

by Paul M. Roberts, Medford

GYR 1 - 2 - 3 is not a new software program developed for your personal computer. Rather, it is a question: "How many Gyrfalcons (Falco rusticolus) were present on Plum Island, Massachusetts during December 1983?" Many birders no doubt heard reports of two birds - a gray Gyr and a "dark" one. Based on oral and written reports, I believe that the two phases, or morphs, reported by other observers referred to the same individual. However, I also believe that two distinctly different Gyrfalcons, in two easily differentiated plumages, were present on the island on December 9. And I believe it possible that three individuals were present over a three-day period from December 9 to 11.

This highly improbable story began for me on the evening of December 3, 1983, when I received a phone call from Nancy Clayton informing me that a gray-phase Gyrfalcon had been seen by numerous observers on Plum Island. Nancy knows that some years ago I spent almost forty entire days roaming Plum Island and Salisbury in pursuit of an elusive white Gyrfalcon. Few things in life are more awesome, or more ephemeral, than a Gyr.

The weather was foul on Sunday, the fourth. Visibility was minimal, and no one reported a Gyr. Observers on Monday and Tuesday also apparently failed to find the bird. By this time, I heard reports that a dark-phase Gyr had been seen over the previous weekend, but I could not find anyone who had actually seen the "dark" bird. A Gyrfalcon may have been seen but not officially reported December 7, because numerous birders were on the Parker River Refuge the next day when a Gyrfalcon was found at Cross Farm Hill, plucking away for hours at a goose carcass on the north side of the hill. The reports I heard again described the bird as gray-phase, but talk of a dark-phase persisted. I thought it highly unlikely that two Gyrfalcons were present at the same time. It seemed much more reasonable to assume that only one Gyrfalcon was present and that it was sufficiently dark on the back and streaked on the breast and belly so that to one observer it would appear gray while another would see it as dark.

By now the Gyrfalcon had been present for almost a week and was known to frequent Cross Farm Hill. I was determined to look for myself.

On December 9, I drove to Newburyport in the predawn hour. With first light, I scoured the marsh near the airport and Pine Island and in the direction of Woodbridge Island. Red-tailed Hawk. Rough-legged Hawk (light-phase). Three kestrels and a Northern Harrier - but no Gyr. I worked my way down the island, scanning every inch of marsh and dune visible from the

refuge road, down to Hellcat Swamp. Failure. But then, I was prepared for it. The scars of wild Gyrfalcon chases still mar my psyche.

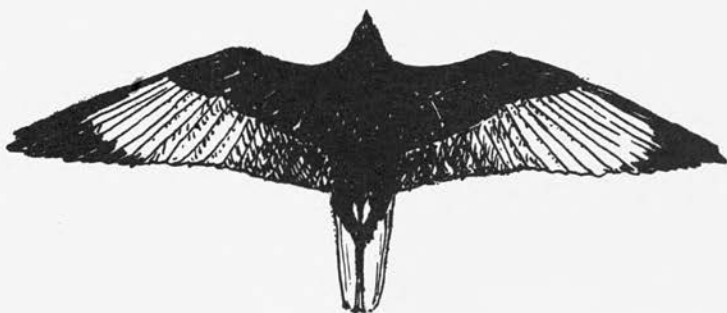
Watching from the top of the Hellcat tower, I picked up a large, very dark bird gliding south from the town marker field over the swamp. The bird's effortless speed in a shallow glide was impressive. The bird looked bulky, and its wings were held stiff on the horizontal, straight out from the body, as the creature melded into the woods. The jizz was not that of a harrier or a Rough-legged Hawk, the two most likely raptors to be seen here.

I RAN from the tower and started working my way up the road, hoping to see this bird again. No such luck! Disappointed, I headed back to the parking lot, debating whether to return to the tower or move on. Suddenly, I saw a large, but different, raptor moving quickly, effortlessly, up the dune side of the road. It was followed, but not harrassed, by several hard-working crows. The bird was using a slow, shallow, stiff beat from the "hand" to maintain its speed. The wings were long and thick, as was the tail, which looked plank-like.

I didn't have time to erect my scope, so I used my 8.5X binoculars, with the sun shining over my shoulder providing excellent light. The bird's mantle appeared consistently dark. The color was questionable - dark gray, brown, or blackish - but the crown, nape, back, upper-wing coverts and flight feathers appeared uniformly dark. I was impressed by the contrast between the underparts and the upperparts. The bird's cheek and throat appeared quite light, conceivably light gray, with a distinct, sharp malar bar or moustache. The breast and belly also appeared quite light. No heavy streaking was obvious. (Light crossbarring seems possible, but it was not seen.) The color of the underparts reminded me of an adult Northern Goshawk, but I was confident the bird was not a Goshawk. I had seen the shape of the extended wings, the tail, and the moustache too well. Underneath, the primaries were light gray, tipped dark. Due to the shallow wingbeat and the altitude of the bird, I did not see the wing linings well, nor did I see the middle and lower belly or the tail from below. The tail appeared uniformly dark from above. I did not perceive heavy banding, but fine banding was possible.

When the bird passed out of sight, I quickly ran to the Hellcat Tower to see if I could pick it up again. I could not. It was only 8:10 A.M., and I wasn't going home skunked. I had seen the Gyr! My only question was how could anyone ever mistake that bird for a dark-phase bird.

While I was still on the tower, all the ducks and geese in the south pool suddenly spun into the air in a flurry of activity. I quickly searched the horizon with my binoculars but could not find a raptor. Then I perceived a silhouette, backlit, on the dike. Using the scope (25X), I saw a large, extremely dark



Gyrfalcon

Illustration by Julie Roberts

falcon at the far south end of the dike, sitting on a kill. I ran to the car, drove quickly to the Old Pines, and slowly worked my way along the Old Pines trail until I had a clear view of the dike, but nothing was there.

Then I spied the hawk in the field. It had carried the kill down from the dike, out of the wind, and was plucking away at a large waterfowl, which appeared to be a Mallard. The falcon, less than a hundred yards away, plucked at the duck for ten to fifteen minutes. The hawk then rose in the air lazily and soared low, in front of and directly over me, no more than twenty yards away. The soar was low, effortless, and slow; the bulk of the bird was such that it appeared to be defying gravity. There was no heavy flapping. After circling over me twice, the bird passed low over the field and perched in a short tree. It remained there for more than half an hour. A crow landed in the tree, within a yard of the falcon, but made no sound or motion toward its impressive neighbor.

This hawk was LARGE and barrel-chested. It reminded me of the Squantum Gyr of the previous year in that it was so robust it conjured up images of a pheasant or ptarmigan in flight. The head and neck were substantial; the wings and tail long and thick. This bird was completely dark brown - fuscous - when seen from above, with a pale bloom at the base of the primaries on the upper wing. From below, the throat, breast, and belly were saturated fuscous - there was no streaking. The tail was all dark from above, not perceptibly banded. The cheeks were slightly paler than the crown, and the cere and feet were bright yellow. In flight, the wing linings appeared quite dark, contrasting with the white to gray, dark-tipped flight feathers. The underside of the tail was grayish-white and unbanded, but I think the rectrices were narrowly tipped with dark. The plumage, except that of the tail, seemed exactly like that of a dark-phase Rough-legged Hawk, but the bird was a falcon.

Now I knew why two different Gyrs had been reported! Two Gyrs within an hour and not another birder, another witness, in sight! Then, Herman Weissberg appeared. He heard my tale and went with me to the Hellcat dunes observation deck to look for the bird. There it was, back in the same tree! We drove down the road slowly, observing the perched bird from the parked car and then on foot. As we drew closer, the bird flushed, passed low over us, and paddled slowly up the Hellcat dike until it disappeared from view. Herman joked that the bird looked so similar to a dark-phase roughleg that he probably would have dismissed it as such, without looking closely, if it hadn't been for me. The thought occurred to him that perhaps he had already seen that bird earlier in the week and had indeed assumed it to be a buteo.

Herman drove on, and I returned to the Old Pines where I found the bird perched on a staddle in the south end of Hellcat Marsh. I observed it for another fifteen minutes before it flew up the dike and out of sight. Walking back to my car, I met several birders who reported a gray Gyrfalcon at Cross Farm Hill, perched on a swallow box. I drove to the hill, but the bird was not there, and I returned to the office for a half-day's work.

On December 10, numerous observers again saw a Gyrfalcon at Cross Farm Hill. I returned to Plum Island on the eleventh to learn that the bird had been seen well very early but had recently disappeared. Just north of Cross Farm Hill, a dozen cars marked the scene of the disappearance, and people were scanning the marsh randomly. A light-phase Rough-legged Hawk alighted in a tree on the hill but soon flew. Then, Don and Lillian Stokes and I saw a blur disappear low over the hill; we thought it had that distinctive Gyr jizz. After a short time, a bird teed up on a post deep in the marsh, so distant and so badly backlit that we could pick up very little. Eric Neilsen and I thought the bird looked slim, and the relatively small head appeared light, contrasting with a darker breast. We both thought it was probably a roughleg. Don Stokes thought Gyr. As we walked down the road for a better look, the bird, still quite far away, flew - proving Don correct.

I observed this bird for at least three hours over the course of the day. I saw it close, perched in a tree on Cross Farm Hill, standing nearby on the grassy slope, flying out over the marsh, and perched on a distant staddle for what seemed an eternity. I saw the falcon in excellent light, with the sun beaming over my shoulder, and in poor light, backlit or under heavy overcast.

The bird was dark brown on the back, with some pale feather edging, especially on the crown, nape, and cheeks. The breast and belly were the color of creamy eggnog, heavily streaked with brown. The streaks were so long and thick on the upper belly that from a distance they appeared to converge into a belly band. The crown, neck, cheeks, and throat were light

brown - tawny. A dark but not very distinctive moustache was obvious behind the eye and stretching down from the gape. The cere, beak, and feet were bluish. Seen close up, the bird appeared predominantly dark. The more distant the bird, the lighter the crown, cheeks, breast, and belly appeared. At a distance, the abdominal streaking "dissolved," giving the bird a two-toned appearance. I questioned whether this might be the same gray bird I had seen two days before. Its appearance seemed to change with each shift in posture and distance. Of any two observers, one would invariably describe the bird as gray and the other as dark. People who had seen a Gyr on the eighth questioned whether this could be the same bird! Those who had watched the Gyr on the hill that morning were asking if this could be the hawk that perched on the distant saddle. This was a "mirror" falcon: whoever looked at it saw something different.

Gyrfalcon reports emanated from Plum Island again on December 12 ("light brown"), on December 21 (dark phase, immature), and concluded with a report from the Christmas Bird Count on December 26. The variety of reports and the discrepancies between them prompted me to reexamine carefully the literature with regard to morph, age, and sex determination.

Today, most authorities consider the Gyrfalcon a monotypic species with a variety of morphs or color phases.

Colour and pattern are extremely variable, ranging from white with dark streaks, spots, and bars on individual feathers, to almost uniformly black with faint, lighter edgings and spots, but various grey intermediate plumages are most common. Adult plumages are similar, but males tend to be less heavily marked with streaks and bars on the ventral parts and head than females, some males being immaculate underneath.¹

Beebe and Weick describe three and four color phases respectively, also allowing for numerous intermediate plumages. The illustrations in Weick and the spectacular plates in Schiøler best portray the wide variety of plumages in adults and juveniles.

Aging of Gyrfalcons also poses some difficulties. Most authorities seem to agree that the cere and feet of adult birds are yellow, and the cere and feet of immatures are bluish to grayish. Weick, however, asserts that adults can have blue or bluish-gray legs and feet.² Brown and Amadon ascribe a yellow cere and feet to both adults and immatures!³ Most authorities do agree that adult birds have some transversal bars, or crescent- or arrow-shaped streaking or barring about the crown, sides of the head, or flanks. Adults also tend to have heavy tear-shaped streaking or barring. Immature birds tend to have narrow longitudinal streaking and no barring. Schiøler offers the best illustrations depicting barring versus streaking.

Attempting to identify the sex of the bird in the field is not an easy task either. Cade asserts that females are generally

darker than males, at least in the gray phase, but the difference may not be obvious unless both sexes are present!⁴ Fortunately, all authorities agree that females, on average, are significantly larger and heavier than males as this table of comparative weights illustrates:

Adult Males	805 - 1300 grams	Adult Females	1400 - 2100 g.
Juvenile Males	800 - 1219 g.	Juvenile Females	1000 - 2100 g. ⁵

Clearly, determining the morph, age, and sex of a Gyrfalcon in the field is not an easy task nor reliably done.

In retrospect, I could not classify Sighting 1 as to morph, age, or sex. The bird appeared gray-white underneath, and the seeming absence of streaking suggests an adult, but the evidence is far too scanty to draw any conclusions.

Sighting 2 was quite dark and significantly larger than either Sighting 1 or 3. With a bright yellow cere and feet, and such bulk, the bird was most likely an adult female. The closest pictorial depiction I have found is that rendered by D. M. Henry in Brown and Amadon.⁶

The Sighting 3 bird was apparently the only individual seen by most observers other than Herman Weissberg and me. Various people have classified the bird as gray- and dark-phase. Originally, I thought of it as gray-phase but now tend towards dark-phase as the most descriptive. The blue cere and feet, the heavy streaking, and the absence of barring suggest an immature bird. The relatively small size, at least in comparison with Sighting 2, suggest a male. This seems reasonable in that juvenile males appear more likely to fly farther south than do females.

The question remains. How many Gyrfalcons were there? Some skeptics might accept only the generally seen, heavily streaked bird, dismissing the totally dark bird with yellow feet and cere as a dark-phase Rough-legged Hawk. I can only respond that it was a falcon, not a buteo. For the past four years I have spent many hours observing roughlegs as part of a research project, and I feel quite familiar with the species.

At least two easily differentiated Gyrs were present on Plum Island between December 9 and 11. Were there three? If I had not made Sighting 1 and Sighting 3, I would be prone to dismiss the issue quickly, but I find it very difficult to reconcile the two sightings as one bird. Most particularly, in excellent light, the first bird had crisp gray-white underparts. The light breast of Sighting 3, when seen at a distance in poor light, was a soft, fuzzy eggnog color to my eyes, and I observed that bird under poor conditions for more than an hour just to make such a comparison! However, this is clearly inadequate evidence on which to posit the existence of a third bird. In fact, the description of the bird originally seen on December 3 by Dave Brown, Bob Campbell, and Glenn

d'Entremont suggests that their bird and my first sighting may have been the same individual. [The full description can be found in the December field records in this issue. Ed.]

The hawk was obviously a falcon with an obscure but observable malar mark. This mark was brown which blended with the light gray-brown markings on the face and head. The back was mottled gray-brown with the wings, rump, and tail mostly light brown. The undersurface was heavily striped brown-gray. The original close range viewing allowed the brown highlights to stand out. As the hawk moved away, the brown blended to gray. The tone and quality of the color can be compared with an adult Goshawk.

Perhaps I didn't see that first bird as well as I thought I did. Three Gyrfalcons? The limits of credulity are strained, if not rent asunder. And yet

I would like to extend special thanks to Nancy and Alden Clayton for their help in obtaining access to some publications. I would also like to thank the Massachusetts Audubon Society and Don and Lillian Stokes for their help in obtaining materials, and Dave Brown, Bob Campbell, and Glenn d'Entremont for their written report of the December 3 sighting.

Footnotes.

1. Cade (1982), pp. 74-76.
2. Weick, p. 140.
3. Brown and Amadon, p. 843.
4. Cade (1960), p. 157.
5. Cramp and Simmons, p. 360.
6. Brown and Amadon, p. 832. See Plate 161, No. 4.
"Candicans" form, unusually dark, Greenland."

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PAUL M. ROBERTS, a hiker and birder for fifteen years, has a special interest in hawks and hawk migration. He saw his first Gyrfalcon, a white-phase bird, from the new John Hancock building in Boston, and each Gyr since then has been a life bird. To date, he has seen five - or is it six? - Gyrs.



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