

# The North American Ruddy Duck

(*Oxyura j. jamaicensis*)

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When people screw up their faces, wiggle their fingers, make all kinds of silly noises, and otherwise behave in undignified ways when interacting with babies and small children, this is, to some extent at least, the result of automatic, involuntary processes in their brains, known to behaviorists as Innate Releasing Mechanisms (Lorenz, 1950 & 1971). For reasons at least somewhat beyond our control, a great many of us at once respond positively towards round heads, large prominent eyes, and large round foreheads — perhaps a reason no one makes “Teddy-weasels” and that “Bambi” is not a pig.

“Baby ducks”, in general, are very good at triggering our innate releasing mechanisms. At the Fort Worth Zoo, we’ve had a very good season this year, and our brooders have held quite an assortment. Young Wood Ducks (*Aix sponsa*) have a black line proceeding backwards from the eye, which with the dark cap, define a yellow “eyebrow”, producing the effect of surprised innocence. Brazilian Teal (*Amazonetta brasiliensis*) have a similar “facial expression”, as well as Marbled Teal ducklings (*Marmaronetta angustirostris*), in a less sharply defined way. Maned Goose (*Chenonetta jubata*), Pintail (*Anas acuta*), and Chestnut Teal (*Anas castanea*) ducklings have a second line, running under the eye, making the eye look larger, thus increasing the effect upon our releasing mechanisms. “Please be nice to us! We are so small and helpless!” is a message communicated by all these black and yellow “wide-eyed” faces, with “raised eyebrows”.

In marked contrast are some round, chunky ducklings with low foreheads and no “eyebrows” at all. Their eyes are bordered below with a pale line defined by the dark line beneath it, below which the remainder of the head is pale, creating “cheeks”. But above the eye, all is dark to the crown of the head. Without “eyebrows”, these young North American Ruddy Ducks (*Oxyura j.*

*jamaicensis*) look crafty, smug, self-assured - possessing an expression that Rick Tucker, our head bird keeper, has called “slightly sinister.” I am reminded of bear cubs — real ones. Rather than communicating helplessness and dependence, one imagines them saying, like Garrison Kiellor’s Minnesotans: “I’m alright, thank you — that really isn’t necessary . . .”

This, of course, is the product of our mind. The great and much beloved zoologist Konrad Lorenz (1950 and 1971) explains how the physical features of eagles and camels cause people to respectively connote “proud determination” and “haughtiness and disdain”. Lorenz, typically, also cites his childhood dislike of certain trains because the ventilation flaps above the windows looked like unpleasantly raised eyebrows. Most of us have had similar, entirely inappropriate negative reactions to certain cars, toys, snapshots from the family photo album, the classroom portrait of George Washington, and countless other objects whose perceived hostility, badness, etc., exists entirely in our heads.

But it cannot be denied that Ruddies are a different kind of duckling. When a person looms over the Fort Worth Zoo duck brooders, he or she creates a commotion. Ducklings jump to their feet, crowd into corners, and are overall very disturbed. Marbled Teal try and jump right out. Ruddy Ducks, on the other hand, do not get up. They sit and tilt back their heads, staring up their flat foreheads, and hiss (deliberately, not excitedly) at the intruder, and these ducklings produce a very different sort of duck.

In *Zoo Culture*, a brilliant and thought provoking examination of the “why” of zoos from the perspective of the zoo builder and zoo visitor, sociologist Bob Mullan and anthropologist Garry Marvin (1987) discuss, on page 73, a phenomenon that is all too apparent to zoo bird staff: The average zoo visitor “just (does) not seem to be able to relate to birds”. It “seems to be generally

true that birds do not excite much interest or hold visitors’ attention for very long...A bird is simply a bird” (Mullan & Marvin, 1987). Of course everyone knows “ducks” - but that is usually as far as it goes. Fort Worth Zoo’s collection of 45 species and subspecies of ducks, geese and swans is perceived by most visitors as “ducks”. There are exceptions. Swans are generally recognized as such. Wood Ducks and Mandarins always draw attention. And, for those who actually spend some time and look at our waterfowl, the male North American Ruddy Duck, with his sky blue beak, his black cap, white cheeks, and bright chestnut

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body, is bound to catch the eye.

Attracted by the colors, one proceeds to note the chunky body, the disproportionately large head, broad flat bill, huge feet, and strange, stiff tail. The behavior is distinctive as well. This species spends a great deal of time under water, propelling itself about with its great fan-like feet set well back along the body. As ruddies swim round and round, staying submerged as long as half-a-minute (Todd, 1979), they can be reminiscent of a miniature walrus or other sea mammal. Where they are exhibited in glass-sided tanks, such as at the Monterey Bay Aquarium in California, they make a most delightful display. On the water's surface, they are as interesting to watch, their odd tails sometimes spread flat against the water, and held at various angles at other times.

During the April to August breeding season (Todd, 1979), Ruddies are even more entertaining to watch, as the males engage in a variety of startling courtship displays. The one I have observed at the Fort Worth Zoo involves the male, stationary at the surface, drumming his beak against his chest in a rapidly accelerating tempo, reminding me of a dribbling basketball. The quite audible percussive sound produced is partially the result of the inflation of a "large tracheal air sac" (Todd, 1979), giving the bird an even more quaint appearance than usual. Frank Todd (1979), former corporate Curator of Birds for Sea World, describes several other courtship displays, some of them done by several males at once, some involving sudden rushes across the surface, and sudden brakes, creating noises and spray.

These distinctive courtship behaviors, which may last for hours (Todd, 1979), are the inspiration for some of the at least 95 names for this bird, in use by hunters and other people who regularly encounter it (Ibid, 1979). Among the 70 "other names" which Terres (1980) lists, by far the most for any of the waterfowl covered in his *Audubon Society Encyclopedia of North American Birds*, are; Batterscot, Blatherskite, Bluebill, Booby Coot, Bristle-tail, Broadbill, Bullneck, Bumblebee Duck, Butterball, Cocktail, Dicky, Dinky, Dipper, Doppet, Dumpling Duck, Fool Duck, Heavy-tailed Coot, Little Soldier, Noddy, Paddy, Paddy-whack, Pintail, Shot-pouch, Spoonbill, and Stub-and-twist.

At the close of the breeding season, the male's beak color changes from blue to black, and the reddish plumage is replaced by gray feathers like the female's, but his cheeks stay solidly white, in marked contrast to the female's cheeks, which are crossed by a horizontal dark line.

The prominent white cheeks of male *Oxyura jamaicensis jamaicensis*, the Ruddy Duck of North and Central America, and the West Indies, at once distinguish this subspecies from the two South American ones. As might be expected, the more northern of these two, *O. j. andina* of the Central and Eastern Colombian Andes, is an intermediate form, possessing cheeks that are mottled black and white. This mottling is quite variable, indicating that this population may not really warrant subspecific classification, but may be more properly considered a hybrid zone between *O. j. jamaicensis* and the larger, entirely Black-headed Peruvian Ruddy Duck *O. j. ferruginea*, which actually occurs, in cold and temperate lakes and marshes, from Southern Colombia to Tierra del Fuego, at the southern tip of South America.

Stiff-tailed ducks with solidly black heads, blue beaks, and bright chestnut male plumage seem to be favored by natural selection, as there are three other species. *Oxyura vittata*, the Lake Duck or Argentine Ruddy, would be considered another subspecies of *O. jamaicensis*, were it not for the fact that in many parts of its range, "the southern third of South America" (Todd, 1979), it is found in the same habitat as the slightly larger but otherwise superficially nearly identical Peruvian Ruddy (*O. j. ferruginea*). Todd (1979), suggests it may actually be more closely related to the Bluebill (*O. australis*) of Australia. The courtship display of the Argentine Ruddy more closely resembles that of its Australian relative (Ibid, 1979). Bearing a remarkable resemblance to both of these birds is the Maccoa Duck (*O. maccoa*) of sub-Saharan Tropical Africa.

There have never been any Australian Bluebills or Colombian Ruddy Ducks in this country. Though the Peruvian Ruddy (*O. j. ferruginea*) was first bred in the U.S. at Salt Lake City's Tracy Aviary in 1962 (Greenwell & Sturgeon 1988), there are very few presently in American aviculture. The Maccoa Duck, first bred in the U.S. in 1983, by the famed Florida

gamebird breeders Mike and Mary Dam (Ibid, 1988), and the Argentine Ruddy, for which the Bronx Zoo claims the first U.S. breeding, in 1968 (Ibid, 1988), are both available to American private aviculturists from breeders in this country, but are, compared to most waterfowl, very expensive, and found in very few zoos.

On the other hand, the North American Ruddy Duck, though by no means one of the cheapest of waterfowl, is widely bred, a pair often costing less than a pair of Gouldian Finches, a fraction of the price of a pair of Argentine Ruddies. It is also comparatively one of the better represented ducks in U.S. Zoos. The December 31, 1991 ISIS abstract (International Species Information System, 1992), lists 191 males, 198 females and 35 birds of undetermined sex in 49 participating collections in this country. During 1991, fourteen of these institutions bred a total of 173 specimens. Zoos that were especially successful were Baltimore, which bred 55, St. Louis, with 28, San Antonio with 26, Fort Worth, with fourteen, and Toledo, where thirteen were hatched (Ibid, 1992).

This level of success is a fairly recent achievement. Prior to the 1970's, Ruddies were a decided rarity in public or private collections. At the National Zoological Park, for instance, during 1889-1929, its first forty years, only two were received at Washington, and the longer-lived specimen lasted four days (Mann, 1930). The Harvard ornithologist J. C. Phillips (1926) wrote that the Ruddy Duck is "... a very difficult species to keep under fence and has never been exhibited in collections anywhere." Phillips (1926) went on to discuss several early failures. In 1915, a Mr. Herbert K. Job wrote him that the Ruddy "was one of the ducks that he could do nothing with when he was rearing waterfowl from wild-gathered eggs in Saskatchewan". Mr. Job "hatched out some eggs and also caught a few young from wild broods, but none of them survived beyond the fifth day". The ducklings "seemed utterly stupid and declined to eat anything, even refusing food that was put into their throats". Phillips (1926) also mentions a Mr. A. Wolfe of Edmondton, whose ducklings were killed at the age of two weeks by being stepped on by their foster mother, an Orpington hen, and a Dr. D.H. Bendick



*Adult North American Ruddy Ducks at the Fort Worth Zoo.*

of Leduc, Alberta, who, in 1920, did rear five from a clutch of nine eggs, with a mallard foster mother, but “never tried to keep his stock through the winter”. Dr. Bendick reared more in 1923, but the reader is not informed if those lived any length of time either.

By the time of Phillip’s (1926) notes on the above enterprises, success had already been achieved in Los Angeles. Like K.C. Lint and the San Diego Zoo, Karl Plath and the Brookfield Zoo, or Gus Griswold and Philadelphia, Calvin D. Wilson (1900 - 1983) maintained a very long relationship with one collection of birds,

being Director of the Tracy Aviary in Salt Lake City, Utah, from 1939 to 1975. It is now often overlooked, however, that like another great zoo aviculturist, Karl Koch, the San Diego Zoo’s first Curator of Birds, Mr. Wilson had previously been employed at the California Zoological Gardens, more popularly known as the “Selig Zoo”, a fact made known to me by zoo historian Marvin Jones, Registrar at the Zoological Society of San Diego. The “Selig Zoo”, defunct for more than fifty years, was not far from downtown Los Angeles. Owned by a bank, it was the major source of lions and tigers for Hollywood, espe-



*North American Ruddy duckling 48 hours old.*

cially Tarzan movies, in the 1930’s. The MGM Lion lived there. Kenhelm Stott, Jr., Research Associate for the Zoological Society of San Diego, and its General Curator in the late 1940’s and early 1950’s, told me that, during his 1930’s childhood visits, along with more than twenty each of lions and tigers, there were at least fifteen Spotted Hyenas, some of them cubs. The most famous members of the bird collection were a prolific pair of White-naped Cranes *Grus vipio* (Mobley, 1933). I don’t know if Ruddy Ducks were kept there, but Greenwell and Sturgeon (1988) credit the first North American breeding of North American Ruddies to “Calvin Wilson (of) Los Angeles” in 1922, citing a 1976 “personal communication” between Mr. Wilson and Mr. Greenwell. It is, of course, possible, that Mr. Wilson achieved this privately.

At any rate, Calvin Wilson went on to become a highly successful breeder of North American Ruddy Ducks. Jean Delacour (1947) noted, while visiting the Tracey Aviary, that “Mr. Wilson is particularly successful with the charming little Ruddy Ducks; he has dozens of them and they lay freely. Eggs are hatched in an incubator and reared in a brooder. They are given access to open water immediately and are fed very simply on Spratt’s duck meal and lettuce. Mr. Wilson tells me that the secret of his success consists of putting a yearling female with the ducklings. Once he was short of Ruddy females and he successfully substituted a female Lesser Scaup, and it worked perfectly well . . .”.

It was thus natural that, of the seven North American Ruddy Ducks received in 1948 by the then fledgling Wildfowl Trust at Slimbridge, England, several were from Tracy Aviary (courtesy of Salt Lake City’s Superintendent of Parks), the others coming from W. J. Mackenson’s collection at Yardley, Pennsylvania (Anon., 1949; Kear, 1990). The first Slimbridge breeding season was not promising; in 1949 four eggs hatched but all the ducklings died — two from unassimilated yolk sacks, the others from “congested lungs” (Anon., 1950).

By the mid 1950’s, the situation at Slimbridge was quite different as Janet Kear (1990), the Wildfowl Trust’s long-time Curator elaborated, “The highly aquatic ducklings had to be left with their mothers and, since

they dive extremely well, every year a number managed to evade the Curator's attempt to catch and pinion them. About 70 juveniles flew away between 1956 and 1963 (most in the 1962/3 hard winter) and it is from those that the present British feral population descends".

It appears the first recorded British feral breeding of the North American Ruddy Duck took place in Somerset in 1960 (Kear, 1990). By January, 1989, the English feral population was estimated at 2,700 (Ibid, 1990). A further measure of success is occurrence of these birds in France, the first French breeding being recorded in 1988 (Ibid, 1990). The first Irish breeding had already taken place in 1973 (Ibid, 1990). The Wildfowl Trust has maintained at Slimbridge more species of Anatids than anywhere else, ever. It is somewhat odd that this species is the only one to have become established in England from escapees from Slimbridge or any other of the Trust's collections.

In face of this remarkable colonization, the decline of the Ruddy Duck in the U.S. is especially disturbing. Paul Johnsgard (1978) writes, "At least in North America, the population has clearly suffered greatly in recent decades, with the extensive marsh destruction that has occurred in the middle of its favored breeding grounds, and the periodic losses of large numbers of birds on wintering areas as a result of oil spills". Like the Redhead (*Aythya americana*), which has also suffered a very serious population decline (Lindholm, 1992), the Ruddy Duck breeds in "habitats that encompass freshwater and alkaline permanent marshes, with extensive areas of emergent vegetation...usually mud-bottomed and not very deep, providing ample foraging opportunities for probing in the bottom debris" (Johnsgard 1978). Again, like the Redhead, the preferred wintering grounds are "brackish or slightly brackish coastal lagoons and shallow estuaries" (Ibid, 1978).

When Calvin Wilson (1969) summed up more than forty years of experience with Ruddy Ducks, he did not, as avicultural historians might hope, specify when and where his first breeding took place, or the total number he bred, but instead presented an overview of successful husbandry techniques. He strongly advocates a natural, planted pool or

lake. He preferred having the female raise her own ducklings where possible. In 1969, when artificial rearing techniques for this species were still problematic, he found that the "loss of young with the natural mother is very small, indeed."

Wilson's (1969) "next choice" was a "foster mother" of another species. He usually resorted to this when faced with a "dump nest" or found Ruddy eggs laid in other duck's nests. Again, like the Redhead (Lindholm, 1992), Ruddies are notorious for "egg dumping" – laying eggs in the nest of another individual of the same species, as well as parasitising other species (Johnsgard, 1978). Frank, et al. (1981), at the National Zoological Park in Washington, D.C. "commonly" found Ruddy eggs in the nest of Redheads (*Aythya americana*) and Blue-winged Teal (*Anas discors*), as well as once each in Black Duck (*Anas rubripes*) and Pintail (*Anas acuta*) nests. Calvin Wilson's foster mother of choice was a broody hen Laysan Teal (*Anas laysanensis*). There are probably no more than 600 Laysan Teal living on their remote island (Ripley, 1985), but they are well established in captivity, being one of the most ridiculously inexpensive birds on breeders' price-lists. Wilson found this species to be ideal "for incubation of collected parasitic eggs", the "only fault" being that this diminutive teal can only sit on four of the comparatively enormous Ruddy eggs at one time. (The eggs of the genus *Oxyura* are "the largest . . . in relation to body size of any living duck" (Todd, 1979). Lesser Scaup (*Aythya affinis*) and the small, domesticated Mallard known as Call Ducks were Mr. Wilson's second and third choices respectively. He recommended Silkie Bantam hens, or other Bantams, only as a last resort – one could expect to lose some ducklings with chicken foster mothers.

Wilson's (1969) "last choice" as a rearing technique for Ruddy ducklings is "the brooder". He was very pessimistic: "Indeed, this is a poor choice and certainly there have been many failures in this manner . . . perhaps the use of a brooder can be successful, but the writer has yet no proof of such. It seems the ducklings must have a leader of some sort to induce them to dive and to feed".

After five years of hatching many Ruddy Ducks at the National Zoo, but rearing a disappointingly low percentage of ducklings, Frank, et al. (1981)

"instituted new feeding and housing methods", extensively described in their *International Zoo Yearbook* article. Their main innovations were the use of progressively large, wooden sided pens set mostly over water, over an indoor pool. They concluded that "access to water adequate for swimming and diving, which allows immediate swimming activity and food consumption, is the most important survival factor" for success with Ruddy ducklings. A number of zoos have contrived "wet brooders" of varying degrees of complexity, with good results. I was shown an elaborate set-up at the St. Louis Zoo, in 1984, and, as noted earlier, it is one of the more successful propagators of Ruddies.

On the other hand, the Fort Worth Zoo has achieved quite satisfactory results with an inch-deep aluminum baking pan and running water.

Arriving at Fort Worth Zoo in December, 1991, (shortly after I did), Assistant Curator of Birds Elizabeth Glassco, formerly Lead Keeper at the National Zoo's Bird Department, instituted an egg log, from which I gathered the following egg statistics. This season's breeders were a male received from the Florida aviculturist Siwo deKloet in 1985, a female from Texas aviculturist Henry Bose, likewise received in 1985, and a female obtained from the Caldwell Zoo in Tyler, Texas, in 1989. All were hatched the year they arrived at Fort Worth. They are exhibited in our outdoor-walk-through flight cage, which contains quite an assortment of other waterfowl, as well as softbills, herons, gamebirds and other species. There is a concrete pool with continuously running water at one end. Most of the large, rather blocky-looking eggs were laid in a subterranean pre-fabricated "tunnel-box" with a removable lid, but at least one was discovered on the ground. From March 30 to June 16, 1992, 27 eggs were retrieved from this aviary by Keeper II, Brad Hazelton (who has since assumed a year's Curatorship at Sylvan Heights Waterfowl II, in North Carolina – *Ave Atque Vale!*) and his relief Keeper I, John Wise. The largest clutch taken at one time was six, found April 4. Five eggs were removed individually, two clutches of two each were found. Otherwise, they were discovered in clutches of four. As long as six days after being gathered, the eggs were set in incubators at 99.5°F, with an 83-86° wet-

bulb reading. Incubation periods ranged from 20 to 27 days. As is usually the case (Wilson, 1969, Frank et al., 1981), the percentage of eggs to hatch was high; 23 hatched out of the 27.

Under the supervision of Liz Glassco, and our Head Keeper, Rick Tucker, the ducklings were placed in rectangular wooden, open-topped brooders 30" long, 18-1/2" across, and 21-1/2" deep. The flooring is a small-mesh plastic screen placed over anodized refrigerator shelves. At the back, this is covered with astroturf, while at the front, is the aforementioned aluminum baking pan, a stream of water gently running into it continuously from a fixed hose. The ducklings are fed a simple mixture of gamebird starter and shredded lettuce (adult Ruddies at Fort Worth receive commercial duck pellets, Romaine lettuce, and Whitebait Smelt).

While some of the Ruddy ducklings were maintained with various species of other ducks, they've usually been kept in single-species groups, or with young Hooded Mergansers (*Mergus cucullatus*). At regular intervals, there are carefully super-

vised exercise sessions in the bird building sink. When about a month old, they are transferred in groups, or again, with Hooded Mergansers, to indoor pools of continuously running water, where they stay until ready to go outdoors. While there have been several losses, on the whole results have been quite satisfactory, and, as I write in August, a fine group of this year's youngsters grace the little concrete pool, about which the red kiddie train goes 'round and round. The ruddies ignore it, and its occupants, completely.

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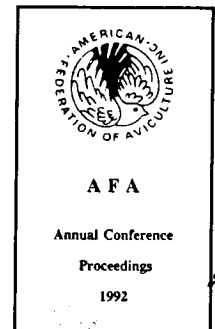
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