

# Identification of Red-shouldered, Broad-winged, Cooper's and Northern Goshawks in Immature Plumage

by  
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## Introduction

Adult Red-shouldered Hawks (*Buteo lineatus*), Broad-winged Hawks (*B. platypterus*), Cooper's Hawks (*Accipiter cooperii*) and Northern Goshawks (*A. gentilis*) differ distinctively in plumage, while immatures are quite similar to one another. All four species can be seen in Ontario during spring, summer and fall and all but the Broad-winged in winter. However the best opportunities for viewing them are certainly during migration at one of the major hawk lookouts along the shorelines of Lakes Erie and Ontario. Beamer Conservation Area near Grimsby in the spring and Point Pelee, Holiday Beach, Hawk Cliff and Hamilton in the fall are all excellent sites from which to see these and other hawk species which occur in Ontario.

Although all four birds are members of the family *Accipitridae* (the true hawks), two the Red-shouldered and the Broad-winged, are included in the subfamily *Buteoninae* (hawks with fairly long,

broad wings and short, wide tails) while Cooper's and Northern Goshawks are in the subfamily *Accipitrinae* (hawks with shorter, rounded wings and longer, narrower tails). In immature plumage, all four are generally brown above and whitish below, have brown streaks on the breast and belly, and a regularly banded tail. As they fly by, distinctive features can be noted.

## Size and Shape

### *Overall Features*

All species of hawks exhibit a difference in size between male and female, with females being larger. Among the four species discussed in this article, this reversed sexual size dimorphism is most pronounced in the Cooper's Hawk, less so in the Northern Goshawk, and is hardly noticeable in Red-shouldered and Broad-winged Hawks. Thus, the length of a male Cooper's and a male Northern Goshawk is comparable to that of a Red-shouldered. Female Northern Goshawks are larger than all the others.

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These size distinctions are helpful when the observer has some familiarity with the species or when more than one bird is in the sky at once. Against a vacant sky however, birds can expand or contract remarkably and their size depends to some degree on the mind-set of the person watching. It is also useful to remember that hawks appear smaller against a clear blue sky than against white clouds.

Of the four species, the slimmest is certainly the Cooper's Hawk. It also appears to have the shortest wings and the longest tail, and with its relatively large head, gives one the impression of a flying cross or pheasant (Figure 1). At the other extreme is the Broad-winged Hawk, with proportionally much longer wings and shorter tail and a very chunky look to the body (Figure 2). These two are difficult to confuse.

Northern Goshawks, on the other hand, are the most buteonine of the Accipiters, while Red-shouldered Hawks are the most accipitrine of the Buteos. Ignoring flight style for the moment (which, in my opinion, make Red-shouldered and Cooper's more difficult to separate), Northern Goshawks (Figure 3) are heavier-bodied than Red-shouldered (Figure 4) and as they pass by show their considerably longer tails.

### Tails

It is not just the length of the tail feathers themselves but also the narrowness of the tail that emphasize tail length in Accipiters. Buteonine tails, even when folded on gliding birds, are wider and shorter.

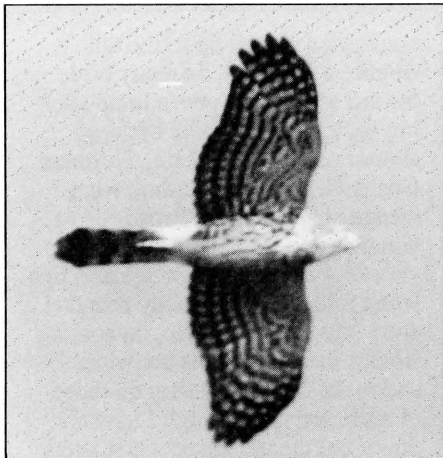
Cooper's Hawk is the only one of the four species with very pro-

nounced, rounded tip to the tail (Figure 1). In fact, on many birds the tail appears to have a lump sticking back out the middle between shorter outer tail feathers. Northern Goshawk tails may be somewhat wedge-shaped, while Broad-winged and Red-shouldered have very slightly rounded or squared tips when folded and smoothly rounded ends when spread. Also, on soaring Buteos the spread tails are wider and make larger arcs than do those of Accipiters. Although I haven't measured them, I suspect that single tail feathers of Buteos are wider than those of similarly sized Accipiters.

### Wings

Wings of both Broad-winged and Red-shouldered Hawks appear longer than those of Cooper's and Northern Goshawks, especially fully outstretched as the birds soar. It is the section of wing from the body to the "wrist" (the point where the wing bends back) that seems longer in the Buteos than in the Accipiters. When gliding from one thermal to the next, Broad-winged tuck their wings slightly and thus become a very "neat-winged" bird; the "hand" of the wing forms a triangle, the trailing edge is quite straight (emphasized by a dark edge band) and there is almost no "fingering" (i.e., separated primaries) at the wing tip (Figure 2). None of the other species looks this way. Dunne *et al.* (1982) note that when soaring, Red-shouldered angle their wings slightly forward as if reaching out for something, while Broad-winged hold theirs virtually at right angles to the body.

The shorter wings of Cooper's



*Figure 1:* Immature Cooper's Hawk, Point Pelee, Essex. Photo by Barry Cherie.

Hawks and Northern Goshawks are not identical. Goshawks have proportionally longer wings and according to Clark (1984) they are also more tapered (Figure 3), while the wings of Cooper's Hawks are more rounded.

## Markings

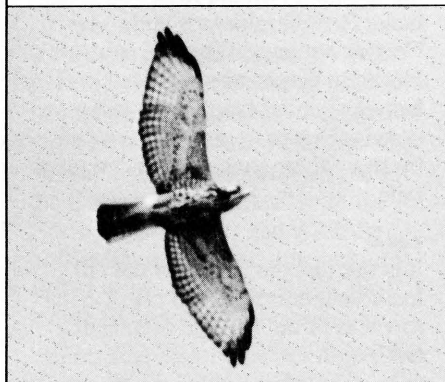
### *Dorsal*

Although these four species do not often show their backs to us land-bound watchers, birds flying low in early morning and late evening and those banking as they circle sometimes allow us to see their dorsal surfaces. The height of the Niagara Escarpment at Beamer Conservation Area allows one to look down on hawks passing by Grimsby.

All four species, although basically brown above, show clear differences. Northern Goshawks are palest and have an even paler head; Cooper's Hawks appear dark brown on the back and tawny- or rufous-

headed (see Duncan (1983) for a more detailed discussion of this). The white eyeline of the Northern Goshawk can be seen even at a distance but many immature Broad-wingeds and Red-shoulders share this mark (Clark 1984). On most Northern Goshawks, however, a narrow white wingbar crosses the secondary coverts (Figure 3). This is a good field mark.

The Broad-winged Hawk's back and wings are a uniform dull, dark brown, with a little white speckling (not always visible) and a paler brown towards the front. The head is also slightly paler. Red-shouldered Hawks, however, while basically dull brown, tend to have some rufous along the leading edge of the wing — hints of the rich, red "shoulders" of the adults. They also show the lovely, translucent crescents (what used to be called "wing windows") in the primaries adjacent to the black tips of the feathers (Figure 4). These crescents are visible from above and below and are classic field marks. Do not confuse



*Figure 2:* Immature Broad-winged Hawk, Point Pelee, Essex. Photo by Barry Cherie.

these crescent, moon-shaped bright areas with pale, squarish-shaped areas in the primaries of many other species (e.g., Sharp-shinned Hawk (*A. striatus*), Red-tailed Hawk (*B. jamaicensis*) and especially Broad-winged Hawk).

#### *Ventral*

“Brown streaks on white” describes all four of the species’ body markings below. Both immature Northern Goshawks and Cooper’s hawks are sparsely marked on the ventral surface but the Cooper’s streaking ends on the belly, while that of the Northern Goshawk’s continues onto the undertail coverts. The Northern Goshawk’s continues onto the undertail coverts. The Northern Goshawk’s streaks are wider and thus make the bird appear more heavily marked; the base colour is also creamy rather than white as in Cooper’s. Red-shouldered and Broad-winged Hawk streaking is generally confined to the chest and belly and varies in amount. Broad-winged, however, often have an unmarked white patch



*Figure 3: Immature Northern Goshawk, Point Pelee, Essex. Photo by Barry Cherriere.*



*Figure 4: Immature Red-shouldered Hawk, Beamer Conservation Area, Grimsby, Niagara. Photo by Barry Cherriere.*

on the chest with streaking all around; not so in Red-shouldered or the two Accipiters.

The streaking extends onto the wings in Red-shouldered, as it does in Cooper’s and Northern Goshawks. The wings of the Broad-winged Hawk are very sparingly marked and appear quite whitish, emphasized by an outline of black feather tips and a neat, black trailing edge. The flight feathers of the other three are barred and mottled but the translucent wing crescents of Red-shouldered separate them from Cooper’s and Northern Goshawks.

Tail markings will help separate each of these species. In Red-shouldered and Broad-winged, the tail is pale brown with narrow, black-brown bands — about half-a-dozen are visible, in whole or in part. The dark band closest to the tip of the Broad-winged’s tail is double the width of the others; it is the same width on Red-shouldered. Both these birds have a pale, narrow bar at the very tip of the tail. Cooper’s and Northern Goshawks, have wider dark bars on the tail and a distinctly

whitish tip — in Cooper's it is 1 cm or wider; in Northern Goshawks, it is much narrower. This wide, white band of the Cooper's is another good field mark.

Although difficult to see, it is useful to know that the banding of Northern Goshawk tails is wavy or zigzag and each dark band has a narrow (about 1-2 mm wide), buffy edge. This is the only species of the four with a tricoloured tail.

### Flight

All of these species do some flapping and gliding as well as thermal soaring, depending upon weather conditions. Broad-winged try to soar and glide with as little flapping as possible, while Red-shouldered quite frequently flap their wings as they glide along. Consequently, the latter are readily mistaken for Accipiters, particularly Cooper's Hawks. However, Cooper's seem to flap more rapidly and with somewhat stiffer wings, while Red-shouldered have a slower, looser flap. Another stiff-winged flapper but one with a slow beat is the Broad-winged Hawk.

The flight of Northern Goshawks is most difficult to describe. It may be intermediate in style between the Cooper's and Red-shouldered because I have mistaken Northern Goshawks for both. Since it is the heaviest of the species under consideration and has the highest wing loading, the flight looks heavy, as if the bird definitely is working to stay in the air. Female Cooper's most nearly approach this appearance of hard work in flight.

Broad-winged Hawks are most often seen soaring in kettles, while

Cooper's and Northern Goshawks are usually spotted flapping and gliding. Red-shouldered Hawks soar and glide, but also spend considerable time flapping and gliding. Keep in mind, however, that they can fly both ways — and do.

### Timing of Migration

As mentioned earlier, in southern Ontario it is easiest to see all four of these species during the spring and fall migrations. Broad-winged Hawks are by far the commonest, appearing by the thousands in both seasons, with Red-shouldered second (an average of about 700 each spring at Beamer and 550 each fall at Holiday Beach). Cooper's Hawks come third (160 in spring at Beamer and 350 during the fall at Holiday Beach) and Northern Goshawks last (fewer than 50 are recorded annually in spring and fall, although more occur every ten years during "invasions").

Since all species do not migrate at the same time, it is useful to know when to expect each. I do not have information for areas north of the lower two Great Lakes (Erie and Ontario) but can provide dates based on data from the Hawk Migration Association of North America counts at Beamer Conservation Area and Holiday Beach (1977-1985). The dates listed are based on the period during which about 85-90% of the migrants are seen and counted (see Table 1).

When one of these brown and white immature hawks comes along, watch it carefully as it approaches, flies over and recedes into the distance. Observation at each stage may reveal features disguised by

Table 1: Dates of migration for four hawk species in southern Ontario.

SPECIES	SPRING	FALL
Northern Goshawk	1 March-2 April no distinct peak	25 September-30 November no distinct peak
Cooper's Hawk	15 March-2 May peak about 10 April	20 September-25 October peak about 4 October
Red-shouldered Hawk	10 March-5 April peak about 23 March	6 October-15 November peak about 19 October
Broad-winged Hawk	17 April-5 May peak about 26 April	7 September-26 September peak about 15 September

perspective, distance of lighting at other stages. A little analytical observation by methodically recalling the characteristics to look for will pay dividends in polishing identification skills. Finally, there are things to examine which are not yet well studied in North America. The shape and proportions of the "arm" and "hand" parts of the wing during flight and the use of these parts while flapping are some. It is one thing to say that a Northern Goshawk has a heavy flap but another — and much better — to describe it in terms of movement of each portion of the wing. I recommend these areas of study to keener observers.

### Acknowledgements

My thanks to all of my Hawk Cliff friends who have shown me these beautiful birds so many times over the years and to all the faithful watchers at Beamer who have shared with me many identification details.

### Literature Cited

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## Notes

### Communal Sheltering Under Snow by American Tree Sparrows

While birding at the "Lighthouse Crescent" field station of the Long Point Bird Observatory on Old Cut Boulevard in Long Point, Regional Municipality of Haldimand-Norfolk on 14 February 1987, I noticed an apparent absence of American Tree

Sparrows (*Spizella arborea*) in the red osier dogwoods (*Cornus stolonifera*) they had been frequenting all winter. As overnight temperatures had dipped to  $-18^{\circ}\text{C}$  with a wind chill factor of  $-32^{\circ}\text{C}$ , and a bitterly cold wind made the  $-7^{\circ}\text{C}$  at