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The Redhead — Part-time Parasite of the Potholes

(*Aythya americana*)

by Josef H. Lindholm, III
Keeper II, Birds
Fort Worth Zoological Gardens

While my fellow bird staff were enthusiastically commenting on the listing of their charges, I scanned this delightful collection of information — when I stopped short — at the date “23/12/64”, the day of arrival of one of the zoo’s nine Redheads (*Aythya americana*). The bird was estimated to have hatched in 1961.

I believe the oldest documented member of the Duck, Goose, and Swan family Anatidae, was a Cape Shelduck (*Tadorna cana*), that died at Leersum, Holland, at the collection of P. Duijzend, in June, 1975, having been imported from Pretoria in 1928 (Harvey, 1975). Jean Delacour’s famous Nene (*Branta sandvicensis*), hatched at the Dutch collection of F.E. Blaauw, in 1898, “vanished” in 1940, presumably eaten by the Nazis who occupied Delacour’s estate at Cleres (Delacour, 1954).

Our Redhead, 27 years at Fort Worth, thus has a way to go before exceeding the family record. For waterfowl in general, though, its age is astounding. Terres (1980) gives 12 years, determined from bands, as the maximum known age of a wild Redhead. Of our hundreds of specimens, there are three birds that are certainly older. Our female Harpy Eagle, longer at Fort Worth Zoo than any other animal, arrived here as an adult October 1, 1955. One of our 14 Caribbean Flamingos was purchased in August of 1963 and was presumed to be two years old. A Chilean Flamingo sold by the New York Zoological Park in 1986 was presumed to be 24 years old at that time. Another in the same group was estimated, in 1986, to be 22. Our old Redhead (our next oldest hatched in 1985), is a male, and can be told from the five other

males here only by his bands, not otherwise giving any evidence of his age at present.

Monica’s inventory indicated a certain “J. Schedel” as the source of this bird. From her computerized ISIS/ARKS data system, she confirmed that this was indeed Dr. Joseph J. Schedel, who, at his Portage Farms, near Elmore, Ohio, maintained, from the ‘50s into the ‘70s, a major collection of waterfowl, under the supervision of Melvin Block, who was also Curator of Birds at Toledo Zoo. Dr. Schedel was the first person in the U.S. to breed Coscoroba Swans outside of a public zoo (Griswold, 1973). He donated two pairs of Redheads to the Fort Worth Zoo, December 23, 1964.

The first captive breeding of *Aythya americana* appears to have been by 1899, by Wilton Lockwood, of South Orleans, Massachusetts (Greenwall & Sturgeon, 1988), followed by Frederic Gallatin, of Noroton, Connecticut, sometime before 1909 (Beebe & Crandall, 1909).

Jean Delacour (1959) suggests that the “superficial similarity” of the Redhead to the European Pochard (*Athya ferina*), was the reason for its late introduction to European or British aviculture. Though some were acquired by the London Zoo in 1902, the first Redheads bred outside of their native North America hatched at the collection of Hugh Wormald, in England, the parent birds having been hand-reared, and sent from the U.S. in 1922 (Delacour, 1959). Mr. Wormald appears to be the first absolutely documented propagator of the Common Teal (*Anas c. crecca*), in 1913, and the first person to breed

the Green-winged Teal (*Anas crecca carolinensis*) outside of North America, likewise, in 1924 (Delacour, 1956).

There are 12 members of the genus *Aythya*, the White-eyes, Pochards, and Scaup, distributed world-wide (with the exception of Mainland Tropical Africa, where several species only winter, but none breed, and South America). The genus *Netta* contains the three other Pochards; the Red-crested Pochard of Eurasia, the Southern Pochard of Africa and South America, and the South American Rosey-billed Pochard. Concerning the Redhead, Jean Delacour (1959) wrote, "This species is most satisfactory in confinement; in fact it is the easiest of all Pochards to manage. Several pairs, or even a number of females and fewer males will live and breed perfectly well in quite a small pen with a tiny pool." On breeder's price lists in the U.S., Redheads are very modestly priced, costing little more than Wood Ducks and American Black Ducks, usually the least expensive waterfowl, and about the same as Mandarins, Red-crested and Rosey-billed Pochards, and Northern Pintails. This translates to a pair generally costing less than a retail Gouldian Finch.

The Redhead was present in 51 U.S. public institutions on June 30, 1991, thus one of the more broadly represented American Zoo waterfowl (International Species Information System, 1991). Of the 155 male, 146 female, and seven unsexed birds collectively held by these establishments, 85 percent were certainly captive-bred and two percent were known to be wild-caught. Of these collections, the following held more than five specimens; Fort Worth and Salisbury, Maryland, both with six; St. Louis, the Arizona-Sonora Desert Museum near Tucson, and the National Zoological Park, each with seven; St. Paul, Minnesota, and Tyler, Texas, both holding ten; the Detroit Zoological Park, with 12; Denver, with 14; Baltimore, with 19; and the Conservation Center of the National Zoological Park, Front Royal, Virginia, with 102.

From July, 1990, through June, 1991, four of these collections bred Redheads: the Arizona-Sonora Desert Museum, which hatched ten; Baltimore, where five hatched; Grand Rapids, Michigan, which reared one; and the National Zoo's Front Royal Conservation Center, which hatched

41. Elizabeth Glassco informed me that research is being conducted at Front Royal on the tendency of Redheads to lay their eggs in the nests of their larger close relative, the Canvasback (*Aythya valisineria*). (Front Royal bred 52 canvasbacks that same period, and held 53 on June 30, 1991, International Species Information System, 1991).

There is only one purely parasitic duck; the Black-headed Duck (*Heteronetta atricapilla*) of South America. This bird not only lays its eggs in the nests of other duck species, but has been known to parasitize coots, gulls, Ibises, Rails, and Snail Kites as well (Todd, 1979). This is certainly a far cry from such brood-parasites as Whydahs, and various cowbirds and Cuckoos, exquisitely adapted to specialize in particular species of birds.

The normal clutch size of a Redhead appears to be seven or eight eggs, but this is not certain (Johnsgard, 1978), as nests may often contain startlingly large numbers of eggs — the result of "dump-nesting" by other Redhead females. Johnsgard (1978) notes that as many as 50 percent of females on the breeding grounds do not attempt to nest. They appear to be particular about sites with thick emergent vegetation, 20" to 40" high, and far less frequently nest on dry land (Johnsgard, 1978). Female Redheads, finding their nests full of "dumped" eggs, frequently desert them. Johnsgard (1978) states; "Nesting success is evidently quite low among Redheads, and the hatching success of parasitically laid eggs is particularly low". At the same time, in some localities, up to 50 percent of Redhead ducklings hatched may be reared by Canvasbacks! (Johnsgard, 1978).

At Fort Worth Zoo, Brad Hazelton was puzzled by the number of dead-in-shell Redhead eggs this last season. Brad pulled a nest of eight May 29, 1991. Two hatched June 24. Three were infertile and four died in the shell. Seven eggs were pulled for artificial incubation June 21. Two of these hatched July 17, and the rest were infertile. Finally, both eggs pulled June 29, died in the shell. Once hatched, the four ducklings were no problem to rear, thriving on a diet of Purina-brand "Startena", lettuce, and hard-boiled egg, not standing out in any way, according to Brad and Lisa Weedn, from the Marbled Teal, Chestnut Teal, Ringed Teal, Radjah Shelduck and other species



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they grew up with. There is no way to determine if our old Schedel male had any part in this reproduction. Fort Worth's other adult Redheads came from two different breeders, in 1987, and were hatched in 1985, 1986, and 1987.

Paul Johnsgard (1978) observes; "The low average nesting success of female Redheads, their high vulnerability to hunting, and the concentration of the breeding populations in areas subject both to marshland drainage and periodic Botulism outbreaks makes the long-term outlook for this species extremely pessimistic". Ninety percent of the Redhead's diet is aquatic vegetation, and they dive deep, often to ten feet (Ternes, 1980), to get it. This, and their preference for nesting in thick emergent plants, causes them to be particularly dependent on the "pothole" lakes of North America's prairies, the "pockmarks" left by the retreat of the glaciers from the Great Plains at the end of the last Ice Age (McKibben, 1989). Potholes are now one of the most threatened environments in North America. Bill McKibben (1989) on pages 82 and 83, in a disturbing and deliberately confrontational article in *The New Yorker*, starkly portrays the effects of the drastic decline of these

sheltered miniature lakes. A 1988 draught appears to have horribly accelerated what years of agricultural development had effected for more than a century. A 1988 survey of 330 potholes in the Canadian prairie found seven holding water (McKibben, 1989). Worsening the situation are the effects of Carp (Todd, 1979), introduced by the U.S. Government in the 1870s, and spread throughout 298 of the then-existing 301 Congressional Districts by 1883 (Laycock 1966). Quite aside from their all-too-well-known displacement of native fishes, Carp devastate entire communities of plants upon which so many aquatic birds depend. Frank Todd (1979) states: "The overall population (of the Redhead) has probably declined as much or more than almost any other duck in North America". This is especially horrifying when one considers the decline of a species we still consider abundant; Pintails in America have dropped from more than 10 million birds in 1956 to 2.5 million in 1988, while Mallards have dropped by half (Steinhart, 1989). And unlike Mallards, Pintails, Shovelers, and Gadwalls, with their Eurasian populations as well, *Aythya americana* true to its name, breeds only in the

United States and Canada, wintering only as far south as southern Mexico and the Caribbean (Terres, 1980), with 80 percent wintering along the Gulf Coast from Florida to Yucatan (Johnsgard, 1978).

Female Redheads have an unusually long period of moult-induced flightlessness following the hatching of their young, which Johnsgard (1978), believes is "probably responsible for the high proportion of females shot in the fall". William T. Hornaday, (1927) first director of the New York Zoological Park and a pioneering American conservationist, hailed Redheads (in his Guidebook to the Bronx Zoo) as "prime favorites with the sportsman and epicure". I have known only two people who knew Dr. Hornaday (who died in 1937). Dr. Charley Schroeder, the late, much-beloved Director-Emeritus of the San Diego Zoo, never would say much. Jean Delacour, in his final, 95th year told me that, for all his achievements, Hornaday could be "quite impossible!...afterall, he was a taxidermist...it was hard to find good people then...but he built the zoo!" It was well known to his friends that Captain Delacour, great collector, breeder, and taxonomist of ducks as he was, was also quite fond



Photo by Lisa Weedn

Redheads at the Fort Worth Zoo, the male on the left.



Mark Hagen is Research Director at HARI. He has a Master of Agriculture from the University of Guelph and specializes in Psittacine Aviculture. His continued Research includes Nutrition, Incubation and other Psittacine Aviculture research projects.



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of eating them, both wild and domestic. So he does note, in his monumental work on the Anatidae (Delacour, 1959), that the Redhead "is appreciated as a table bird in North America".

Commercial hunting for the meat market, which destroyed the Passenger Pigeon and the Heath Hen and reduced the Eskimo Curlew to the brink of extinction, was outlawed, due in considerable part to Willam Hornaday, early in this century. The taking of Redheads by sportsmen is carefully monitored and, in many places, prohibited (Terres, 1980). It must not be forgotten, of course, that the money of duck hunters both through U.S. Government duck stamps, and organizations, most notably Ducks Unlimited, has preserved a great deal of habitat. Peter Steinhart (1989) reminds us that "duck hunters were among the only people contributing to wetland conservation until a few years ago". There has been much news of late, concerning efforts by the United States Government to implement a truly effective wetlands conservation and restoration program, some of the controversy bordering on the ridicu-

lous. It remains for really powerful legislation to be agreed upon. Canadian agriculture continues to eliminate potholes, with the approval of its government. In the meantime, the Redhead still numbers in the hundreds of thousands, but one need only remember the Passenger Pigeon, now believed to have had the largest population of any terrestrial wild bird.

We are thus fortunate that a healthy, captive population of Redheads exists in this country, to judge from their low prices in lists and advertisements. At the same time, I hope Fort Worth's ancient Redhead reaches his 37th year at our zoo in a world where potholes and prairie marshes are no longer in retreat, and perhaps reclaiming their places of old.

I am most grateful to Elizabeth Glassco, for making her extensive library of waterfowl books available to the Fort Worth Zoo staff.

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