

Status and Breeding of Caribbean Coot in the Netherlands Antilles

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Abstract.—The Caribbean Coot (*Fulica caribaea*) is endemic to the Caribbean region where it is uncommon to rare. Little is known about its breeding biology. From museum specimens, archives and correspondence, we document 134 records for Aruba, Curaçao and Bonaire, Netherlands Antilles, from the years 1955-2004, and map their distribution. The islands are arid and rainfall can be unpredictable but with the establishment of permanent freshwater ponds since the 1970s, the Caribbean Coot appears to have become more common. We recorded 68 cases of breeding for the three islands. Although breeding can occur in almost any month, there is a clear preponderance for birds to breed in the first few calendar months of the year, approximately three months after the annual peak in rainfall. Received 19 September 2004, accepted 10 January 2005.

Key words.—Aruba, Bonaire, breeding season, Caribbean Coot, Curaçao, *Fulica americana*, *Fulica caribaea*, Netherlands Antilles, status.

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The Caribbean Coot (*Fulica caribaea*) is confined to the chain of Caribbean islands, from Cuba in the northwest to Trinidad in the southeast, with smaller numbers on the mainland of northern South America (Hilty 2003; Raffaele *et al.* 1998; Taylor 1996; Taylor and Perlo 1998). Formerly regarded as conspecific with American Coot (*Fulica americana*), the taxon is at present generally treated as a separate species (AOU 1998; Dickinson 2003; Taylor 1996; Taylor and Perlo 1998). Both species are largely allopatric, with the American Coot breeding in northwest South America and throughout most of North America and Central America, and the Caribbean Coot being confined to the Caribbean, and the lowlands of northern Venezuela. The American Coot winters in the western and southern part of their breeding range and into the Caribbean, whereas the Caribbean Coot appears to be largely sedentary.

In the Netherlands Antilles, a group of islands north of Venezuela, Taylor (1996), AOU (1998), and Taylor and Perlo (1998), included only the island of Curaçao in the range of the Caribbean Coot. Taylor (1996) and Taylor and Perlo (1998) noted that little is known about its breeding and survival, and concluded that much of the species' status was unclear.

While working on a checklist of the birds of the Netherlands Antilles, we came across

a number of records of the Caribbean Coot, including some from islands where it was previously not known to occur. Voous (1983, 1985) regarded the Caribbean and American Coot as conspecific and did not differentiate between the two species, thus obscuring the status of the two species in the Netherlands Antilles. The aim of this paper is to scrutinize all records of Caribbean Coot in the Netherlands Antilles, i.e. the islands of Aruba, Bonaire, Curaçao, and nearby islets, and to provide a comprehensive account of its breeding on these islands.

METHODS

The archives of Prof. K.H. Voous and Frater Caudius van der Linden (both stored at the Zoological Museum Amsterdam) were searched for data on the Caribbean Coot. FCvdL was resident on the island of Bonaire from 1967 to 1995, while KHV visited the islands on several occasions between 1951 and 1989 and published extensively on their birds. Data from specimens in the collection of the ZMA were included. Thirdly, information was solicited from observers and ornithologists who had visited the islands in recent years.

A record of the Caribbean Coot was accepted if the observer clearly indicated that the Caribbean Coot was involved and not the American Coot, and provided details on the species' identification (mostly by making reference to the absence of the reddish-brown callus at the top of the white shield, and/or the presence of a relatively large frontal shield). Breeding status was accepted if birds were seen incubating or had dependent young. A record refers to the sighting of a single individual or a group on one day or in a row of subsequent days by an observer.

The availability of surface water in the Netherlands Antilles is influenced by the amount of rainfall, which peaks in October-January (Voous 1983; Fig. 2). At irregular intervals this rainfall is sufficient to fill reservoirs and small valleys, after which many species of freshwater birds start breeding (Voous 1983, 1985). However, since the 1970's an increasing number of man-made permanent freshwater and sewage ponds have been built. In an attempt to model the breeding period of the Caribbean Coot, the breeding records for each month have been tallied. Newly fledged chicks acquire their juvenile plumage after c. 3-4 weeks (data from *F. americana*: Taylor and Perlo 1998), and hence when chicks were observed, it was assumed that laying had taken place in the previous month.

RESULTS

Occurrence and Distribution

Figure 1 depicts all localities where Caribbean Coot has been observed on Aruba, Curaçao and Bonaire. For Aruba, 41 records were found, all from the westernmost part of the island and dating from the years 1975-2004. Records are from all months, except June-July (when observer coverage was at a minimum). The largest number of records was from Lake Bubali Bird Sanctuary (35), with smaller numbers from the salinas near Oranjestad (4) and the ponds at Tierra del Sol Golf Course (2). Compared to the other islands, numbers of coot on Aruba were relatively small, with highest counts of 35-40 birds (some of them with young) at Bubali.

In addition to these observations, A. Wetmore identified (a) subfossil Caribbean Coot(s) excavated from pre-Columbian

(>3th century AD) settlements at Santa Cruz, central Aruba (letter dated 1 July 1959 from D. A. Hooijer to K. H. Voous, deposited at the ZMA). Admittedly, separation of Caribbean Coot from American Coot on skeletal remains must be difficult and it cannot be ascertained which of the two species were involved. Neither the Caribbean Coot, nor Aruba as a collection site, are mentioned in Wetmore (1956), and searches in the archives of the Smithsonian Institute for the location of the subfossil specimen(s) or how Wetmore came to his determination, could not clarify the issue (S. Olson and E. Alers, in litt.).

For Curaçao, there were 22 records, all from the central part of the island between 1955 and 1997. Records were from all months. The species was most frequently recorded at Muizenberg Reservoir (12) and at Malpais (9). On the former site, large numbers of Caribbean Coot have regularly been seen, with concentrations of up to 800 individuals, and breeding has been confirmed. The Caribbean Coot is also regularly recorded at Klein Hofje, a wastewater treatment plant where the species is resident since 1993.

For Bonaire, a total of 71 records were found from eleven localities from 1974 to 2001, many of which refer to observations of more than one bird. Records were from all months except September-October, when coverage was low. Most sightings were from Onima Reservoir (15 records, up to a 100 pairs seen at a time, with breeding recorded), Playa Grandi Reservoir (11 records, up to 13 pairs, including breeding), and Washikemba Reservoir (29 records, with a maximum of up to 10 pairs with breeding recorded).

The species has not been recorded from two offshore islets, i.e. Klein Bonaire and Klein Curaçao. Klein Curaçao is barren and arid and the absence of Caribbean Coot is not unexpected, but Klein Bonaire (recently established as a nature reserve) is well-vegetated and freshwater is present.

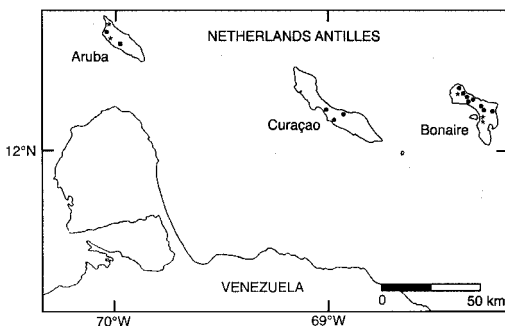


Figure 1. Localities where Caribbean Coot has been recorded (1955-2004) in the Netherlands Antilles. Dots refer to breeding, stars refer to non-breeding records and the square on Aruba refers to the location where subfossil Caribbean Coot had been excavated.

Breeding Season

Evidence was found of at least 97 breeding records for the three islands, of which 68 were detailed enough to be included in the

analysis. Of these, 46 records refer to nests with eggs (and sometimes chicks) and the remainder to the observation of chicks only. Laying can occur at almost any month, but most coots breed at the beginning of the year, just after the rainy season. Figure 2 shows the relationship between incubation and the amount of rainfall. However, it should be noted that these are general trends only, as breeding can be erratic and does not necessarily occur every year.

We documented 134 records of the Caribbean Coot in Aruba, Curaçao and Bonaire from all months of the year, and breeding has been confirmed on all three islands. From irregular breeding records in the 1950s on a single island, it has now apparently increased into a regular breeder on all three main islands. The lack of data for some recent years is mainly due to low recording coverage. Due to the nature of our study, it is difficult to assess numbers, but the data suggest that up to 800 Caribbean Coot occur in at least one area. At six sites, dozens and up to several hundreds of birds are regularly recorded, i.e. Onima Reservoir, Playa Grandi Reservoir, and Washikemba Reservoir on Bonaire, Tierra del Sol and Bubali Bird Sanctuary on Aruba, and Muizenberg Reservoir

and Klein Hofje on Curaçao. At least periodically, the species seems to be represented by a few thousand individuals on the three islands combined.

DISCUSSION

The Caribbean Coot is considered to be locally uncommon to rare on most of the Greater Antilles and is an irregular breeder or vagrant on the Lesser Antilles south to Trinidad (Rafaelle *et al.* 1998). On many islands, the species has apparently become less numerous, largely as a result of hunting, habitat destruction, introduced predators, and egg robbing (Taylor and Perlo 1998; Rafaelle *et al.* 1998; BirdLife International 2000, Keith *et al.* 2003), albeit that at least on Barbados the species has recently re-established itself in small numbers after almost a century of absence (Frost and Massiah 2001). The situation on the Netherlands Antilles compares favorably as a result of the establishment of several permanent freshwater ponds since the 1970s, and nowadays the species is firmly established in the southern Caribbean.

Breeding Biology

Breeding in the Netherlands Antilles peaked during the first months of the year, with little evidence of a second peak later during the season. This seems to be in contrast to findings from Puerto Rico and the Virgin Islands, where breeding peaked in April-June and September-November (Rafaelle *et al.* 1998; Taylor 1996). On Barbados, breeding has been recorded from April to September (Frost and Massiah 2001), whereas on Hispaniola breeding has been recorded all year round (Keith *et al.* 2003). In the Netherlands Antilles, breeding in the 1950s-1960s was erratic, as there were no permanent freshwater ponds and rainfall on the islands is irregular. Therefore, no suitable habitat for freshwater birds was available for most of the year and species like the Caribbean Coot were usually absent, only to arrive suddenly on the islands if and when the situation became more favorable (Voous 1982).

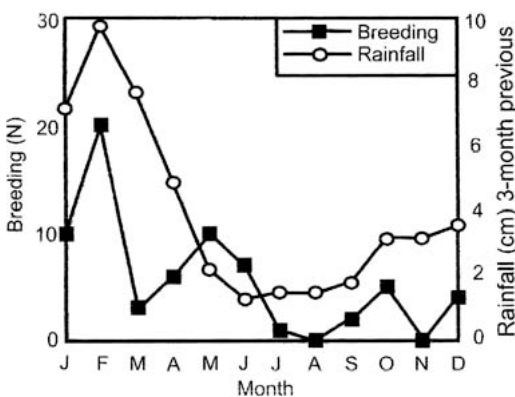


Figure 2. Incidence of breeding (number of records with one or more birds laying or incubating per month for the years 1955-2003, N = 68) on Aruba, Curaçao and Bonaire, Netherlands Antilles, in relation to the average amount of rainfall three months earlier (years 1971-2000: data from the Meteorological Service of the Netherlands Antilles and Aruba, <http://www.meteo.an/meteo2/eng>) showing that breeding generally commences approximately three months after the heavy rains.

Judged from field descriptions, most breeding records on the Netherlands Antilles refer to the Caribbean Coot and not the American Coot. However, Voous (1983) noted that at least one coot breeding on Curaçao in 1971 had a small reddish-brown knob at the frontal base of the bill shield. Furthermore, the collection of the Zoological Museum Amsterdam holds one subadult male (ZMA 28706: Dam Muizenberg, 8 May 1955) originating from Curaçao with an extensively red knob. It appears inseparable from American Coots of the same age. This subadult bird is in an adult plumage mixed with fairly fresh juvenile feathering on head and neck, a stage reached a few months after hatching, suggesting a laying date in early to mid-winter, which seems to exclude the possibility that the bird is a stray from North America. These observations may suggest that American Coot also breeds in the Netherlands Antilles or that the reddish knob is a feature that is occasionally present in the Caribbean Coot. However, to the best of our knowledge there are no confirmed breeding records for American Coot on the islands.

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