Identification of Accipiters in Ontario

by
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Sharp-shinned Hawks (*Accipiter striatus*), Cooper's Hawks (*A. cooperi*) and Northern Goshawks (*A. gentilis*) can best be seen in Ontario during the spring and fall hawk migrations along the shorelines of the Great Lakes. However, they are present in various parts of the province at all times of the year, their relative abundance varying with seasons and locations. For example, Alan Wormington (*pers. comm.*) stated that in winter Cooper's outnumber Sharpshins in southern Ontario by a ratio of 2 or 3:1. In migration, by contrast, the ratio is 20 or more Sharpshins for each Cooper's seen along Lakes Erie and Ontario.

My experience with these birds includes seven years of banding them during the spring and fall migrations (Duncan 1981, 1982) and examination of skins in the Royal Ontario Museum, Toronto, and the National Museum of Natural Science, Ottawa. In this paper, I will concentrate on the identification of "flyby" accipiters, those most commonly seen at lookouts such as Hawk Cliff, Beamer Conservation Area or Point Pelee. First, however, I feel it incumbent on me to comment on the 1979–1982 *American Birds* article and letters by Helmut Mueller, Dan Berger and George Allez on one side and Bill Clark and Pete Dunne on the other regarding field identification of the species. The original article by Mueller *et al.* (1979) was correct and helpful in one way (*viz.* that there is no overlap in size among the three species) but misleading in others. Clark and Dunne (1979) pointed out the errors. One of the contentious issues concerned the question of what is a "field mark". I don't particularly agree with an *a priori* definition since it inevitably is restrictive and invites rejoinders composed of exceptions due to individual variation, moult, viewing conditions and any other number of variables. To argue over what constitutes a field mark in somewhat similar species such as the accipiters is a waste of time. It is far better to be aware of as many characteristics as possible to improve the chance of a positive identification in difficult circumstances or to allow detailed comparative study when ideal conditions present themselves.

Although many other species of raptor might be mistaken for an

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accipiter, I am going to deal with the commonest problems – mistakes with the genus itself, and will leave birds like immature Broad-winged Hawk (*Buteo platypterus*) and Red-shouldered Hawk (*B. lineatus*) unmentioned. Most Sharpshins, Cooper's and Goshawks are seen at hawk migration lookouts as they fly past and are often first spotted at a distance. The following should be looked for as they move closer:

Size

As Mueller *et al* (1979:237) point out, there is no overlap in size among the three species and almost none between the sexes of each species. Weight, which they use to distinguish the species, is a less useful characteristic than length for field observers. The accipiters compare in length approximately as follows with other species: Sharpshin male to Blue Jay (*Cyanocitta Cristata*); Sharpshin female to Mourning Dove (*Zenaida macroura*); Cooper's male to Short-eared Owl (*Asio flammeus*); Cooper's female to American Crow (*Corvus brachyrhynchos*); Goshawk to Red-tailed Hawk (*Buteo jamaicensis*). Since the sexual size dimorphism is less pronounced in Goshawks than in the other two species, I have lumped both sexes. Redtails vary in length by about the same amount as Goshawks.

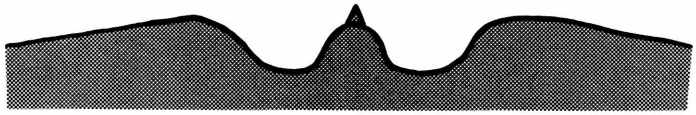
The difference in length also means a difference in weight between the sexes and more so between the species. This factor affects flight style as Mueller *et al* (1979) point out. Sharpshins have a "fluttery" wingbeat compared to the stronger, slower and more "purposeful" Goshawk wingbeat. However, Sharpshins and Cooper's do not differ so distinctly and can be easily mistaken. Cooper's *occasionally* appear stiffer-winged like a falcon although this is best seen in a face-on profile. To my eyes, they usually do not have a slower wingbeat than Sharpshins. All three species soar a lot when conditions are favourable.

Head

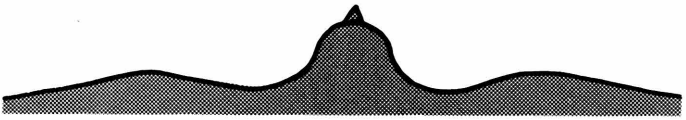
Two excellent distinctions between Sharpshins and Cooper's are the head size and its position relative to the front of the wings. Sharpshins have a smaller head compared to their body size than do Cooper's. The leading edges of the wings of a Sharpshin from the wrist inward make a shallow U shape. If you draw an imaginary straight line from one wrist to the other, only part of the head of the Sharpshin will extend beyond. In Cooper's, the wings are much straighter from the wrist to the base of the wing, ie: the wrist "sits" further back and usually allows all of the head to extend in front (Figure 1). Mueller's photographs on pages 236 and 237 show both the more massive Cooper's head and the wing shape differences very clearly. Both characteristics are useful in the field. I have not seen a sufficient number of Goshawks to notice any difference in their head silhouettes from Cooper's Hawks.

Tail

The Sharpshin's tail can appear notched (most commonly in males)



A.



B.

Fig. 1. For Sharp-shinned Hawks (A) only a portion of the head extends beyond an imaginary line connecting the wrists; in Cooper's Hawks (B) most of the head extends beyond that line.

or squared across (most commonly in females) when the tail is not fanned. The Cooper's tail, even when closed, is rounded and when fanned assumes an arc of a circle whose radius would be smaller than the circle of a Sharpshin's fanned tail (Figure 2). The Goshawk's tail, according to Bill Clark (unpubl.) is more wedge-shaped.

To quantify this apparent difference in "squaredness" or "roundedness", I measured tails of Sharpshins, Cooper's and Goshawks in 1981, 1982 and 1983, recording the difference in length of the outer rectrix compared to the centre rectrix in folded tails. I found the following: Sharpshin male – outer rectrix averaged 2.3 mm shorter than centre rectrix; Sharpshin female – difference averaged 5.5 mm; Cooper's male – difference averaged 22.7 mm; Cooper's female – difference averaged 27.5 mm; Goshawk male – difference averaged 23.4 mm; Goshawk female – difference averaged 30.7 mm. These differences are consistent from bird to bird within the species and sex. The difference in tail shape between Cooper's and Sharpshin is quite noticeable in "flyby" birds. It can be complicated, however, by moult, especially with fall migrants in

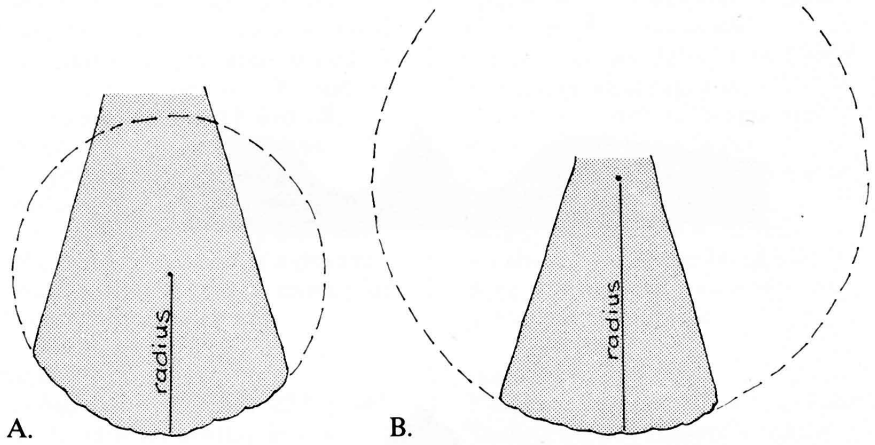


Fig. 2. The tail of a Cooper's Hawk (A), when fanned, assumes an arc of a circle the radius of which is smaller than that of a Sharp-shinned Hawk (B).

their third or more calendar year. These birds almost always show some wing and/or tail moult during passage through southern Ontario. The tail differences are, nevertheless, good species distinctions.

Another aid in identifying Cooper's and Sharpshin is the terminal white band on the tail which is much narrower in Sharpshins. This band is actually pale grey below and white above and needs good backlighting to be seen clearly. My measurements for this characteristic show the following: Sharpshin male – average width of ventral surface terminal band 1.8 mm; Sharpshin female – average width: 2.1 mm; Cooper's male – average width: 9.7 mm; Cooper's female – average width: 9.8 mm. The band width is, of course, complicated by wear (but remember that these measurements are a mixture of new rectrices and old, from immatures as well as moulting and non-moulting adults) and by lighting conditions. One word of caution: by spring, a full winter's wear may have reduced the Cooper's white band considerably which makes it a less useful characteristic than in the fall. From museum specimens I noted that Goshawks also have a white band at the tail tip approximating in width the Cooper's band. However, the white is confined more to the centre of each feather, narrowing to the outsides, thus giving a broken effect to the band. The Cooper's is more uniform in width on each feather and appears as a neater, unbroken band. Again, these distinctions are complicated by wear. Incidentally, the photographs in Mueller *et al.* (1979) show both tail differences (roundedness and terminal band) very nicely.

Immature Plumage

Immature accipiters can be a problem, with the most difficult being Cooper's and Sharpshins. All of the characteristics mentioned above apply to both adults and immatures and are extremely useful especially on bright days.

All three species are brown above, white with brownish streaks below and have a brown-banded tail. The immature Goshawk has the white eyeline of the adult and although the occasional Cooper's and very occasional Sharpshin have this, on the Goshawk it is a consistent mark. The standard field guides show it well. Immature Goshawks often appear pale-backed with an even lighter coloured head because of buffy or cinnamon edges to the feathers of the head, neck and back. Feathers of the head and neck have creamy-white bases. Cooper's Hawks appear darker-backed and tawny or rufous-headed due to chestnut edges to the back feathers which become more rufous on the head and neck. Also, the large white bases of the nape feathers may partially show through, reinforcing the lighter neck-head effect and its contrast to the back. Immature Sharpshins appear more uniformly dark brown on the back, neck and head since the feathers are edged more narrowly (1 mm average although wider on the neck) and are chestnut on all the dorsal surfaces. There is no lighter colour to the head and neck as in the other two species. A few Sharpshins do have narrow rufous edges to the head and neck feathers but the basic dark brown still predominates. Although the feather edges wear over the winter, these features are still noticeable but sometimes not as pronounced in the spring.

Underneath, young Cooper's Hawks are whitest; the other two species are generally creamier in background colour. This "cream" fades to "milk" over the course of the winter on many birds. Goshawks are streaked with dark brown marks, 4 – 8 mm wide on the chest, belly *and* undertail coverts. Cooper's have narrow streaks, 2 – 4 mm wide that do not extend as far down on the body; sometimes the belly is clear; the undertail coverts are always unstreaked. It has *fewer* streaks than does the Sharpshin which has many "teardrop" shaped marks on the chest and extending to the belly; the undertail coverts are unmarked. The "flags" (feathers at the base of the legs) are marked in all three species. My impressions in the field are: Goshawk – wide streaks from chest to tail, creamy base; Cooper's – same number of streaks but narrower and only to the belly, whiter base colour; Sharpshin – many more and heavier streaks extending only to the belly. Base colour not as noticeable because of heavier streaking but creamy to white.

Adult Plumage

The adult Goshawk is distinctive and its back colour considerably paler than in the other two species. Cooper's and Sharpshins are similarly marked with males generally having bluer and females browner backs. Underneath, the Sharpshin is usually more heavily marked with orange or brown-orange bars; Cooper's has pure orange bars on white. But these

differences are inconsistent and of little use under most field conditions.

The best distinguishing feature of the Cooper's Hawk is the dark "cap" which contrasts with the paler back. The head and neck feathers are slate-black ending abruptly in a neat line at the upper back, which is slate-brown or slate-blue. There is a clear and sharp demarcation. The Sharpshin's head and neck are also slate-black, males often showing a bluish tinge. The back is the same colour or very close to it, thus not producing any "cap" effect. This is a good feature on low-flying adults.

Timing of Migration

The majority of Sharpshins precede the majority of Cooper's which precede the majority of Goshawks in the fall migration. This order (commonest to scarcest) also describes their abundance in the autumn flight in southern Ontario. In the spring, the timing is reversed.

At Hawk Cliff, Sharpshins come through in the largest numbers around 15–25 September with 85% appearing between 10 September and 10 October. Cooper's Hawks are most abundant from 30 September to 10 October with 85% appearing between 20 September and 25 October. In the spring, the peak Sharpshin flight is from 20–30 April at Beamer Conservation Area at the west end of Lake Ontario and for Cooper's from, 7–20 April. Fully 85% of each species passes through in the 3 to 4 weeks around these dates. I do not have as precise data for Goshawks because of their lower numbers, but November is traditionally the Goshawk month although the flight begins by mid-October. In spring, the peak dates range from 20 March to 10 April. Goshawks "invade" the south every ten years or so. The 1981–82 and 1982–83 winters witnessed the most recent incursion, but a small number, mostly immatures and usually 25 or fewer, can be seen annually between these irruptions.

On a very good Sharpshin day at Hawk Cliff in the fall, over 2,000 can be seen. A big Cooper's day will produce 50 birds or more. In the spring, typical numbers for good days are 500 or more for Sharpshins and over 10 for Cooper's.

Miscellaneous

Occasionally, perched accipiters are seen. The head size of Sharpshins versus Cooper's is best noticed by comparing the portion and amount of space taken up by the eye. Pramstaller and Clark (1979) describe this well: Cooper's eyes are placed forward on the side of the head and the eyes take up a small amount of head area; Sharpshin eyes are placed centrally on the side of the head and take up a considerable amount of head space.

The Sharpshin's tarsus is very slender (hence the name) while that of the Cooper's is stouter and the Goshawk's quite robust – almost of Red-tailed Hawk thickness. Sharpshins have a completely unfeathered tarsus, Cooper's have feathering on the upper third and Goshawks are

feathered to about halfway.

Although there will always be accipiters that go unidentified because of many factors, most are identifiable on the basis of size, head-wing silhouette, tail shape and plumage characters. With practice, size appreciation can be easily accomplished without other birds in the sky and can allow those with experience to sex many birds (especially Sharpshins which show the greatest sexual size dimorphism of any North American raptor) as they fly by. The keys are, as with all bird identification, careful observation and experience.

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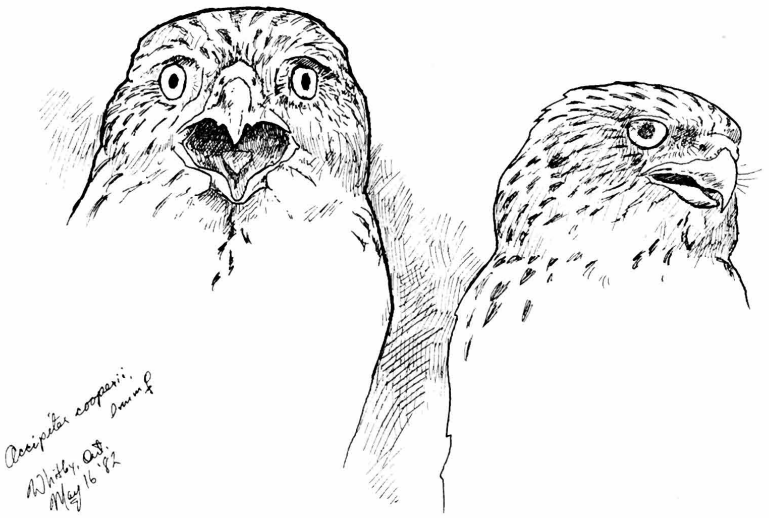

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