= *Platycercus*) *zonarius* × *Platycercus* *div. spec.* **Platycercinae** (nat. hyb., capt. hyb.) McCarthy 2006, Dumont 2012

Cyanoramphus novaezelandiae × *Eunymphicus comutus* **Platycercinae** (capt. hyb.) McCarthy 2006, Dumont 2012, Boon 2008 (genetic and behavioral suggest that *E. cornutus* is of hybridogeneous origin), avianhybrids 2026 (citing Boon 2008)

Chalcopsitta cardinalis × *Eclectus roratus* **Loriinae** (capt. hyb.) Gray 1958, Dumont 2012

Chalcopsitta sintillata × *Trichoglossus haematodus* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Charmosyna pulchella × *Neopsittacus musschenbroekii* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Eos bornea, histrio, reticulata × *Lorius lory* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Eos squamata × *Pseudeos fuscata* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Eos bornea, squamata × *Trichoglossus haematodus, ornatus* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Glossopsitta porphyrocephala × *Psitteuteles versicolor* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Glossopsitta concinna, porphyrocephala × *Trichoglossus chlorolepidotus, haematodus* **Loriinae** (nat. hyb., capt. hyb.) McCarthy 2006, Dumont 2012, Hingston 2022, avian hybrids 2026

Lorius garrulus × *Pseudeos fuscata* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Lorius domicella, garrulus × *Trichoglossus haematodus, ornatus, rubritorquis* **Loriinae** (capt. hyb.) McCarthy 2006 (not in fig. 5), Dumont 2012

Neophema chrysostoma × *Nymphicus hollandicus* **IF Platycercinae** × **Cacatuidae** (nat. hyb.) Gray 1958, McCarthy 2006 (“?”), Dumont 2012

Neophema splendida × *Polytelis alexandrae* **ISF Platycercinae** × **Psittaculinae** Marshall 2005b <http://www.talkingbirds.com.au/scarlet.php>

Neopsittacus musschenbroekii × *Psitteuteles goldiei* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Northiella haematogaster × *Platycercus adscitus* **Platycercinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Northiella haematogaster × *Psephotus* div. spec. **Platycercinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Nymphicus hollandicus × *Psephotus haematonotus* **Cacatuidae** × **Psittaculidae** IF, see **Cacatuidae**

Phigys solitarius × *Pseudeos fuscata* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Pionopsitta pileata × *Platycercus caledonicus* IF **Psittacidae** × **Psittaculidae**, see **Psittacidae**

Platycercus eximius × *Polytelis swainsonii* ISF **Platycercinae** × **Psittaculinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Platycercus div. spec. × *Psephotus* div. spec. **Platycercinae** (capt. hyb., nat. hyb.) McCarthy 2006, Dumont 2012

Platycercus elegans × *Psittacula krameri* ISF **Platycercinae** × **Psittaculinae** McCarthy 2006 (“?”), Dumont 2012

Platycercus div. spec. × *Purpureicephalus spurius* **Platycercinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Polytelis alexandrae × *Psephotus haematonotus* **Psittaculinae** × **Platycercinae** ISF (capt. hyb.) McCarthy 2006, Dumont 2012

Polytelis alexandrae × *Psittacula krameri* **Psittaculinae** (capt. hyb.) McCarthy 2006 (“?”), Dumont 2012

Pseudeos fuscata × *Trichoglossus haematodus* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

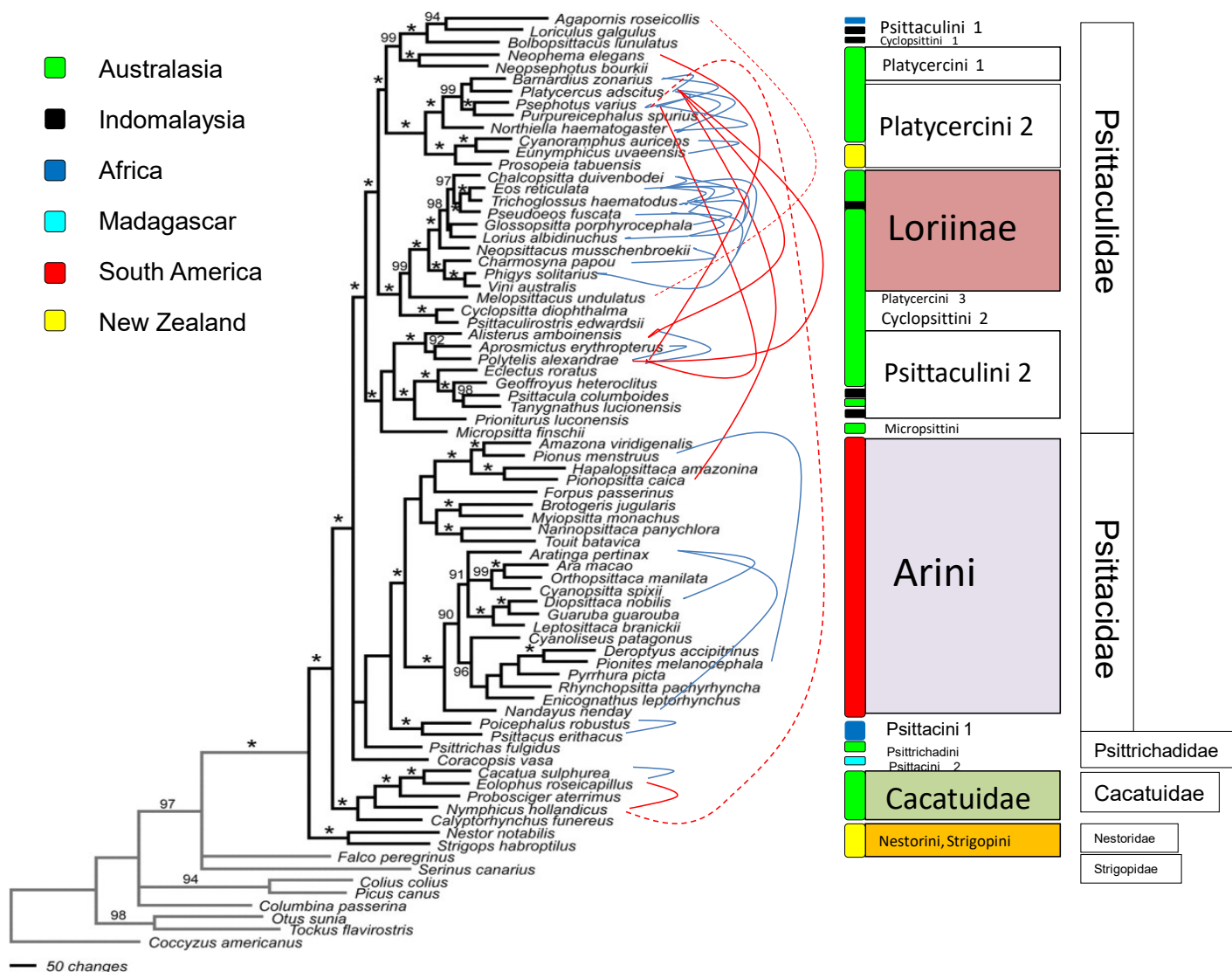
Psitteuteles goldiei, versicolor × *Trichoglossus euteles, rubritorquis* **Loriinae** (capt. hyb.) McCarthy 2006, Dumont 2012

Psittaciformes: Strigopidae (= Nestoridae) 2: 4

Keas

Nestor 3, *Strigops* 1.

Part of basic type Psittaciformes.



Psittaciformes: intergeneric hybrids in the phylogeny of Wright et al. (2008), from Landgren et al. (2011). From left to right: phylogram, distribution, taxonomy according to Del Hoyo et al. 1997, families according to en.wikipedia 2010. dashed lines = questionable. – In 2025 Nestoridae and Strigopidae have been lumped to Strigopidae. Psittaculidae are now included in Psittaculidae.

References:

- Boon W-M et al. 2008) Morphological, behavioural and genetic differentiation within the Horned Parakeet (*Eunymphicus cornutus*) and its affinities to *Cyanoramphus* and *Prosopaea*. Emu 108 (3), 251–260. <https://doi.org/10.1071/MU07030>
- Hernández-Brito D et al. (2021). Successful hybridization between non-congeneric parrots in a small introduced population. Ibis 163 (3), 1093–1098. *Amazona* × *Pionus*
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- Landgren L, Gustafsson L & Kutzelnigg H (2011) Grundtypstudien an Papageien. Studium Integrale J. 18, 4–16. <https://www.sijournal.de/index2.php?artikel=jg18/heft1/sij181-1.html> revised and enlarged German version of Landgren & Gustafsson (2010). Google offers an English translation of the paper.
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- Marshall L (2005b) World first: Scarlet-chested parrot breeds with princess parrot. Talking Birds. Australian Talking Bird's Newspaper. <http://www.talkingbirds.com.au/scarlet.php>
- Ottenburghs (2023) <https://avianhybrids.wordpress.com/2023/04/12/some-hybrid-parrots-dont-care-about-boundaries-between-genera/>
- Rosseel N (2018) A lot of hybrid parrots. <https://avianhybrids.wordpress.com/2018/07/24/readers-hybrids-a-lot-of-hybrid-parrots/> some excellent photos of parrot hybrids and their parents.
- Silva (1996) The genus *Diopsittaca*. Mag. Parrot Soc. 30.

Pterocliiformes 1 extant family 2: 16

Pterocliiformes: Pteroclididae* 2: 16

sand grouses = **Flughühner**

Formerly placed in so different orders as Charadriiformes, Galliformes and Columbiformes.

Syrhaptes 2, *Pterocles* 14.

Probably **basic type family Pteroclididae*** (2: 16): uniform and isolated family with a unique set of characteristics. Sole family of the order.

IS: McCarthy (2006), p. 168: no confirmed hybrids are known.

Rheiformes 1 family, 1: 2 (Palaeognathae)

Rheiformes: Rheidae* 1: 2 + fossil taxa

rheas = **Rheas**

Some authors prefer to split *Rhea* in two genera (cf. Mountjoy 2025). In this case the hybrid is intergeneric. The time of divergence is 20 million years!

Rhea (= *Pterocnemis*^o) *pennata*, *Rhea americana*.

Basic **type family Rheidae*** (1: 2) as an isolated family. The 2 species (or genera) are connected by hybridization. – See also the comments of Tyler (2025, p. 306 f.) in her list of “candidates for basic type status”. She writes: “future data may shed light on whether or not this is a more inclusive group encompassing the ostrich and other members of the order [Struthioniformes s. l.]”.

IS: McCarthy (2006) p. 39: *Rhea* 1 IS.

avian hybrids (2026): *Rhea* 1 IS (capt. hyb. genetically confirmed, Delsuc et al. 2007)

References:

Delsuc F et al. (2007) Molecular evidence for hybridisation between the two living species of South American ratites: potential conservation implications. *Conserv Genet* 8, 503–507. <https://doi.org/10.1007/s10592-006-9179-9>

Mountjoy DJ (2025) Proposal (1046) to South American Classification Committee. Restore the monotypic genus *Pterocnemis* for *Rhea pennata*.

<https://www.museum.lsu.edu/~Remsen/SACCprop1046.htm>

Sphenisciformes 1 family, 7: 20

Sphenisciformes: Spheniscidae* 7: 20 + extinct taxa

penguins = Pinguine

Aptenodytes 2, *Eudyptes* 8, *Eudyptula* 1 minor, *Megadyptes* 1 antipodes, *Pygoscelis* 3, *Spheniscus* 4.

Probably **basic type family Spheniscidae*** (7: 20) as a uniform family with its well-known unique characteristics. Intergeneric hybrids have not been reported, but several interspecific hybrids are known (. – Interestingly, all known fossil taxa exhibit the typical penguin form (short and thick fused tarsus and metatarsus) and are phylogenetically not too distant from the extant taxa (see Ksepka et al. 2006). The species in the respective genera *Eudyptes*, *Pygoscelis* and *Spheniscus* each are connected via hybridization, see the phylogram of Ksepka et al. (2006, fig. 2+3). So, it seems possible that all penguins can be included in one basic type. – See also the comments of Tyler (2025, p. 311+332) in her list of candidates for basic types.

IS: McCarthy (2006), p 194 f.: *Eudyptes* 5 IS (*chrysocome* × *chrysolophus*; *chrysocome* × *schlegeli*; *chrysocome* × *sclateri*; *chrysolophus* × *schlegeli*; *pachyrhynchus* × *robustus*), *Eudyptula* 1 IS (*minor* ssp. *albesignata* × *minor* ssp. *minor*), *Pygoscelis* 2 IS (*adeliae* × *antarctica*; *adeliae* × *papua*), *Spheniscus* 3 IS (*demersus* × *humboldti*; *demersus* × *magellanicus*; *humboldti* × *magellanicus*).

See also Ottenburghs (2025), table 1. <https://doi.org/10.1007/s00300-025-03405-6>: reliable hybrids are underlined by a wavy line in the text above

References:

Ksepka DT et al. (2006) The phylogeny of the living and fossil Sphenisciformes (penguins). *Cladistics* 22, 412–441. <https://doi.org/10.1111/j.1096-0031.2006.00116.x>
Ottenburghs J (2025) Do ocean currents shape patterns of penguin hybridization? *Polar Biol* 48, 87 <https://doi.org/10.1007/s00300-025-03405-6>

Steatornithiformes 1 family

Steatornithiformes: Steatornithidae* 1: 1

oilbirds = Fettschwalme

Monotypic: *Steatornis caripensis*.

Probably **basic type family Steatornithidae*** (1: 1) as a monospecific, isolated family and only family of the order.

Strigiformes 2 families 27: 248 + 4 extinct families

owls = Eulen

2 extant families: *Strigidae* 25: 228, *Tytonidae* 2: 20.

McCarthy (2006, p. 156) writes: “Note: ... since these nocturnal, furtive birds are relatively poorly investigated any hybridization that might be occurring is less likely to be recognized than in other, better studied groups.”

Probably **basic type order Strigiformes** (27: 248), as for the extant species: Scholl (2024). Extremely isolated order with many autapomorphies, see Scholl (2024). Probably many or rather all extinct taxa can be included here as well.

Familie	Unterfamilie	Tribus	Gattungen
Tytonidae	Tytoninae		Tyto*
	Phodilinae		<i>Phodilus</i>
Strigidae	Striginae	Bubonini	Bubo* (inkl. <i>Nyctea</i> , <i>Ketupa</i> & <i>Scotopelia</i>)
		Strigini	Strix** & <i>Jubula</i>
		Pulsatrigini	<i>Pulsatrix</i> & <i>Lophostrix</i>
		Megascopini	<i>Megascops</i> & <i>Psilosops</i>
	(Asioninae)	Asionini	Asio** & <i>Ptilopsis</i>
		Otini	<i>Otus</i> & <i>Mimuzuku</i>
	Surniinae	Surniini	<i>Surnia</i> , <i>Glaucidium</i> , <i>Taenioglaux</i> & <i>Athene</i>
		Aegolini	<i>Aegolius</i>
	Ninoxinae		<i>Ninox</i> , <i>Uroglaux</i> & <i>Sceloglaux</i>

Strigiformes: systematics of the order after Wink 2016 (cf. Scherzinger 2017, Tab. 2), from Scholl 2024.

Strigiformes: Strigidae 25: 228. 1 IT + 1 ISF + 1 IF

true owls = Eigentliche Eulen

4 subfamilies.

Asio 9, *Athene* 9, *Bubo* 10, *Ketupa* 122, *Megascops* 22, *Ninox* 38, *Otus* 58, *Strix* 21, *Surnia* 1, ...

Family Strigidae is part of the basic type Strigiformes, see above.

IS: Mc Carthy 2006, p. 155–156: *Aegolius* 1 IS, *Asio* 1 IS, *Athene* 1 IS, *Bubo* 5 IS, *Ninox* 1 IS, *Otus* 3 IS, *Strix* 4 IS.

See also Mikkola (2005), Dumont (2017), Scherzinger (2017), avianhybrids (2026)
<https://avianhybrids.wordpress.com/strigiformes>, Scholl 2024.

Asio clamator (= *Rhinoptynx*°) × *Tyto alba* IF Strigidae × Tytonidae (capt. hyb.) Flieg 1971, McCarthy 2006 („two fertile eggs“), Dumont 2012

Asio otus × *Strix aluco* ISF Asioninae Asionini × Striginae Strigini Scherzinger 2017 (capt. hyb., p. 118, fig. 9), Scholl 2024

Athene noctua × *Speotyto*° (= *Athene*) *cunicularia* IS Surniinae Surniini (capt. hyb.) McCarthy 2006, Dumont 2012

Bubo bubo, *virgianus* × *Strix nebulosa* IT Striginae Bubini × Striginae Strigini (capt. hyb.) McCarthy 2006, Dumont 2012

Strigiformes: Tytonidae 2: 20 (1 IF)

barn owls = Schleiereulen

2 subfamilies:

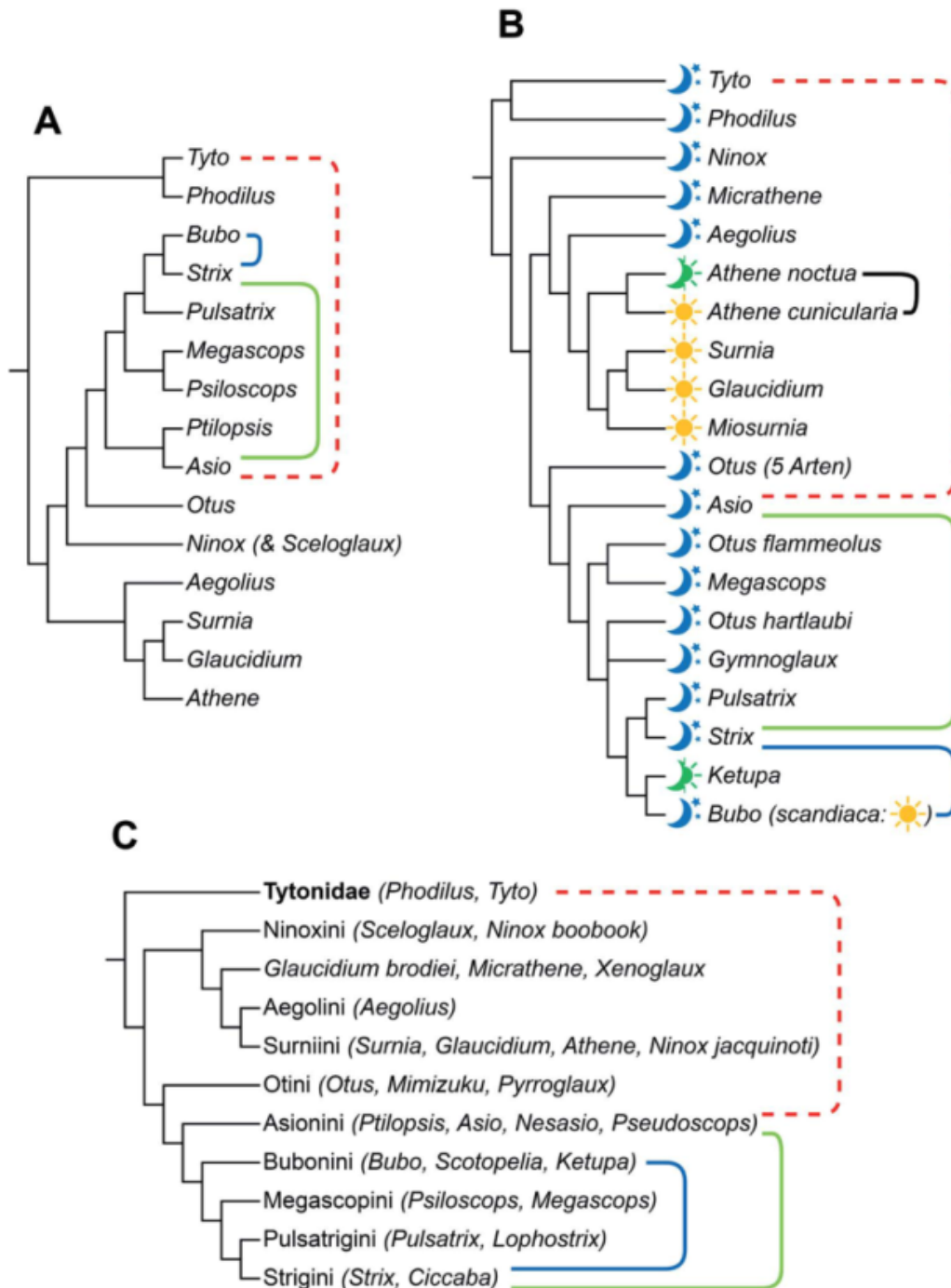
Tytoninae 1: 18 *Tyto* 18.

Phodilinae 1: 2 *Phodilus* 2.

Family Tytonidae is part of basic type Strigiformes, see above.

IS: Mc Carthy 2006, p. 155: *Tyto 2 IS* (hybrid zones).

Asio clamator (= *Rhinoptynx*^o) × *Tyto alba* IF Strigidae × Tytonidae (capt. hyb.) Flieg 1971, McCarthy 2006 („two fertile eggs“), Dumont 2012



Strigiformes: hybrids in the phylogeny of **A:** Wood et al. (2016, Fig. 1); **B:** Li et al. (2022, Fig. 4); **C:** DNA-based systematics after Salter et al. (2020, Fig. 2a+b). The dotted red line indicates successful hybridization, resulting in embryos that have undergone at least half of their embryonic development

in the egg, this is sufficient as indication of a basic type (cf. Scholl 2024 and Scherer 1993), from Scholl 2024.

References:

- Flieg GM (1971) Tytonidae × Strigidae cross produces fertile eggs. The Auk 88, 178.
- Mikkola H (2005) Fremde im Dunkeln: Hybridisierung zwischen verschiedenen Eulenarten. Kauzbrief 17, 7–14. <https://www.ag-eulenschutz.de/kauzbrief-archiv/interspecific>
- Scherzinger W (2017) Eulen-Hybride (Strigiformes), unerwünscht im Artenschutz – doch aufschlussreich für taxonomische Vergleiche. Ornithol. Anz 55, 109–121. <https://www.researchgate.net/publication/321162570>
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Struthioniformes 1 family, 2 species (Palaeognathae)

Struthioniformes: Struthionidae* 1: 2

ostriches = Strauße

Struthio 2.

Basic type family Struthionidae* (1: 2): isolated monogeneric family. The two species are connected by hybridization.

McCarthy (2006), p. 39 *Struthio* 1 IS (*camelus* × *molybdophanes*)

Suliformes 4 families, 54 species

gannets, cormorants and allies = Ruderfüßer

Formerly part of Pelecaniformes.

Anhingidae 1: 4.

Fregatidae 1: 6.

Phalacrocoracidae 7: 34.

Sulidae 3: 11.

Suliformes: Anhingidae 1: 4

darters = Schlangenhalsvögel

Anhinga 4.

Possibly **basic type family Anhingidae (1:4)**. Isolated family with unique characteristics. Sister clade of Phalacrocoracidae.

Suliformes: Fregatidae 1: 5

frigatebirds = Fregattvögel

Fregata 5.

Probably **basic type family Fregatidae** (1:5) as an isolated distinct monogeneric family.

Suliformes: Phalacrocoracidae 7: 34. 2 IG

cormorants and shags = Kormorane und Scharben

Formerly lumped in one genus *Phalacrocorax*.

Sometimes considered as a separate order.

Gulosus 1, *Leucocarbo* 9, *Microcorba* 5, *Nannopterum* 3, *Phalacrocorax* 11, *Poikilicarbo* 1, *Urile* 4.

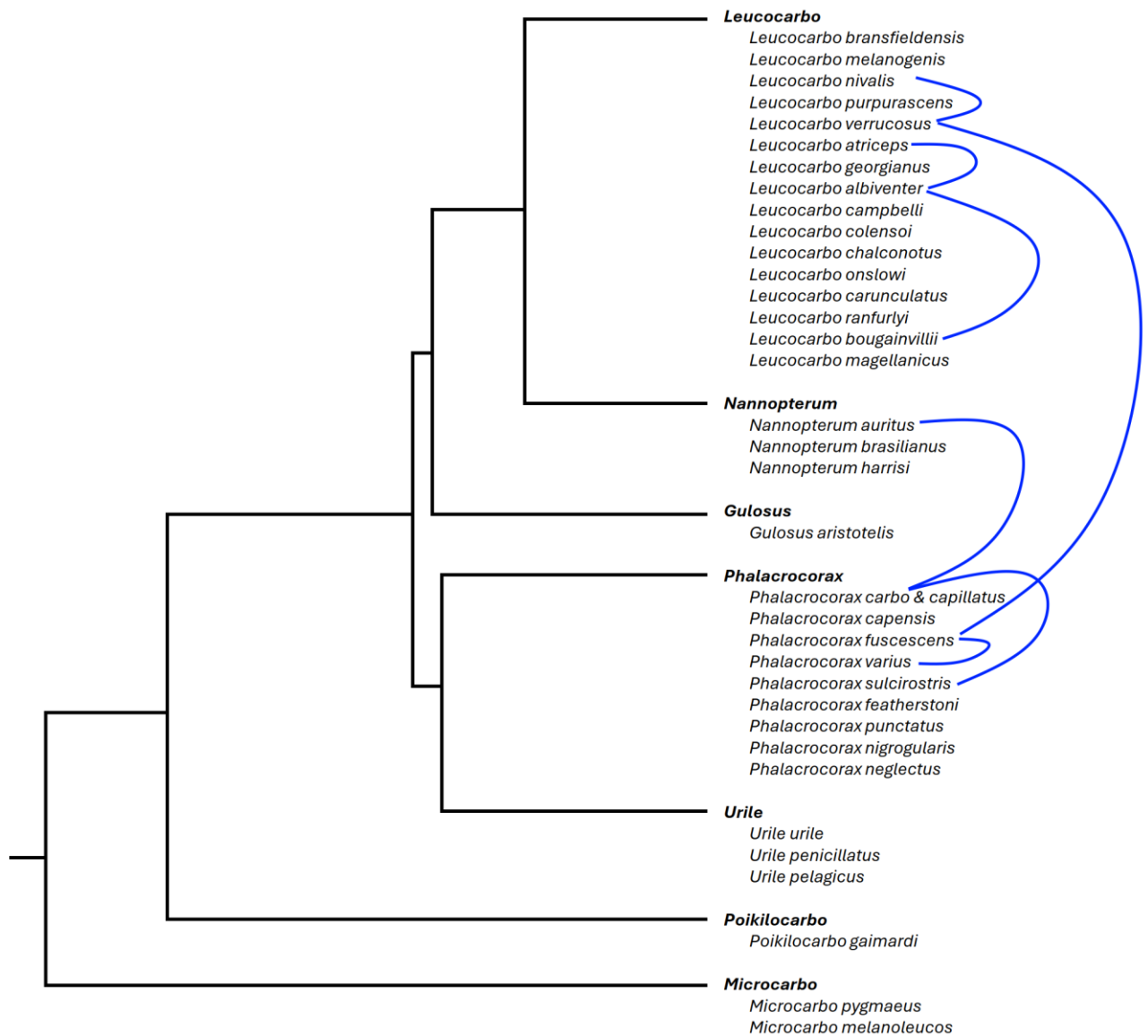
Probably **basic type family Phalacrocoracidae** (7: 34): isolated family, 5 of the 7 genera are connected by hybridization, see the figure below. Sister clade of **Anhingidae**.

IS: McCarthy 2006, p. 188f., all hybrids sub *Phalacrocorax*: *Leucocarbo* 3 IS (*albiventer* × *atriceps*, now often lumped; *carbo* × *sulcirostris*; *nivalis* × *verrucosus*), *Microcarbo* 1 IS (*africanus* × *pygmaeus* “??”), *Phalacrocorax* 1 IS (*fuscescens* × *varius*).

Further IS in Dumont 2012, sub *Phalacrocorax*: *Leucocarbo* (*campbelli* × *colensii*).

Nannopterum (“*Phalacrocorax*”) *auritum* × *Phalacrocorax carbo* McCarthy 2006, Dumont 2012

Leucocarbo (“*Phalacrocorax*”) *verrucosus* × *Phalacrocorax fuscescens* McCarthy 2006



Phalacrocoracidae: hybrids in the phylogeny of Kennedy M & Spencer HG (2014, fig. 1)
<http://dx.doi.org/10.1016/j.ympev.2014.06.020>.

Suliformes: Sulidae 3: 11 + extinct genera

boobies and gannets = Tölpel

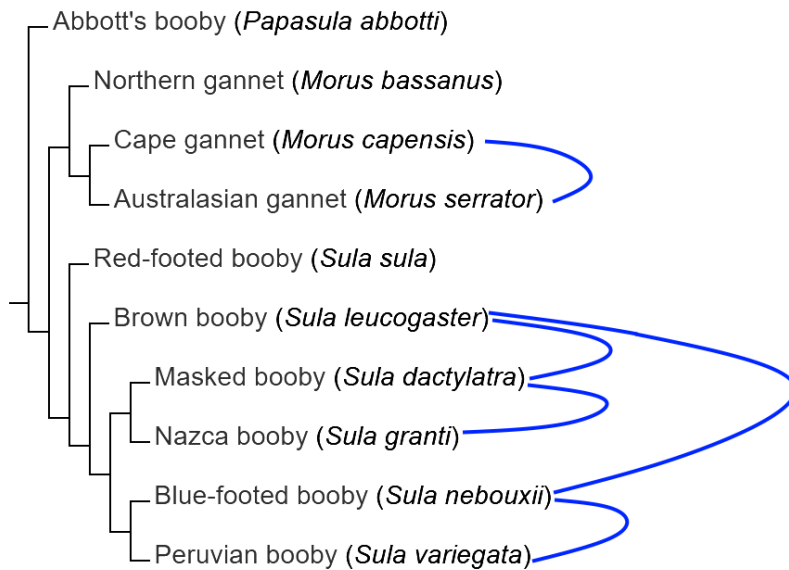
Morus 3 *bassanus*, *capensis*, *serrator*, *Papasula* 1 *abbottii*, *Sula* 6 *dactylarthra*, *grantii*, *leucogaster*, *nebouxia*, *sula*, *variegata*.

Probably basic **type family Sulidae** (3: 11) as an isolated family. In the largest genus *Sula* 4 interspecific hybrids connect 5 of 6 species, see the figure below.

IS: McCarthy (2006), p. 188: *Morus* 1 IS, *Sula* 1 IS.

Dumont (2012): *Morus* 1 IS (*capensis* × *serrator*), *Sula* 4 IS (*dactylarthra* × *grantii*; *dactylarthra* × *leucogaster*; *nebouxia* × *leucogaster*; *nebouxii* × *variegata*).

avianhybrids (2026): *Sula* 1 IS (*nebouxii* × *variegata*, morphologically and genetically confirmed).



Sulidae: hybrids in the phylogeny of Patterson et al. (2011) [doi:10.1016/j.ympev.2010.11.021](https://doi.org/10.1016/j.ympev.2010.11.021), from en.wikipedia (2026, CC BY SA 4.0).

References:

Patterson SA et al. (2011) A multilocus phylogeny of the Sulidae (Aves: Pelecaniformes). *Molecular Phylogenetics and Evolution*. 58 (2), 181–191.
[doi:10.1016/j.ympev.2010.11.021](https://doi.org/10.1016/j.ympev.2010.11.021)

Tinamiformes 1 family, 46 species (Palaeognathae)

Tinamiformes: Tinamidae* 9: 46 + extinct taxa

tinamous = Steißhühner

Formerly grouped with Galliformes.

Tinaminae 3 *Crypturellus* 25, *Nothocercus* 3, *Tinamus* 1.

Nothurinae 6 *Eudromia* 2, *Nothoprocta* 6, *Nothura* 4, *Rhynchotus* 2, *Taoniscus* 1, *Tinamotis* 2.

IS: McCarthy (2006), p. 39: *Crypturellus* 1 IS (*boucardi* × *cinnamomeus*, confirmed by Ottenburghs (2021); divergence time >17 mya.

Dumont (2017): *Crypturellus* 1 IS, *Eudromia* 1 IS (*elegans* × *formosa*, unconfirmed according to Ottenburghs 2021), *Rhynchotus* (*maculicollis* × *rufescens*, dito).

avianhybrids (2026) lists the hybrids of Dumont (2should be treated with caution).

Nothoprocta cinerascens × *Nothura boraquira* **Nothurinae** Dumont 2017, **unconfirmed** according to Ottenburghs 2021

References:

Ottenburghs J (2021) An evidence-based overview of hybridization in tinamous. Ornithol. Res. 29, 113–117. <https://doi.org/10.1007/s43388-021-00049-y>

Trogoniformes 1 family

Trogoniformes: Trogonidae* 7: 47

trogons = Trogone

Apalherpactes 2, *Apaloderma* 3, *Euptilotis* 1, *Harpactes* 10, *Pharomachrus* 5, *Priolus* 2, *Trogon* 24.

Probably **basic type family Trogonidae*** (7: 47): isolated position, uniform, with unique characteristics. Sole family of the order. Intergeneric hybrids are so far unknown.

McCarthy (2006), p. 116 f: *Apaloderma* 1 IS, *Pharomachrus* 1 IS, *Trogon* 5 IS.