


The Identification of Gray Heron

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In the recent *Birding* series on potential new birds for the ABA Area, Gray Heron *Ardea cinerea* featured in both the Northeastern Atlantic and Western Alaska summaries as a candidate for future vagrancy (Petersen 2000, Tobish 2000). For many birders, these articles introduced an essential question: If I saw a Gray Heron in North America, would I recognize it?

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Figure 1. Here is an adult Gray Heron in breeding condition in Kenya in October 1998. In peak breeding condition, Gray Herons acquire bright vermillion color to the legs and most of the bill. This color is brighter and more intense than shown by most Great Blue Herons. The lores are bi-colored, with the area closest to the eye being a dark navy blue, darker than on Great Blue Herons in breeding condition. The lores closest to the bill are similar in coloration to the bill base. Although this photo was taken in Kenya, the plumage appears identical to birds from more northern populations.

The fact that Gray Heron has been a vagrant to the West Indies (Raffaele et al. 1998), irregularly recorded at Montserrat, Martinique, and Barbados, and has been the object of two interesting, although unverified, reports from remote sites in Alaska, one from 1999 (Burton and Smith 2001), makes this possibility intriguing. Some Gray Herons may actually have made it here without being identified.



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Figure 2. Note the very long neck and deep, heavy bill on this adult Great Blue Heron photographed in Venice, Florida, in January 1995. These structural features are very useful for eliminating Gray Heron in any plumage. The vinous neck sides and obvious cinnamon on the bend of the wing also eliminate Gray Heron. In peak-breeding plumage, adult Great Blue Herons show extensive pinkish on the legs and an orange bill that becomes yellower toward the tip. The lores are mostly bright blue except for a small section at the base of the bill, where they are yellow or orange.

Gray Herons have a passing resemblance to Great Blue Herons *Ardea herodias*, and it is possible that earlier occurrences have been overlooked. The separation of these two species has been covered in a European context by Gantlett (1998) and Clarke (1999). The information from these articles was summarized for a North American context by Shanahan (2001). In this article, we touch on the basic ID issues and address several additional identification features and pitfalls that do not appear to have been previously published.

Subspecies Terminology

Both Great Blue and Gray Herons have a number of subspecies. Observers should consider the two subspecies of Gray Heron that are most likely to occur here: *A. c. cinerea*, widespread in Europe through central Asia to north-eastern China and the Russian Far East, and *A. c. jouyi* of southern Asia, north to Korea and Japan (Payne 1979, Hancock and Kushlan 1984, Brazil 1991, Yoon 1987). When discussing the different forms of Great Blue Heron, for simplicity we follow the taxonomy of Payne (1979) that lumps all North American forms into nominate *A. h. herodias*, except for *A. h. fanini* and *A. h. occidentalis*.

Summary of Published Identification Criteria

Birders unfamiliar with previously published material on the separation of these species may benefit from this summary of field marks, also well illustrated in many of the photos here (especially Figures 2, 4, and 6). Gray Herons of all ages usually can be easily distinguished by a combination of structural and plumage features. Gray Herons average 50 percent smaller in bulk (although there is some overlap) and have proportionately slimmer bills and shorter necks and legs. Their plumage is generally paler, especially on the neck, and they show white or

whitish, as opposed to cinnamon or rufous, on the tibia (“thigh”) feathering, marginal wing coverts, and carpal region.

Separation of immature birds is more difficult than that of adults. Juvenile and Basic I Gray Herons can show a faint suffusion of cinnamon on the neck, the edges of the wing coverts and even in the white carpal patches as well. However, in immature Great Blue Herons the cinnamon tones are typically much stronger and the dark throat-streaking is finer and denser. Compare, for example, Figure 10 with Figures 11, 12, and 13.

Variation Due to Age and Wear

The main identification pitfall is the occurrence of Great Blue Herons that lack rufous on the thighs or carpal region. This issue was raised by Clarke (1999) when discussing the occurrence of an apparent Great Blue Heron in the Canary Islands. Shanahan (2001) stated that this bird was an adult. However, we are unconvinced by this ID since the Canary Islands bird shows a rather extensive cinnamon wash throughout the coverts. We think that this bird was most probably in or molting to Basic II, although the extent of cinnamon is still unusual.

In our experience, Great Blue Herons that lack rufous thighs or carpal patches are immature birds. We have observed both Basic I and apparent Basic II birds that are lacking in rufous coloration in these feathers, and some with conspicuously white carpal “headlamps” in flight (see Figure 7).

We have observed such birds primarily in spring and summer and believe that this appearance results from a combination of wear and the fact that some immatures attain only relatively weak cinnamon or chestnut coloration on the tibia and marginal coverts. It should be noted that the breeding season of Great Blue Herons varies greatly across North America, and, especially along the Gulf Coast or Florida, worn

immature plumage might well occur at other times of the year.

While structural differences and vocalizations provide the most reliable means for correctly identifying such individuals, we will discuss several additional supportive characters that also can be used.

Geographical Variation in Upperpart Coloration

Great Blue Herons are said to have slightly darker gray upperparts, compared to Gray Herons. While this is true, upperpart coloration varies depending on the subspecies. It is important to be aware that the intraspecific variation in Great Blue Heron is considerably greater than the difference between *herodias* Great Blue Herons and Gray Heron. This variation is well illustrated in Figure 8, showing the Pacific NW *A. h. fannini* (resident largely coastally from SE Alaska to Washington state) as strikingly darker on the back and neck than the widespread *A. h. herodias*, which is quite similar to nominate Gray Heron. Therefore, any obviously paler birds seen in the range of *fannini* are much more likely to be nominate Great Blue Herons than vagrant Gray Herons.

Conversely, at the opposite end of the continent, in southern Florida, most researchers view *A. h. occidentalis* Great White Heron as a localized pale color-morph, but others regard it as a possible distinct species (Palmer 1962, Robertson 1978, Butler 1992). In either case, some of the intergrade or intermediate forms resemble typical Great Blue Herons with slightly paler plumage and bare-part coloration. Such birds might be very similar to Gray Herons, although they would typically be separable on size and structure, especially since birds of the southeastern populations of Great Blue Heron are the largest.



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Figure 3. The virtually white neck-sides on this adult Gray Heron easily eliminate Great Blue Heron. This is a good illustration of the typical bi-colored loreal pattern—all dark by the eye but all yellow at the bill base. The photo is from Kent, England.

Bare-part Coloration

Although incorrectly portrayed in some North American field guides, bare-part coloration appears to be a useful field mark. Due to variation, however, it should be regarded only as supportive. In non-breeding condition, most Gray Herons show paler legs and lores than Great Blue Herons do. Because bare-part coloration changes when both species are in breeding condition, birders must consider bare-part coloration in both non-breeding and breeding conditions.

The color of the maxilla (upper bill) provides a simple way to check whether a Great Blue Heron is in non-breeding condition. Although Gantlett (1998) and Shanahan (2001) state that a dark maxilla is useful for aging birds as immatures, our observations indicate that adult Great Blue Herons acquire a largely dark maxilla outside of the breeding season. We suspect that this may be true of Gray Herons also but have not verified this. Immatures of both species have the

maxilla extensively dark and the mandible (lower bill) largely yellow.

In non-breeding condition, the majority of both adult and immature Great Blue Herons typically show dark legs that become pale-to-dull pink or yellowish on the upper tibio-tarsal, creating a two-toned appearance. They also show yellow soles, which are conspicuous on flying birds. When closely observed, some of these birds may show paler coloration on the 'knees' (the tibio-tarsal joints) and elsewhere when observed closely, but even on these birds the typical impression at any distance is of a dark lower leg. A small minority of Great Blue Herons have extensively grayish, yellowish, or pale-to-dull pink-toned legs that are similar to those of Gray Herons. A few immature Great Blue Herons (and possibly some non-breeding adults) appear to have entirely dark legs and soles (pers. obs.).

A minority of Gray Herons of both races, most commonly immatures, show leg coloration that is quite simi-

gray vs. great blue herons



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Figure 4. An adult Gray Heron, such as this individual photographed in August 1996 in Amsterdam, The Netherlands, can be easily identified by lack of cinnamon plumage tones, pale gray wash to neck, shorter legs and neck, and less-massive bill. Note the pale greenish-gray tones to much of the legs and the color pattern on the lores. By the eye, the lores are entirely dark, but by the bill base, entirely pale yellow.



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Figure 5. Note the extensively pale legs on this adult Gray Heron, photographed in August 1996 in Amsterdam, The Netherlands. The small percentage of non-breeding Great Blue Herons with paler legs tend to show more warmer pinkish or yellow tones, unlike the washed-out grayish color of this bird.

lar in appearance to that of a typical Great Blue Heron. However, most adult and immature Gray Herons usually do not show mostly dark legs when viewed well. In European birds, the legs vary from a dull pale pinkish-brown to greenish-gray. Although the upper part of the leg tends to be a bit paler, on most individuals paler pinkish coloration is typically evident below the 'knee'. East Asian birds often show yellow legs with some birds showing extensive yellow reaching down toward the 'ankles'.

Another useful bare-part difference is the pattern of dark and yellowish skin on the lores. The great majority of adult and immature Great Blue Herons show largely dark lores that enclose a pale yellowish spot of variable size. Although this spot is usually near the bill base, it can extend back toward the eye. This yellowish spot occupies about 20 to 40 percent of the total loreal area and is often rather narrow in shape. It typically meets the bill base in a narrow point. A small percentage of birds show entirely dark lores.

Some immature and non-breeding adult Gray Herons show a pattern similar to that of Great Blue Heron, with all dark lores enclosing a yellow spot, although this yellow spot is larger than on a typical Great Blue Heron. The majority of Gray Herons of all plumages show more extensively pale yellow lores, with typically 30–80 percent of the loreal area yellowish. The distribution of color in the lores is different, too, with Gray Herons usually showing two-tone lores that are all dark closest to the eye but all yellow closest to the bill base. Even birds with mostly dark lores usually have the lores largely yellow at the point where they meet the bill, differing from most Great Blue Herons.

We believe that the loreal pattern is a more consistently useful bare-part difference than leg color, although there is still considerable overlap. We have yet to observe an immature or non-breeding adult Great Blue Heron that shows a loreal pattern like that of

typical Gray Heron. However, adult Great Blue Herons close to attaining peak breeding color often show a two-tone pattern similar to that of a Gray Heron.

Soft parts of both species exhibit similar developmental and seasonal variations. In particular, birds in 'peak-breeding' condition, attained for a short period immediately before egg-laying, have much brighter bare-part coloration. In this condition, Great Blue Herons often acquire vermillion or reddish-orange tones to much of the bill and legs. The intensity of this color may be regionally variable, as Butler (1992) did not observe this in British Columbia. Although orange or reddish tones to the bill are present for only a short time, adults of both species show largely yellow bills for several months during the breeding season. The color of loreal skin in peak breeding condition is described in various sources (e.g., Meyerriecks, 1960) as lime-green. This is not true of birds in Florida, which show ultramarine blue loreal skin in peak breeding plumage (Rich Paul, pers. comm.). Our own observations of birds in California and Nova Scotia indicate that the typical loreal coloration is a medium blue or blue-green, similar to what we have seen in photographs of Florida birds. In peak breeding condition, Gray Herons can acquire completely pink or vermillion coloration to the bill, lores, and legs and appear quite distinct from Great Blue Herons. However, it is unlikely that a vagrant Gray Heron would exhibit such bare-part coloration.

Juvenal and Basic I Crown Coloration

A distinguishing feature found to be useful on first-year Gray and Great Blue Herons observed in Barbados by Ed Messiah is crown coloration (see Figure 9). Juvenile and Basic I Great Blue Herons often show a distinct blackish cap that covers the forehead and crown, reaching down to the mid-point on the eye. In contrast, in juve-



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Figure 6. This bird, an adult Great Blue Heron in non-breeding condition, is easily identified by the cinnamon on the thighs and the bend of the wing, dark neck sides, deep, heavy bill, long legs, and strong S-curve of the retracted neck. This bird illustrates the typical bare-part coloration. The lores are mostly dark, with the dark color encompassing a narrow strip of pale yellow. Note the typical two-tone leg pattern with pink tibia contrasting with dark tarsi. This bird was photographed at Everglades National Park, Florida, in January 2001.

gray vs. great blue herons



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Figure 7. This Great Blue Heron in flight over Sable Island, Nova Scotia, in June 1992 lacked obvious cinnamon tones and showed an obviously white 'headlamp' on the wing, similar to that on a Gray Heron.

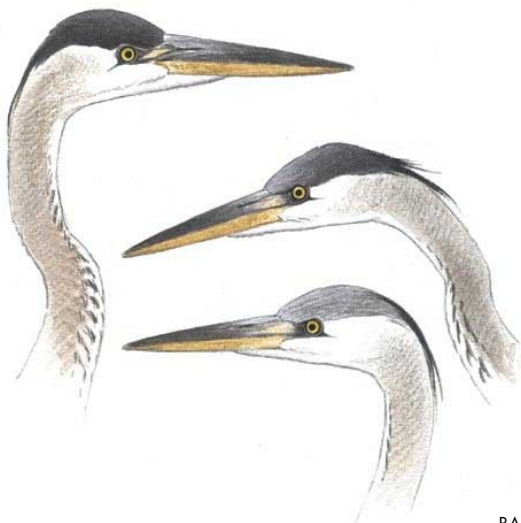


Gray Heron

Great Blue Heron

BARRY W. VAN DUSEN

Figure 8. Although Great Blue Herons generally have marginally darker upperparts than Gray Herons, it is important to understand the effects of subspecific variation. From left to right, this artwork shows a Gray Heron of the race *jouyi*, a Gray Heron of the race *cinerea*, a Great Blue Heron of the race *herodias*, and a Great Blue Heron of the race *faninni*. Although *jouyi* is paler than any Great Blue Heron, *cinerea* and *herodias* are fairly similar in the tone of their upperparts. *Faninni* is markedly darker than any other race of either species. Since *fannini* is the most likely subspecies of Great Blue Heron to reach areas of western Alaska and the Bering Sea islands, upperpart color should be a very useful distinction there. However, within the main range of *fannini* in the Pacific Northwest, paler birds will typically be out-of-range *herodias* Great Blue Herons. This illustration was drawn by the bird artist Barry W. Van Dusen after having examined photos provided by Jon King from specimens at the Museum of Vertebrate Zoology at Berkeley.



BARRY W. VAN DUSEN

Figure 9. A useful distinction between first-year Great Blue and Gray Herons is the darkness of the crown. Although variable, Great Blue Herons (top bird) often show extensive black caps. Gray Herons of the race *cinerea* (middle bird) usually show medium to dark gray caps. Gray Herons of the race *jouyi* (bottom bird) have rather pale gray crowns that are strikingly different from those of either Gray Herons of the race *cinerea* or Great Blue Herons. This illustration was drawn by Barry W. Van Dusen, after having examined photos provided by Jon King from specimens at the Museum of Vertebrate Zoology at Berkeley.

nile nominate Gray Herons, the dark-capped appearance is less well-defined because only the center of the crown and crest are black, with the forehead, lores, and superciliary area being medium-dark gray. In juveniles of the race *jouyi*, the crown, lores, and superciliary areas are pale gray.

We have observed some Basic I Great Blue Herons with rather pale crowns (see Figure 14), possibly acquired as they molt into Basic II, where the head pattern becomes much more adult-like. In addition, there seems to be variation in nominate Gray Heron, with some birds showing darker crowns than others. We believe, therefore, that this feature should be regarded as supportive, pending further investigation.

Vocalizations

The typical call notes of the two species are diagnostic, although it is difficult to articulate these sounds in print. Observers should be sure that they are thoroughly familiar with Great Blue Heron calls. To our ears, Gray Heron has a rasping *yearrh*, with the note becoming more guttural toward the end. This note has a slightly disyllabic sound. Great Blue Heron has a deeper *rarak*, more guttural throughout. At least in California, Great Blue Herons also have a guttural, drawn out *ar-r-r-g-g*, sometimes combined with the first call into a three-note *rarak - ar-r-r-g-g - ar-r-r-g-g*.

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We thank Max Berlijn for providing information on Gray Heron leg coloration from Holland, Ed Messiah for sharing his experience of comparing Gray and Great Blue Herons on Barbados, and Jon King for his observation of Gray Herons in both Europe and East Asia. James Kushlan kindly supplied helpful suggestions. Anthony McGeehan furnished an analysis of his experiences with both species. We acknowledge Rich Paul, who provided



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Figure 11. The obvious structural differences separate this immature Gray Heron from even the most cinnamon-less immature Great Blue Heron. Note the gray cap, bi-colored loreal pattern—all dark by the eye but all yellow at the bill base—and pale legs. This bird was photographed in August 1997 in Finland.

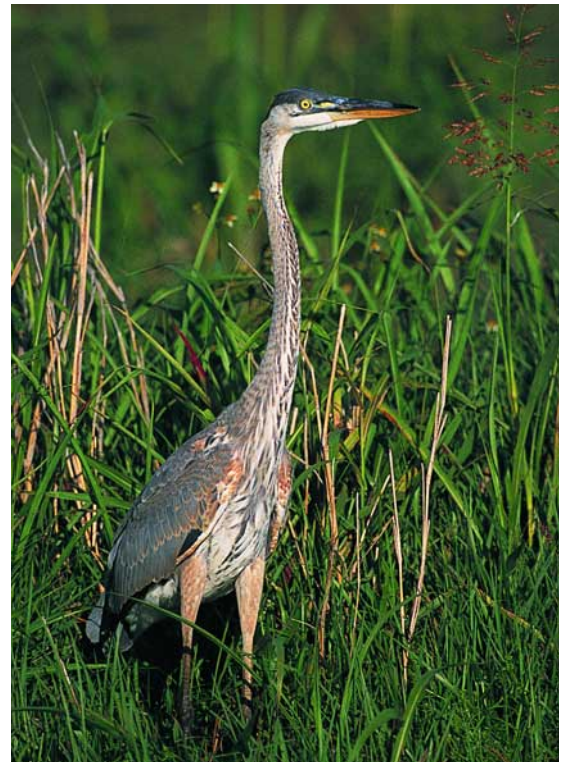


Figure 10. In addition to the characteristic long neck and deep bill, note the relatively short messy-looking neck-streaking on this immature Great Blue Heron, photographed at Lake Apopka, Florida, in June 1999. Note the extensive black cap. In this individual the cinnamon tones on the thighs and carpal area are fairly washed out although still obvious. The lores have more pale yellow than most Great Blue Herons, but note the long narrow shape of the yellow patch largely enclosed in black.

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gray vs. great blue herons



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Figure 12. The cap on this immature Gray Heron is rather dark gray and approaches the typical appearance of Great Blue Heron. However, in addition to the lack of any obvious cinnamon tones, note the very extensive yellow on the lores. It is hard to imagine a Great Blue Heron in any posture resembling the night-heron-like *jizz* of the bird in this photo, taken in August 1987 in Kent, England.



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Figure 13. This immature Gray Heron can be easily identified by structure and lack of any cinnamon tones. Note the gray cap and the bi-colored loreal pattern—all dark by the eye but all yellow at the bill base. Although the legs are darker on this individual, it lacks an obvious contrast between a cinnamon or yellow upper leg and dark lower leg. This bird was photographed in August 1993 in Kent, England.

extensive information on Great Blue Herons bare-part coloration and variation in the Florida populations, Carla Cicero, who arranged access to the Museum of Vertebrate Zoology collection, and Mark Adams, who arranged access to the British Museum of Natural History collection.

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Figure 14. An immature Great Blue Heron, such as this bird photographed at Everglades National Park, Florida, in January 2001, can exhibit some of the variation in the features discussed in this article. This bird lacks a dark cap, possibly as a result of molt, and shows strong pale coloration in the tarsi. However, the heavy, long-necked structure is typical of Great Blue, as is the loreal pattern, with a narrow pale yellow strip enclosed in dark colors.

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Figure 15. Here is a good illustration of the typical loreal pattern on an immature Great Blue Heron. A narrow pale yellow strip meets the bill but is otherwise entirely enclosed in dark. The long neck and deep bill also eliminate Gray Heron. The cap on this individual, photographed at Merritt Island National Wildlife Refuge, Florida, in January 2000, is no darker than on some Gray Herons.



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