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Handbook of Waterfowl Behavior: Summary and Synopsis of the Family Anatidae

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Summary

The major sexual behavior patterns of the species of Anatidae may now be reviewed and summarized, for the purpose of clarifying evolutionary relationships in the family, tracing the evolution of behavior patterns through various taxa, and evaluating the importance of certain behavior patterns as potential isolating mechanisms.

The subfamily Anseranatinae includes the monotypic magpie goose, which exhibits numerous anatomical and behavioral peculiarities. The female, at least in captivity, usually builds several "dummy" nests which are simply heaps of grass or herbs. The male assists in nest-building and incubation, and also defends the nest vigorously. Both parents feed the young, and this represents the only instance of well-developed parental feeding in the Anatidae. Males assist in rearing the young, and family bonds are strong. Threat behavior is not highly ritualized. Wing-shaking appears to be a low-intensity threat, and also seems to function as a rudimentary Triumph Ceremony, occurring after aggressive encounters. Copulation takes place on or near the nest site, and the male evidently does not grasp the female's nape during treading. Preflight signals consist of lateral Head-shaking movements and associated calling.

The subfamily Anserinae (whistling ducks, swans, and true geese) is like the Anseranatinae in that there is little or no sexual dimorphism in plumages, voices, and behavior, and the pair bond is relatively strong and permanent. Although sexual behavior is remarkably uniform throughout the entire subfamily, threat behavior is complex and varies greatly. In both tribes the male assists with

nest building and the rearing of the young, but in only some species do males take part in incubation.

The tribe *Dendrocygnini* comprises eight species of whistling ducks. Behaviorally, the species differ primarily in their vocalizations and, to a lesser degree, their threat behavior. Aggressive displays are highly developed, and small groups often threaten other birds. There does not, however, appear to be any real Triumph Ceremony present in any species. Mutual preening occurs in most and possibly all species and is not restricted to mated birds. Family bonds appear to be strong, and individual recognition is probably at least in part based on variations in calls. In all the species studied, precopulatory behavior consists of mutual displays that appear to be derived from bathing, bill-dipping, or drinking movements. As a postcopulatory display both birds of a pair call loudly and rise in the water in a Step-dance, side by side, usually raising the wing farthest from the other bird to a position directly vertical but bent at the wrist. Two species lack such an elaborate postcopulatory display, and in these species copulation normally occurs on shore or in shallow water.

The swans and true geese of the tribe *Anserini* are clearly closely related, and it is concluded that they should be retained in a single tribe. Unlike the whistling ducks they do not become sexually mature before they are two or more years old. All swans and geese except possibly the coscoroba swan have a conspicuous Triumph Ceremony that is performed by members of a pair or family after the extrusion of an "enemy." This ceremony takes different forms in various species. Lower intensities of the Triumph Ceremony are utilized as greeting ceremonies. In swans preflight movements consist of mutual calling with strong upward Neck-stretching movements, or simply of slimming the plumage and holding the neck erect without calling. In the geese, preflight movements are mainly lateral Head-shakes associated with special vocalizations. One type of threat in swans consists of ruffling the neck feathers, whereas in geese it consists of vibrating the neck feathers, and the vertical striations of the neck feathers in most geese appear to function in making this display more conspicuous. Some swans raise their folded wings while threatening; others hold the wings close to the body or spread them wide. In several species of swans the general body shake is used as a threat display, and in a few species wing-flapping serves as a threat display as well. In the true geese the folded wings are often shaken or alter-

nately lifted during threat display, and various neck postures indicate different levels of aggression.

In all the true geese and swans, precopulatory behavior consists of mutual Head-dipping that may be derived from bathing movements. In most geese the tail is strongly tilted upward and thus the undertail coverts are exhibited. Postcopulatory displays vary considerably. The coscoroba swan, which is swanlike in its aggressive behavior, has precopulatory and postcopulatory displays similar to those of some swans and geese, and is possibly a link between the swans and true geese.

The Cape Barren goose is gooselike in its voice and aggressive behavior, possessing a conspicuous Triumph Ceremony and threat displays that include alternate wing-flicking and pumping movements of the neck. Therefore it is included in the Anserini. Copulation in this species occurs on land, and the precopulatory behavior lacks any movements resembling the Head-dipping of true geese. The postcopulatory display is unlike that of the typical sheldgeese, and approaches that of true geese. It is proposed that the freckled duck should also be included in the Anserinae, in a separate monotypic tribe Stictonettini. The behavior of this species, although still inadequately described, supports such a taxonomic placement.

Behaviorally most species of the subfamily Anatinae differ from those of the two preceding subfamilies in that pair bonds are less strong and tend to be renewed every year, often with different mates. The major result of this is that there tend to be two body molts, and thus two plumages, each year. One of these plumages, the nuptial, is associated with pair formation and is generally more elaborate in males than in females. Male courtship patterns tend to be more elaborate and more diversified, since pairs must be formed repeatedly, usually in a matter of a few months each year, throughout an individual's lifetime. Female courtship patterns are more uniform than are those of males, and copulatory behavior patterns tend to be very similar in related species. Unlike the species of preceding tribes, most species of this tribe do not perform Triumph Ceremonies, and pair bonds appear to be developed instead by the combination of female Inciting and the preferred male responding sexually or with appeasement gestures toward the female.

The shelducks and sheldgeese of the tribe Tadornini link, morphologically and behaviorally, the true geese and the true ducks. In

some genera there are no seasonal plumage differences, and there may possibly be only one body molt per year. In the blue-winged goose the voices of the sexes are practically alike, but in all species there are major sexual differences in the tracheal structure. In nearly all genera the female exhibits a distinct Inciting display, and the male usually responds with threats or overt attacks toward the indicated enemy, alternating these with sexual displays toward the female. The sexual displays are often fairly simple, but in the Orinoco goose and some species of *Chloëphaga* the sexual note, a two-syllable call rather than the one-syllable threat note, is accompanied by a Puffing display. A mutual Bowing display also occurs in several species of *Chloëphaga*. Preening-behind-the-wing is encountered in the common shelduck, in which it is used as a precopulatory display as well as a courtship display.

Precopulatory behavior is practically identical in the species of this tribe, and consists of mutual Head-dipping movements. In some sheldgeese, copulation occurs while the birds are standing in shallow water; in the other species it occurs in water of swimming depth. In the genera observed thus far the postcopulatory display consists of the male holding on to the female's nape for several seconds as both call; then the male releases her and assumes a High-and-erect posture, usually lifting the far wing in a manner reminiscent of the postcopulatory display of whistling ducks. The female may lift her wing in the same fashion or may begin to bathe immediately.

Evidence indicates that the steamer ducks differ in numerous behavioral respects from the shelducks and that the two groups should probably be tribally separated. The most elaborate male posture of the three steamer ducks is much like the High-and-erect posture of male shelducks, but it appears that female steamer ducks lack an Inciting display. Precopulatory behavior of the flying steamer duck apparently consists of mutual Head-dipping, and the postcopulatory display involves both birds swimming apart in an alert posture while Grunting and Head-flagging.

Evidence from behavior, tracheal anatomy, and hybridization indicates that the perching ducks of the tribe Cairinini belong between the shelducks and the surface-feeding ducks. The ringed teal (*Callo-netta*) is included as a monotypic genus of perching ducks. Behaviorally, the perching ducks resemble shelducks in that the included species are primarily hole-nesters, and some genera require two years

to reach maturity. Pair bonds in the group are temporary, however, and, in some species, practically absent. In the larger forms there is relatively little dimorphism of plumage, and displays tend to be simple, with the same postures used for aggression as for courtship. Hartlaub's duck shows some affinities with these larger forms but differs considerably in downy and adult plumages as well as in behavior; therefore this species is retained in the monotypic genus *Pteronetta*. The rest of the perching ducks are smaller, more specialized forms that mature in their first year and show little dimorphism in size but considerable dimorphism in plumage, with male plumages often being complex in pattern. Pair bonds are stronger in these species, displays and vocalizations more elaborate, and overt aggressive behavior less frequent. Females of these species also possess Inciting displays. Male courtship displays consist of ritualized shaking and drinking movements as well as Preening-behind-the-wing. Turning-the-back-of-the-head occurs in males of some genera, and Chin-lifting is often associated with that display. Among perching ducks the precopulatory displays are unusually variable. In a few genera they are practically absent, while in others Bill-dipping, Head-dipping, or Head-pumping movements are utilized by one or both sexes. Postcopulatory behavior differs in the two sexes, with the female simply bathing immediately and the male usually calling as he swims away from the female or turns and Faces her.

The marked success of the tribe Anatini, in terms of numbers of species and individuals, is probably related to the fact that the included species for the most part have generalized feeding and nesting requirements, that they mature in one year, and that they have a high reproductive potential. The females of all species of *Anas* have marked Inciting displays and distinctive Decrescendo Calls ranging in syllables from one to more than twenty. Males of most and perhaps all species perform a conspicuous Turning-the-back-of-the-head display as well as a courtship call or Burp, and males of most species also perform Preening-behind-the-wing. Preflight movements in all species consist of rapid Neck-jerking and lateral Head-shaking. Precopulatory displays consist of mutual Head-pumping; male postcopulatory displays include calling once, with or without any additional displays. Fairly complex courtship postures are typical of males of most species. The Grunt-whistle, Bridling, the Head-up-tail-up, and

the Down-up are the major *Anas* displays, and are found in most species other than the wigeons, blue-winged ducks, and a few others. It is evident that one or more of these displays has been secondarily lost in various species, and in other species some of these displays are linked in different combinations, which results a display specificity for each species. Courtship displays in the wigeon group consist primarily of ritualized aggressive behavior, and in the blue-winged ducks ritualized feeding and up-ending are the primary courtship postures. The marbled teal deviates from *Anas* in several behavioral and morphological respects, and it is placed in the monotypic genus *Marmaronetta*. The precopulatory displays of the marbled teal, which include Bill-dipping, Drinking, and Preening-dorsally, are unlike those of any species of *Anas* and very much like those of the Aythyini. The postcopulatory displays are likewise almost identical to those of the Aythyini.

The pochard tribe Aythyini consists of a remarkably homogeneous group of species, both behaviorally and anatomically. Besides the two genera included in the group by Delacour and Mayr, the pink-headed duck is included in the tribe on plumage and anatomical grounds. Behaviorally, the pochards differ from the Anatini in that female pochards apparently lack Decrescendo Calls, and the courtship postures of males include the Kinked-neck call, Coughing, Neck-stretching, Sneaking, and the Head-throw. These displays are similar in form in most species, and differ primarily in their associated vocalizations. Females have an Inciting display similar to that of *Anas* females, and males of most and probably all species Turn-the-back-of-the-head to Inciting females. Females of a few species regularly perform the Head-throw and Kinked-neck call displays. Mutual Preening-behind-the-wing also occurs in many species. Precopulatory behavior in most species consists of mutual Bill-dipping and Preening-dorsally, with a rudimentary, *Anas*-like Head-pumping occurring in five species. The male mounts as soon as the female begins to flatten out on the water. The postcopulatory display is the same in all species studied. The male calls once, then swims away from the female in a Bill-down posture. The female may adopt the same posture for a short time, or she may begin to bathe immediately. Preflight signals consist mainly of rapid, repeated Chin-lifting movements and, less commonly, lateral Head-shaking.

The tribe Mergini is here constituted as it was originally by

Delacour and Mayr, and includes the eiders, which were later separated from the other sea ducks by Delacour. The closest relatives of the Mergini are probably the Aythyini, but the two tribes differ in that most species of Mergini are saltwater forms that consume primarily animal material and do not become sexually mature before their second or third year. Behaviorally, females of most and possibly all species have Inciting displays which, although they differ greatly in form, are apparently identical in function and are probably homologous. In several species Inciting is accompanied by marked chin-lifting movements. Male courtship displays vary to an astonishing degree, even among closely related species. The only male displays which occur in more than one genus are the Upward-stretch, Wing-flapping, Head-turning, and Tail-cocking. Copulatory behavior is much more useful in assessing relationships. In all species studied, the female assumes the receptive, or Prone, posture before the male attempts to mount, at which time he performs various precopulatory displays. These usually include movements derived from drinking, shaking, stretching, or preening, which may be different from the corresponding comfort movements or essentially identical with them. In a few species some of the courtship displays are also performed. In some species the male mounts only after performing a complicated, stereotyped sequence of displays. During treading, males of some species loudly Flick-the-wings, and in some the male retains hold of the female's nape for several seconds after treading is completed, so that the two birds Rotate in a circle. Females of all species normally begin to bathe immediately after being released by the male, but male postcopulatory displays are varied. In some genera the male performs a single courtship display immediately after treading, Steams away from the female, or does not display at all. Preflight movements consist only of lateral Head-shaking in all species studied.

The stiff-tailed ducks of the tribe Oxyurini are the most inadequately studied group of the entire family. The black-headed duck appears to be anatomically the least specialized of the group and exhibits some similarities of behavior and structure to the dabbling ducks, which are perhaps the Oxyurini's closest, although distant, relatives. Behaviorally, the Oxyurini is difficult to characterize because so little is known about most species, but it appears that auditory signals may play a more important role in the sexual behavior of the stiff-tails than in the other tribes. Associated with this is the fact

that males of most species have inflatable structures, derived from the trachea, esophagus, or pharynx, which are presumably the sources of most of the male courtship calls. These are lacking in the white-backed duck, and both sexes of this species possess a whistling voice and tracheal anatomy similar to those of the whistling ducks. In at least two species the major courtship display consists of the male repeatedly drumming his bill on an inflated tracheal air sac. In one other species the display appears to consist of the inflation and subsequent deflation of the esophagus by jerky head and neck movements, and also breast preening. Jerky head movements are also a part of the display of male black-headed ducks and may function in a similar way. In all species except the white-backed duck a cocked-tail display occurs, and stretching the neck and head out over the water has been described for several species of *Oxyura*, as well as vertical head-bobbing. Precopulatory and postcopulatory behavior is known for only a few species, and in all cases these displays are distinctly different from copulatory displays in other tribes. In the ruddy duck, precopulatory displays include Bill-dipping followed by lateral Bill-flicking.

Appendix

Synopsis of the Family Anatidae

SUBFAMILY ANSERANATINAE

Tribe Anseranatini

Genus *Anseranas*

A. semipalmata Magpie Goose

SUBFAMILY ANSERINAE

Tribe Dendrocygnini

Genus *Dendrocygna*

D. guttata

D. eytoni

{ *D. bicolor**

{ *D. arcuata*

D. a. arcuata

D. a. australis

D. a. pygmaea

D. javanica

D. viduata

Spotted Whistling Duck

Plumed Whistling Duck

Fulvous Whistling Duck

Wandering Whistling Duck

East Indian Wandering
Whistling Duck

Australian Wandering Whistling
Duck

Lesser Wandering Whistling
Duck

Lesser Whistling Duck

White-faced Whistling Duck

* Braces indicate superspecies groups.

D. arborea
D. autumnalis
 D. a. autumnalis

D. a. discolor

Cuban Whistling Duck
 Red-billed Whistling Duck
 Northern Red-billed Whistling
 Duck
 Southern Red-billed Whistling
 Duck

Tribe Anserini

Genus *Cygnus*(Subgenus *Cygnus*)

C. olor
C. atratus
C. melanocoryphus

Mute Swan
 Black Swan
 Black-necked Swan

(Subgenus *Olor*)

{ *C. cygnus*
 C. c. cygnus
 C. c. buccinator
C. columbianus
 C. c. columbianus
 C. c. bewickii
 C. c. jankowskii

Whooper Swan
 Trumpeter Swan

 Whistling Swan
 Bewick's Swan
 Eastern Bewick's Swan

Genus *Coscoroba**C. coscoroba*

Coscoroba Swan

Genus *Anser*

A. cygnoides
A. fabalis
 A. f. fabalis
 A. f. johanseni
 A. f. middendorfi
 A. f. rossicus
 A. f. serratrostris
 A. f. brachyrhynchus

Swan Goose
 Bean Goose
 Western Bean Goose
 Johansen's Bean Goose
 Middendorf's Bean Goose
 Russian Bean Goose
 Thick-billed Bean Goose
 Pink-footed Goose
 White-fronted Goose
 European White-fronted Goose
 Pacific White-fronted Goose
 Greenland White-fronted Goose
 Tule Goose
 Lesser White-fronted Goose
 Graylag Goose
 Western Graylag Goose
 Eastern Graylag Goose
 Bar-headed Goose

{ *A. albifrons*
 A. a. albifrons
 A. a. frontalis
 A. a. flavirostris
 A. a. gambelli
A. erythropus
A. anser
 A. a. anser
 A. a. rubrirostris
A. indicus

- | | |
|-----------------------------|--------------------------------|
| <i>A. caerulescens</i> | Snow Goose |
| <i>A. c. caerulescens</i> | Lesser Snow Goose & Blue Goose |
| <i>A. c. atlanticus</i> | Greater Snow Goose |
| <i>A. rossi</i> | Ross's Goose |
| <i>A. canagicus</i> | Emperor Goose |
| Genus <i>Branta</i> | |
| (Subgenus <i>Nesochen</i>) | |
| <i>B. sandvicensis</i> | Hawaiian Goose |
| (Subgenus <i>Branta</i>) | |
| <i>B. canadensis</i> | Canada Goose |
| <i>B. c. canadensis</i> | Atlantic Canada Goose |
| <i>B. c. interior</i> | Central Canada Goose |
| <i>B. c. moffitti</i> | Great Basin Canada Goose |
| <i>B. c. maxima</i> | Giant Canada Goose |
| <i>B. c. parvipes</i> | Lesser Canada Goose |
| <i>B. c. taverneri</i> | Taverner's Canada Goose |
| <i>B. c. occidentalis</i> | Dusky Canada Goose |
| <i>B. c. fulva</i> | Vancouver Canada Goose |
| <i>B. c. leucopareia</i> | Aleutian Canada Goose |
| <i>B. c. hutchinsii</i> | Richardson's Canada Goose |
| <i>B. c. minima</i> | Cackling Canada Goose |
| <i>B. c. asiatica</i> | Bering Canada Goose |
| <i>B. leucopsis</i> | Barnacle Goose |
| <i>B. bernicla</i> | Brant Goose |
| <i>B. b. bernicla</i> | Dark-bellied Brant Goose |
| <i>B. b. hrota</i> | Light-bellied Brant Goose |
| <i>B. b. nigricans</i> | Lawrence's Brant Goose |
| <i>B. b. orientalis</i> | Black Brant |
| <i>B. ruficollis</i> | Red-breasted Goose |
| Genus <i>Cereopsis</i> | |
| <i>C. novae-hollandiae</i> | Cape Barren Goose |
| Tribe Stictonettini | |
| Genus <i>Stictonetta</i> | |
| <i>S. naevosa</i> | Freckled Duck |

SUBFAMILY ANATINAE

Tribe Tadornini

Genus *Cyanochen**C. cyanopterus*

Abyssinian Blue-winged Goose

Genus *Chloëphaga**C. melanoptera*

Andean Goose

C. picta

Magellan Goose

C. p. picta

Lesser Magellan Goose

C. p. leucoptera

Greater Magellan Goose

C. hybrida

Kelp Goose

C. h. hybrida

Patagonian Kelp Goose

C. h. malvinarum

Falkland Kelp Goose

C. poliocephala

Ashy-headed Goose

C. rubidiceps

Ruddy-headed Goose

Genus *Neochen**N. jubatus*

Orinoco Goose

Genus *Alopochen**A. aegyptiacus*

Egyptian Goose

Genus *Tadorna*(Subgenus *Casarca*){*T. ferruginea*

Ruddy Shelduck

T. cana

Cape Shelduck

T. variegata

Paradise Shelduck

T. tadornoides

Australian Shelduck

T. cristata

Crested Shelduck

(Subgenus *Tadorna*)*T. tadorna*

Common Shelduck

T. radjah

Radjah Shelduck

T. r. radjah

Black-backed Radjah Shelduck

T. r. rufitergum

Red-backed Radjah Shelduck

Tribe Tachyerini

Genus *Tachyeres**T. patachonicus*

Flying Steamer Duck

T. pteneres

Magellanic Flightless Steamer Duck

T. brachypterus

Falkland Flightless Steamer Duck

Tribe Cairinini

Genus *Plectropterus**P. gambensis*

Spur-winged Goose

P. g. gambensis

Gambian Spur-winged Goose

P. g. niger

Black Spur-winged Goose

Genus *Cairina**C. moschata*

Muscovy Duck

C. scutulata

White-winged Wood Duck

Genus *Sarkidiornis**S. melanotos*

Comb Duck

	<i>S. m. melanotos</i>	Old World Comb Duck
	<i>S. m. sylvicola</i>	South American Comb Duck
Genus	<i>Pteronetta</i> ("Cairina")*	
	<i>P. hartlaubi</i>	Hartlaub's Duck
	<i>P. h. hartlaubi</i>	Western Hartlaub's Duck
	<i>P. h. albifrons</i>	Eastern Hartlaub's Duck
Genus	<i>Nettapus</i>	
	<i>N. pulchellus</i>	Green Pygmy Goose
	<i>N. coromandelianus</i>	Cotton Pygmy Goose
	<i>N. c. coromandelianus</i>	Indian Cotton Teal
	<i>N. c. albipennis</i>	Australian Pygmy Goose
	<i>N. auritus</i>	African Pygmy Goose
Genus	<i>Callonetta</i> ("Anas")	
	<i>C. leucophrys</i>	Ringed Teal
Genus	<i>Aix</i>	
	<i>A. sponsa</i>	Wood Duck
	<i>A. galericulata</i>	Mandarin Duck
Genus	<i>Chenonetta</i>	
	<i>C. jubata</i>	Australian Wood Duck
Genus	<i>Amazonetta</i>	
	<i>A. brasiliensis</i>	Brazilian Teal
	<i>A. b. brasiliensis</i>	Lesser Brazilian Teal
	<i>A. b. ipecutiri</i>	Greater Brazilian Teal
Tribe Anatini		
Genus	<i>Hymenolaimus</i>	
	<i>H. malacorhynchus</i>	Blue Duck
Genus	<i>Merganetta</i>	
	<i>M. armata</i>	Torrent Duck
	<i>M. a. armata</i>	Chilean Torrent Duck
	<i>M. a. colombiana</i>	Colombian Torrent Duck
	<i>M. a. leucogenis</i>	Peruvian Torrent Duck
	<i>M. a. turneri</i>	Turner's Torrent Duck
	<i>M. a. garleppi</i>	Bolivian Torrent Duck
	<i>M. a. berlepschi</i>	Argentine Torrent Duck
Genus	<i>Anas</i>	
	(Subgenus <i>Salvadorina</i>)	
	<i>A. waigiensis</i>	Salvadori's Duck
	(Subgenus <i>Speculanas</i>)	
	<i>A. sparsa</i>	African Black Duck
	<i>A. s. sparsa</i>	South African Black Duck

* Where generic allocation differs from that of Delacour (1954-1959), Delacour's genera are indicated in parentheses.

<i>A. s. leucostigma</i>	Abyssinian Black Duck
<i>A. s. maclatchyi</i>	Gabon Black Duck
(Subgenus <i>Anas</i>)	
{ <i>A. penelope</i>	European Wigeon
{ <i>A. americana</i>	American Wigeon
<i>A. sibilatrix</i>	Chiloé Wigeon
<i>A. falcata</i>	Falcated Duck
<i>A. strepera</i>	Gadwall
<i>A. s. strepera</i>	Common Gadwall
<i>A. s. couesi</i>	Coues' Gadwall
<i>A. formosa</i>	Baikal Teal
{ <i>A. crecca</i>	Common Teal
<i>A. c. crecca</i>	European Teal
<i>A. c. carolinensis</i>	American Green-winged Teal
<i>A. c. nimia</i>	Aleutian Green-winged Teal
{ <i>A. flavirostris</i>	South American Teal
<i>A. f. flavirostris</i>	Chilean Teal
<i>A. f. oxyptera</i>	Sharp-winged Teal
<i>A. f. andium</i>	Andean Teal
<i>A. f. altipetens</i>	Merida Teal
<i>A. capensis</i>	Cape Teal
{ <i>A. gibberifrons</i>	Gray Teal
<i>A. g. gibberifrons</i>	East Indian Gray Teal
<i>A. g. remissa</i>	Rennell Island Gray Teal
<i>A. g. gracilis</i>	Australian Gray Teal
<i>A. g. albogularis</i>	Andaman Teal
<i>A. bernieri</i>	Madagascan Teal
<i>A. castanea</i>	Chestnut Teal
<i>A. aucklandica</i>	Brown Teal
<i>A. a. aucklandica</i>	Auckland Island Flightless Teal
<i>A. a. nesiotis</i>	Campbell Island Flightless Teal
<i>A. a. chlorotis</i>	New Zealand Brown Teal
{ <i>A. platyrhynchos</i>	Mallard
<i>A. p. platyrhynchos</i>	Common Mallard
<i>A. p. conboschas</i>	Greenland Mallard
<i>A. p. diazi</i>	Mexican Duck
<i>A. p. fulvigula</i>	Florida Duck
<i>A. p. maculosa</i>	Mottled Duck
<i>A. p. wyvilliana</i>	Hawaiian Duck
<i>A. p. laysanensis</i>	Laysan Duck
<i>A. rubripes</i>	American Black Duck
<i>A. melleri</i>	Meller's Duck
<i>A. undulata</i>	Yellow-billed Duck

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| <i>A. u. undulata</i> | South African Yellow-billed Duck |
| <i>A. u. ruppelli</i> | Abyssinian Yellow-billed Duck |
| <i>A. poecilorhyncha</i> | Spot-billed Duck |
| <i>A. p. poecilorhyncha</i> | Indian Spot-billed Duck |
| <i>A. p. haringtoni</i> | Burmese Spot-billed Duck |
| <i>A. p. zonorhyncha</i> | Chinese Spot-billed Duck |
| <i>A. p. superciliosa</i> | New Zealand Gray Duck |
| <i>A. p. pelewensis</i> | Pelew Island Gray Duck |
| <i>A. p. rogersi</i> | Australian Black Duck |
| <i>A. luzonica</i> | Philippine Duck |
| <i>A. specularis</i> | Bronze-winged Duck |
| <i>A. specularioides</i>
("Lophonetta") | Crested Duck |
| <i>A. s. specularioides</i> | Patagonian Crested Duck |
| <i>A. s. alticola</i> | Andean Crested Duck |
| <i>A. acuta</i> | Pintail |
| <i>A. a. acuta</i> | Common Pintail |
| <i>A. a. eatoni</i> | Kerguelen Pintail |
| <i>A. a. drygalskii</i> | Crozet Pintail |
| <i>A. georgica</i> | Yellow-billed Pintail |
| <i>A. g. georgica</i> | South Georgian Pintail |
| <i>A. g. spinicauda</i> | Chilean Pintail |
| <i>A. g. niceforoi</i> | Niceforo's Pintail |
| <i>A. bahamensis</i> | Bahama Pintail |
| <i>A. b. bahamensis</i> | Northern Bahama Pintail |
| <i>A. b. rubrirostris</i> | Southern Bahama Pintail |
| <i>A. b. galapagensis</i> | Galapagos Pintail |
| <i>A. erythrorhyncha</i> | Red-billed Pintail |
| <i>A. versicolor</i> | Silver Teal |
| <i>A. v. versicolor</i> | Northern Silver Teal |
| <i>A. v. fretensis</i> | Southern Silver Teal |
| <i>A. v. puna</i> | Puna Silver Teal |
| <i>A. punctata</i> | Hottentot Teal |
| <i>A. querquedula</i> | Garganey |
| <i>A. discors</i> | Blue-winged Teal |
| <i>A. cyanoptera</i> | Cinnamon Teal |
| <i>A. c. cyanoptera</i> | Argentine Cinnamon Teal |
| <i>A. c. orinomus</i> | Andean Cinnamon Teal |
| <i>A. c. borroeroi</i> | Borrero's Cinnamon Teal |
| <i>A. c. tropica</i> | Tropical Cinnamon Teal |
| <i>A. c. septentrionalium</i> | Northern Cinnamon Teal |
| <i>A. platalea</i> | Red Shoveler |
| <i>A. smithi</i> | Cape Shoveler |

<i>A. rhynchotis</i>	Australasian Shoveler
<i>A. r. rhynchotis</i>	Australian Shoveler
<i>A. r. variegata</i>	New Zealand Shoveler
<i>A. clypeata</i>	Common Shoveler
Genus <i>Malacorhynchus</i>	
<i>M. membranaceus</i>	Pink-eared Duck
Genus <i>Marmaronetta</i> ("Anas")	
<i>M. angustirostris</i>	Marbled Teal
Tribe Aythyini	
Genus <i>Rhodonessa</i>	
<i>R. caryophyllacea</i>	Pink-headed Duck
Genus <i>Netta</i>	
<i>N. rufina</i>	Red-crested Pochard
<i>N. erythroptalma</i>	Southern Pochard
<i>N. e. erythroptalma</i>	South American Pochard
<i>N. e. brunnea</i>	African Pochard
<i>N. peposaca</i>	Rosy-bill
Genus <i>Aythya</i>	
{ <i>A. vallisneria</i>	Canvasback
{ <i>A. ferina</i>	European Pochard
<i>A. americana</i>	Redhead
<i>A. collaris</i>	Ring-necked Duck
<i>A. australis</i>	Australasian White-eye
<i>A. a. australis</i>	Australian White-eye
<i>A. a. extima</i>	Banks Island White-eye
<i>A. baeri</i>	Baer's Pochard
<i>A. nyroca</i>	Common White-eye
<i>A. innotata</i>	Madagascan White-eye
<i>A. novae-seelandiae</i>	New Zealand Scaup
<i>A. fuligula</i>	Tufted Duck
<i>A. marila</i>	Greater Scaup
<i>A. m. marila</i>	European Greater Scaup
<i>A. m. mariloides</i>	Pacific Greater Scaup
<i>A. affinis</i>	Lesser Scaup
Tribe Mergini	
Genus <i>Somateria</i>	
<i>S. mollissima</i>	Common Eider
<i>S. m. mollissima</i>	European Eider
<i>S. m. borealis</i>	Northern Eider

<i>S. m. dresseri</i>	American Eider
<i>S. m. faeroeensis</i>	Faeroe Eider
<i>S. m. v-nigra</i>	Pacific Eider
<i>S. spectabilis</i>	King Eider
<i>S. fischeri</i>	Spectacled Eider
Genus <i>Polysticta</i>	
<i>P. stelleri</i>	Steller's Eider
Genus <i>Camptorhynchus</i>	
<i>C. labradorius</i>	Labrador Duck
Genus <i>Histrionicus</i>	
<i>H. histrionicus</i>	Harlequin Duck
Genus <i>Clangula</i>	
<i>C. hyemalis</i>	Long-tailed Duck
Genus <i>Melanitta</i>	
<i>M. nigra</i>	Black Scoter
<i>M. n. nigra</i>	European Black Scoter
<i>M. n. americana</i>	American Black Scoter
<i>M. perspicillata</i>	Surf Scoter
<i>M. fusca</i>	White-winged Scoter
<i>M. f. fusca</i>	European White-winged Scoter
<i>M. f. stejnegeri</i>	Asiatic White-winged Scoter
<i>M. f. dixonii</i>	Pacific White-winged Scoter
<i>M. f. deglandi</i>	American White-winged Scoter
Genus <i>Bucephala</i>	
<i>B. albeola</i>	Bufflehead
<i>B. islandica</i>	Barrow's Goldeneye
<i>B. clangula</i>	Common Goldeneye
<i>B. c. clangula</i>	European Common Goldeneye
<i>B. c. americana</i>	American Common Goldeneye
Genus <i>Mergus</i>	
(Subgenus <i>Lophodytes</i>)	
<i>M. cucullatus</i>	Hooded Merganser
(Subgenus <i>Mergellus</i>)	
<i>M. albellus</i>	Smew
(Subgenus <i>Mergus</i>)	
<i>M. octosetaceus</i>	Brazilian Merganser
<i>M. serrator</i>	Red-breasted Merganser
<i>M. s. serrator</i>	Common Red-breasted Merganser
<i>M. s. schioleri</i>	Greenland Red-breasted Merganser
<i>M. squamatus</i>	Chinese Merganser
<i>M. merganser</i>	Goosander

<i>M. m. merganser</i>	European Goosander
<i>M. m. orientalis</i>	Asiatic Goosander
<i>M. m. americanus</i>	American Goosander
<i>M. australis</i>	Auckland Island Merganser
Tribe Oxyurini	
Genus <i>Heteronetta</i>	
<i>H. atricapilla</i>	Black-headed Duck
Genus <i>Oxyura</i>	
(Subgenus <i>Nomonyx</i>)	
<i>O. dominica</i>	Masked Duck
(Subgenus <i>Oxyura</i>)	
<i>O. jamaicensis</i>	Ruddy Duck
<i>O. j. jamaicensis</i>	North American Ruddy Duck
<i>O. j. andina</i>	Colombian Ruddy Duck
<i>O. j. ferruginea</i>	Peruvian Ruddy Duck
<i>O. leucocephala</i>	White-headed Duck
<i>O. maccoa</i>	Maccoa Duck
<i>O. vittata</i>	Argentine Ruddy Duck
<i>O. australis</i>	Australian Blue-billed Duck
Genus <i>Biziura</i>	
<i>B. lobata</i>	Musk Duck
Genus <i>Thalassornis</i>	
<i>T. leuconotus</i>	White-backed Duck
<i>T. l. leuconotus</i>	African White-backed Duck
<i>T. l. insularis</i>	Madagascan White-backed Duck