

Notes on the Occurrence of the Little Egret (*Egretta garzetta*) in the Americas, with Reference to Other Palearctic Vagrants

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Abstract.—The Old World species *Egretta garzetta* has been observed about 45 times in the Americas at widely separated locations. Numbers of sightings in the Americas are increasing annually. Individuals apparently migrate with Snowy Egrets, *Egretta thula*, between the Caribbean and northeastern North America. Presented here are analyses of the taxonomy and distribution of the species, identification, origin in the Americas, and seasonal distribution, with an annotated list of all known sightings in the Americas. Received 28 August 1991, accepted 20 January 1992.

Key words.—Caribbean, colonization, distribution, *Egretta garzetta*, immigrant, Little Egret, vagrant.

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The Little Egret, *Egretta garzetta*, has been observed about 45 times in the Americas, mainly in Nova Scotia, Barbados, St. Lucia, and Trinidad, often in association with Snowy Egrets (*E. thula*). The number of observations per year is increasing, which suggests that the species has begun to breed in the New World. If so, field observers should learn the field marks and natural history of the species. In the same manner that association between Cattle Egrets (*Bubulcus ibis*) and Snowy Egrets led to the accelerated colonization of the former species in North America (Crosby 1972), association of Little Egrets with Snowy Egrets in the Caribbean in winter may account for the recent invasion of Little Egrets into northeastern North America in the breeding season.

In this paper I discuss the taxonomy, identification, and distribution of the Little Egret, attempt to clarify the origin of the species in the Americas, and provide an annotated list of all known sightings in the Americas.

Taxonomy and Distribution

Taxonomy within the genus *Egretta* is unsettled. In keeping with current taxonomic trends, Little Egret and Western Reef-Heron herein are considered to be recognizable morphs of Little Egret, with Snowy Egret considered a separate species. Until recently, most major works recognized Little Egret and Western Reef-Heron as separate species (Cramp and Simmons 1977, Hancock and Elliott 1978). The American Ornithologists' Union (Monroe 1985), however, still considers Little Egret to be distinct from Western Reef-Heron and further recognizes two groups: *E. g. gularis*, breeding in western Africa on islands and along seacoasts from Mauritania to Nigeria and ranging north to the Azores, Cape Verde Islands, and Spain and south to Gabon; and *E. g. schistacea*, breeding in eastern Africa (the entire Red Sea region) and ranging to India and Sri Lanka

(Monroe 1985). Recent studies (Hancock 1984) concluded that Western Reef-Heron is a subspecies of Little Egret, with a range including Iberia, southern France, and locally elsewhere in southern Europe; regularly in Britain and occasionally in Ireland; and throughout Eurasia southward to Australia, as well as in northern Africa and in eastern and southern Africa below the Sahara. Hancock and Kushlan (1984) included the two morphs of Western Reef-Heron (*gularis* and *schistacea*) among the six taxa comprising their polymorphic Little Egret assemblage. Also included were Dimorphic Heron (*E. g. dimorpha*) and three races of Little Egret (*E. g. garzetta*, *E. g. immaculata*, and *E. g. nigripes*). Under this taxonomy, subspecific epithets designate recognizable morphs or geographic races. For example, the nominate race of Little Egret is *E. garzetta garzetta*, and the west African race of Western Reef-Heron is *E. garzetta gularis*. The sedentary race *dimorpha* is found in eastern and southeastern Africa, mostly along the coast. The race *nigripes* is found on the islands of southeastern Asia and in the southwestern Pacific and also is essentially nonmigratory. The race *immaculata* breeds in northern and eastern Australia; northern populations appear sedentary, whereas individuals from eastern populations migrate to Tasmania and New Zealand and through New Guinea and New Britain.

In erecting their synthesis, Hancock and Kushlan (1984) examined many museum specimens and visited colonies and habitats of reef-herons in northern Australia, Indonesia, India, and East Africa. They decided that Western Reef-Heron individuals are so variable as to defy characterization. They found dark phase *schistacea* pairing and nesting with herons identical to all-white *garzetta*, which led them to conclude that both taxa are best considered one species. They further noted that the principal characteristic of reef-herons, a thicker bill (Wassink 1978), although highly variable, merely suggests adaptation to marine habitats and hard-bodied food in

a situation analogous to Green-backed Heron (*Butorides striatus*) in the Galapagos and Yellow-crowned Night-Heron (*Nycticorax violaceus*). They reasoned that, in the reef-herons, the reproductive isolation necessary for development of structural change may have broken down or been incomplete. They further surmised that intergradation may have been brought about by shifts of range, as in the situation with the Great Blue Heron in Florida, where what now are regarded as two morphs formerly were regarded as full species: "Ward's Heron" (*Ardea wardi*) and "Great White Heron" (*A. occidentalis*).

Western Reef-Heron and Little Egret are both polymorphic, with a variety of intermediate plumages. The proportion of each morph varies geographically. In West Africa, the dark morph of the "Western Reef-Heron" is by far the more common, with only 2-3 white-morph individuals found in a colony of 900 in West Africa (Etchecopar and Huë 1964). The white phase becomes increasingly common farther south and predominates in the northern Red Sea population, with the dark phase more numerous in the south. Similarly, dark-morph Little Egrets are exceptional in the western Palearctic but are regular in East Africa and the Malagasy region (Cramp and Simmons 1977).

Yet another taxon was added to the species complex by Hancock (1984), who held that the Snowy Egret forms a superspecies with the Little Egret. Norton (1985a) expressed the problem succinctly as follows: "If Snowy ~ Little, and Little = Reef-Heron, then Snowy ~ Reef-Heron?" Further systematic research will be necessary to elucidate the relationships among these taxa.

Identification

Snowy Egret is the American form most similar to Little Egret. Cramp and Simmons (1977) held that this species is indistinguishable from Little Egret in basic plumage, and in alternate plumage differs only in having a longer crest lacking the two nuchal plumes. However, the facial skin of the Snowy normally is bright yellow; that of the Little Egret is never bright yellow, although it may be pale yellow in some races from the Red Sea and the Indian subcontinent. Usually the facial skin of the Little Egret is bluish- or greenish-gray. In both Snowy and Little Egrets it becomes reddish during the breeding season.

Every Little Egret I have examined has had a conspicuously flat forehead compared to that of the Snowy Egret, a characteristic analogous to that of the

ski-slope forehead of the Canvasback (*Aythya valisineria*). Use of this characteristic alone has enabled field observers in Trinidad to quickly locate and identify Little Egrets in mixed flocks of white herons and at considerable distances. Moreover, Little Egrets feed more sedately than Snowy Egrets (pers. observ.). Yellowish foot color and its extension up the leg are not useful as diagnostic characters as they are shared by Snowy Egrets and by some races of *E. gularis*.

Typical characteristics of adult Little Egrets are described from Cramp and Simmons (1977), Hancock and Elliott (1978), Hancock (1984), Hancock and Kushlan (1984), and from personal observations. In alternate plumage, the species has two or three conspicuous, lanceolate nuchal plumes. In all plumages the forehead appears flat from the crown to the base of the upper mandible. Leg colors range from dark olive-green through dark brown to black. Foot color ranges from dark yellow to greenish-yellow or lime-yellow (*garzetta*), or bright yellow with yellow sometimes extending halfway up the legs (*gularis*). Facial skin colors range from pale yellow, yellow tinged olive, or dark olive (lighter in white phases) through greenish-gray to bluish-purple, becoming yellowish-orange to red during courtship, then fading to white. In *garzetta*, the bill is straight, slender, slightly and equally curved above and below like a dagger; in *gularis*, the bill is heavier and more downcurved and the culmen is more arched at the tip, with the lower mandible less so. The bill is black (*garzetta*), brown with a variable amount of yellow at the base of the lower mandible (*gularis*), or yellow to greenish-yellow (*schistacea*). The lower mandible is feathered more than halfway to the tip. The species often is noticed initially because of its more erect posture, which makes it appear taller than nearby Snowy Egrets.

Both Western Reef-Heron and Little Egret develop recurved scapular plumes (aigrettes) that aid in separating them from other white species (Oreel 1979). The nuchal plumes of the Little Egret have been described as somewhat longer than those of the Western Reef-Heron, regardless of morph, but distinguishing between the two forms is often difficult or impossible in the field. In the hand, the two can be told apart by the tarsus-to-bill ratio, which averages 122% in *garzetta* (range 105-142% in 37 specimens examined) and 106% in *gularis* (range 97-117% in 19 specimens examined) (Cramp and Simmons 1977). From these figures it can be deduced that a tarsus-to-bill ratio less than 105% would indicate *gularis* and a ratio greater than 117% would indicate *garzetta*.

Without measuring the birds, distinguishing among white-morph individuals is problematic, although white-morph Western Reef-Herons usually have some dark feathers mixed in with the white. Dark-morph Western Reef-Herons may be separable from the rare dark morph Little Egret by the thicker, never black bill (heavy at the base, quite stout at the tip), the less graceful character, duller legs, and different behavior (frequently solitary along coasts). The dark morph Little Egret has gray to dark slate plumage, with or without a white chin and throat. The bill of the Little Egret is always black, thinner than that of the Western Reef-Heron, while the feet are usually of a paler and purer yellow.

Morphological variability among races of Little Egret has been the subject of many papers. Grant *et al.* (1980) wrote that the bare facial skin of Little Egret (*E. garzetta*) is gray, tinged green, becoming orange at the start of breeding and mauve-red at the peak of breeding activity. It seemed possible to them that the loreal area may appear yellowish at the intermediate stages of color change; indeed, some individuals in eastern populations of Little Egret may normally have yellowish lores in the breeding season (see next section). Hard parts also vary widely in color. In one area in France, Yésou (1984) found young Little Egrets with mandibles ranging in color from blue-green to pale yellow and with legs ranging from apple-green to black.

Hancock (1984) presented a table comparing the colors of the legs, feet, lores, and bills of the Palearctic white waders and noted the difficulty of distinguishing Little Egret from Western Reef-Heron. He stated that the extreme variability of white individuals along coasts and in some inland regions results from interbreeding among birds previously considered separate species. For example, dark-phase "Reef-Herons," previously considered *E. gularis schistacea* ("asha" in Hancock and Elliott 1978), commonly pair with white Little Egrets on Lake Turkana, Kenya (J. Hancock, Winchester, Hants, England; pers. comm.). Thus it appears that these forms are all races of Little Egret. In comparison with the European *garzetta*, *schistacea* has a shorter tarsus and normally a yellow or brown bill when not breeding, although it can be dark or even black according to the amount of racial mixing. The bill is often noticeably thicker at the base (Hancock 1984). Intergradation will increase as the range of the Little Egret continues to expand in the Palearctic. As dark birds of the West African race *gularis* wander to Europe (some released Pakistani birds of the race *schistacea* are known to be in Europe, see below), one or more of them may enter a Little Egret colony,

pair successfully, and rear European-bred, racially mixed young (Hancock 1984).

Origin of Little Egret in the Americas

The Little Egret in the New World probably originated from the western Mediterranean region. More than 30 years ago, in describing one of the first records for the Americas (first record for Trinidad), Downs (1959, p. 241) wrote, "Trinidad is some 4000 miles (6452 km) across the Atlantic from the Spanish locality (Coto Doñana) where this bird was banded less than six months prior to its collection." He quoted Mountfort (1958), who wrote that in the spring of 1956, the Little Egret was the most numerous heron species in the Coto Doñana, with about 3000 nesting pairs. Mountfort said that by 1956, several thousand nesting herons had been banded in Spain, and that most of the returns had been of Little Egrets. Prior to Downs' report, the westernmost record of a banded individual had been from the Canary Islands.

I find it remarkable that besides being recovered in Trinidad, Little Egrets banded at Coto Doñana also were recovered within one year in Suriname and Martinique. The Martinique bird was captured in the Caribbean only 10 weeks after being banded in Spain. Prevailing winds most likely aided these migrants on their journey west, which they made during the peak of post-juvenile dispersal.

Eisenmann (1960) suggested that Palearctic waders observed in the Americas during spring and late summer/ autumn migration have crossed the tropical Atlantic during a previous autumn and are returning north with native waders. Several elements support his theory. Prevailing winds across the northern Atlantic in late summer and autumn are strongly west to east, adverse to a crossing directly from Europe to North America. Conversely, the tropical Atlantic spawns major cyclones, which often attain hurricane velocity as they move west from the African coast towards the West Indies and then northward and northeastward along the North American coast (Murphy 1936).

Eisenmann declared the islands of the eastern Caribbean as most likely to catch Palearctic vagrants. He surmised that cyclones continuing northward might deposit birds not only in the eastern U.S. but also in Bermuda, Newfoundland, or southern Labrador. Supporting his idea, a "possible" Western Reef-Heron was recorded from Bermuda in December 1985 (Norton 1985a), following Hurricane Lily. Eisenmann also discussed the remarkable

number of Palearctic migrants collected on Barbados, the easternmost island in the Lesser Antilles. He suggested that Palearctic shorebirds, once in the New World, would probably continue to migrate year after year with their American relatives. Because all Newfoundland records have been in the spring, they have probably been such birds returning north rather than birds deposited by cyclones.

The southern Caribbean has long been known as a focal point for Palearctic vagrants. Bull (1978) wrote that the southernmost Caribbean islands, particularly Barbados, the Grenadines, Grenada, Tobago, Trinidad, and Aruba far to the west, have been resting places of at least 12 species of Charadriiform birds from the Palearctic. Barbados, in particular, has hosted a large number of Palearctic species including Grey Heron (*Ardea cineria*) (Bond 1962, 1965, 1966). The most recent Palearctic vagrants reported from the southern Caribbean were an African Spoonbill (*Platalea leucorodia*), photographed at Buccoo Marsh, Tobago, on November 3, 1986 (W. S. Scott, New Haven, CT; pers. comm.), and a White Wagtail (*Motacilla alba*), photographed at the Agricultural Research Station near Arima, Trinidad, on December 26, 1987 (F. Oatman, Craftsbury, VT, pers. comm.).

Smith and Hutt (1984) also emphasized Barbados as a prime landfall for transoceanic avian "accidentals" of all kinds, remarking that the appearance of Western Reef-Herons in Barbados is undoubtedly entirely natural. They compared the invasion of the Western Reef-Heron with that of the Cattle Egret, which was first recorded in South America, in Suriname, in 1877 (Palmer 1962), discovered in North America (Florida) in 1941 or 1942 (Sprunt 1953), and in the West Indies (St. Croix) in 1955 (Seaman 1955).

The spread of the Cattle Egret from South to North America was enhanced by socialization with Snowy Egrets (Crosby 1972), which migrate between northeastern North America and the Caribbean. Snowy Egrets are numerous and widespread in the Caribbean during the northern winter, except in the Leeward Islands, where Bond (1985) considered them rare. Of nestling Snowy Egrets banded on Long Island, New York, Davis (1968) reported recoveries from the Dominican Republic, Puerto Rico, and Marie Galante (near Guadeloupe, about 3065 km SSE of the banding location). All three birds reached the Caribbean within six months of fledging, as did another Snowy Egret banded as a nestling in Wakulla County, Florida, and recovered near Georgetown, Guyana, five months later (Loftin and Olson 1966).

A recent (1990) search of banding records of Snowy Egrets yielded 54 recoveries in the Caribbean of birds banded as nestlings in eastern North America (Table 1). Most banded birds are never recovered. The fact that so many banded Snowy Egrets have been recovered from the West Indies indicates regular migration of considerable numbers of Snowy Egrets between North American and the West Indies.

Cattle Egrets followed a route similar to that of Little Egrets in colonizing the Americas. Crosby (1972), referring to the Cattle Egret, wrote that the shortest distance between Africa and South America is about 3225 km (Senegal to Rio Grande do Norte Province, Brazil). The Cattle Egret occurs in Senegal, but Crosby (1972) thought it unlikely that the immigrants crossed the Atlantic from there. He reasoned that the species apparently arrived not in Brazil but in the Guianas, well to the north. In crossing from Senegal to Brazil, the birds would have encountered unfavorable winds. He felt it more likely that the immigrants came from North Africa, perhaps Morocco, or even from southern Portugal or Spain, assisted by the northeast trade winds and being carried directly to the Guianas along the northeast coast of South America.

Roberson (1984) was skeptical that *E. garzetta* ssp. could have arrived unassisted in the Western Hemisphere, especially the relatively sedentary Western Reef-Heron, citing the lack of records for any New World point south of Massachusetts. Within a few months of the publication of his article, however, four Little Egrets and four Western Reef-Herons had been seen or collected in the Caribbean. Norton (1985b) pointed out that in early 1984 at least three different Western Reef-Herons were present in the eastern Caribbean (two on St. Lucia and one on Barbados), separated by 128 km of open ocean and mentioned a simultaneous undocumented record from Bermuda. Roberson (1984) concurred with Eisenmann (1960) in stating that long-distance migrants such as Little Egret and Grey Heron are trans-equatorial migrants, each year returning far to the north, beyond the 40th parallel. He felt that, should an individual winter in South America (for whatever reason of navigational error), it was reasonable to believe that the bird would later migrate to North America.

Cardillo *et al.* (1983) speculated that the Western Reef-Heron found on Nantucket Island in 1983 had crossed the Atlantic unassisted, perhaps with a stopover in the Azores. The distance from the nearest population, in Mauritania, is about 6410 km, 6775 km if the Azores had been included in the route. They added that the bird may have been

carried by strong winds and, since reef-herons are known to perch on boats (Brown *et al.* 1982), that it may have rested on a ship for part of the crossing.

McLaren (1989a) thought it likely that three Little Egrets found in Nova Scotia in early 1989 had originated in the Caribbean, where several Western Reef-Herons, Little Egrets, and a Grey Heron had been observed in recent years. He noted that European Little Egrets are strong migrants, many crossing the Sahara to West Africa (Cramp and Simmons 1977), and that their northward migration is well under way in March. McLaren (1989a) speculated that the three birds might have migrated north, just as they would have from Africa, stopping in Nova Scotia at the latitude of southern Europe.

Forster (1989) noted that the bulk of the Little Egret population in Spain and Portugal migrates south or southwest, many crossing the Sahara and wintering near the equator in Africa. He surmised that a disoriented migrant that overshot the western coast of Africa likely would be transported by the westerly trade winds. If it survived, it would make landfall on the northeast coast of South America or the Lesser Antilles, where it would probably spend the winter.

Recent reports of white Little Egrets with yellow lores in the Americas imply hybridization, with alleles probably contributed by individuals of *E. g. schistacea*. McLaren (1989a) reported that the bird seen at Sambro, Nova Scotia, in 1989 had pale yellow lores and that a colleague had seen television footage of yellow-lored birds in the Danube Delta. On the basis of characters presented in Hancock (1984), it must be concluded that these and other yellow-lored *E. garzetta* ssp. seen in the Nearctic since the early 1980s are *E. g. schistacea*, the race of the Little Egret formerly found only along the coasts of eastern Africa and the Indian subcontinent. My hypothesis is based on the following information: Pfriam and Nickel (1982) reported the first *E. g. schistacea* for central Europe in 1980, a dark-morph individual seen in West Germany from August through September. Although it appeared to be wild, Pfriam and Nickel correctly surmised that it had been released. A flurry of additional sightings of other birds in central Europe followed. Soon after, Wüst (1983) reported that an animal dealer in Germany had imported about 500 *schistacea* from Pakistan from about 1980 through 1982. Eighteen birds were released. When Wüst wrote his article, the importer still owned about 50 of the imported individuals, while most of the others had been sold to bird fanciers in the Federal Republic of Germany and in Austria.

Wüst (1983) noted that the birds were of the dark morph, and a dark-morph individual was the first

schistacea to be identified in central Europe. As the released *schistacea* moved into breeding colonies of *garzetta* in southern Europe, white-morph *garzetta/schistacea* hybrids probably spread through the region as well. Such white-morph individuals so strongly resemble the nominate form of the Little Egret (*E. g. garzetta*) that they subsequently would have been far more easily overlooked than dark-morph individuals.

Hancock and Kushlan (1984) also mentioned the importation of *schistacea* into central Europe, stating that birds of that race had been introduced to zoos and parks in Austria and Germany by Pakistani dealers. Some birds were deliberately released and may have been the ones sighted in the Mediterranean region during that time period. Hancock (in Yésou 1984, p. 317) discussed Western Reef-Herons seen in Europe and held that they probably were not of the nominate race, *E. garzetta gularis*:

"From descriptions sent to me, I have always held the view that these were more likely to be of the race *E. g. schistacea* (= *asha*) and had strayed from the [Persian] Gulf, and I retain this view. In the years 1980-82, however, 200-300 birds of this race were sent from Pakistan to Germany and Austria; at least eight were released by the dealer (it is not clear whether these were light- or dark-phase) and others may have escaped . . . The likelihood of a Western Reef-Heron joining a party of Little Egrets is therefore greatly increased."

Thus birds originally from the Red Sea population, incorporated into the European/African population, may have contributed alleles coding for yellow facial skin in the aforementioned and other records of *E. garzetta* spp.

Seasonal Distribution in the Americas

Most Little Egrets found in the Caribbean have been seen early in the year (Table 2), when most Little Egrets in the western Palearctic are wintering in Africa, in the same range of latitudes as the Caribbean. Similarly, all Little Egrets in North America have been observed between April and September, when many western Palearctic Little Egrets are breeding in Europe at the latitude of New England. The paucity of records late in the year may be the result of several factors, including confusion between this species and immature Snowy Egrets and a lack of competent observers in its Caribbean wintering range.

The substantial number of records distributed throughout the year would seem to bear out the hypothesis that Little Egret is indeed resident in the Americas, specifically in the Caribbean. From Table 2 it might be surmised that most individuals of the

species spend the spring and summer in North America and winter in the southern Caribbean. It might further be surmised that birds seen in the Caribbean in January are southbound migrants that will appear again in April during their northward migration. These individuals could represent the nucleus of a breeding population in the Caribbean.

Regarding this manuscript, Sandy Sprunt wrote, "I am quite sure that this paper will probably increase the number of sightings. More observers (good ones) are going to the Caribbean each year and with the knowledge of the possibility of Little Egrets, Snowy Egrets are going to be much more closely watched!" Indeed, I encourage field naturalists in the Caribbean to carefully examine all herons encountered. Few Caribbean islands offer the kind of habitat preferred by the species; Trinidad, Barbados, St. Lucia, St. Vincent, and Grenada are the exceptions. Trinidad has extensive wetlands suitable for Little Egrets; however, all records to date have been from two man-made wastewater treatments plants. Barbados, St. Lucia, St. Vincent, and Grenada each contain rather restricted wetlands that offer ideal, though limited, habitat for Little Egrets. Continued surveillance in the southern Caribbean may allow us to discover the main wintering grounds of the species in the Americas.

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Table 1. Banding recoveries of Snowy Egret, *Egretta thula*, in the Caribbean.

Country	Recoveries
Haiti	13
Cuba	12
Bahamas	11
Puerto Rico	4
Venezuela	4
Martinique	3
Guadeloupe	2
Aruba	1
Dominica	1
French Guiana	1
Jamaica	1
Trinidad	1

Table 2. Records of Little Egrets in the Americas by month.

Month	Caribbean	No. America	Total
January	12	0	12
February	8	0	8
March	8	1	9
April	5	4	9
May	1	8	9
June	4	5	9
July	2	4	6
August	0	3	3
September	2	3	5
October	3	0	3
November	1	0	1
December	1	0	1