

# A Long-eared Owl x Short-eared Owl (*Asio otus* x *A. flammeus*) specimen from Ontario

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Over the course of her graduate work on Short-eared Owls (*Asio flammeus*), Keyes found an unusual specimen of owl in the collections of the Canadian Museum of Nature. Upon examination, this individual proved to have features that are almost perfectly intermediate between the Short-eared Owl and the Long-eared Owl (*A. otus*).

This specimen was received in early 1991 from E.R. [Kit] Chubb, Avian Care and Research Foundation, Verona, Ontario, and was prepared as a study skin (catalogue no. CMNAV 92233) by Richard M. Poulin. According to the catalogue data and the information supplied more recently by Kit Chubb, this owl was originally found with a broken humerus, on 28 October 1990, near Tweed, Hastings County. It was given veterinary care at the Avian Care and

Research Foundation, but had to be euthanized on 15 December 1990. The bird was relatively fat (4, on a scale from 0 to 5) after its two months in captivity, and was determined to be a male from post-mortem gonad examination.

Short-eared Owls and Long-eared Owls are the sole members of the genus *Asio* in temperate North America, where they have extensive overlapping ranges. The species differ to some extent in habitat choice: the Long-eared Owl is an arboreal bird that hunts over open areas at night, while the Short-eared Owl inhabits open areas, where it may hunt by day as well as by night. Nevertheless, interspecific tree-roosts have been documented for these two species (Holt and Leasure 1993, Marks *et al.* 1994). Hastings County has suitable, adjoining habitat for both species, although the

natal origins of CMNAV 92233 are unknown. According to descriptions in Holt and Leasure (1993) and Marks *et al.* (1994), the mating behaviours of Short-eared Owls and Long-eared Owls have many similarities, but their calls are different. Polygamy seems to occur occasionally in both species.

Worldwide, there are seven or eight species in the genus *Asio*, some of which exhibit marked geographical variation that may eventually lead to the recognition of additional species (del Hoyo *et al.* 1999). Short-eared Owls and Long-eared Owls have been assigned to distinct subgenera by Wolters (1975-82) [*Brachyotus* and *Asio*, respectively], indicating that the two species are not each other's closest relatives on a global basis — although they are in Ontario. Likewise,

Randi *et al.* (1991) state that "the genetic distance between *A. otus* and *A. flammeus* is unusually large for congeneric bird species." Similarly, Wink *et al.* (2004) do not show these two species as each other's closest relatives (they associate *A. flammeus* with *A. capensis*, and *A. otus* with *A. clamator*). However, Voous (1989) claimed that Short-eared Owls and Long-eared Owls "are probably each other's closest relatives". This is based on the karyological work of Belterman and DeBoer (1984), though the authors did not report data on any other *Asio* species.

According to Pyle (1997), Short-eared Owls are told from Long-eared Owls in the hand by their shorter ear tufts (<25mm). The ear tufts of CMNAV 92233 measure ca 41 mm (Fig. 1).



Figure 1. Left to right: Short-eared Owl (CMNAV 86182, HY male, 8 November 1986, Hastings County), presumed hybrid (CMNAV 92233), and Long-eared Owl (CMNAV 89915, HY male, 12 November 1987, Renfrew County). Apical view showing the ear tufts.



Figure 2. Left to right: Short-eared Owl (CMNAV 86182, HY male, 8 November 1986, *Hastings County*), presumed hybrid (CMNAV 92233), and Long-eared Owl (CMNAV 89915, HY male, 12 November 1987, *Renfrew County*). Frontal view showing the underside of the primaries, and the underside of the secondaries for the two specimens on the left.



Figure 3. Left to right: Short-eared Owl (CMNAV 86182, HY male, 8 November 1986, *Hastings County*), presumed hybrid (CMNAV 92233), and Long-eared Owl (CMNAV 89915, HY male, 12 November 1987, *Renfrew County*). Dorsal view.



Figure 4. Left to right: Short-eared Owl (CMNAV 86182, HY male, 8 November 1986, *Hastings* County), presumed hybrid (CMNAV 92233), and Long-eared Owl (CMNAV 89915, HY male, 12 November 1987, *Renfrew* County). Frontal view.



Figure 5. Left to right: Short-eared Owl (CMNAV 86182, HY male, 8 November 1986, *Hastings* County), presumed hybrid (CMNAV 92233), and Long-eared Owl (CMNAV 89915, HY male, 12 November 1987, *Renfrew* County). Dorsal view of the tails.





Figure 6. Left to right: Short-eared Owl (CMNAV 86182, HY male, 8 November 1986, Hastings County), presumed hybrid (CMNAV 92233), and Long-eared Owl (CMNAV 89915, HY male, 12 November 1987, Renfrew County). Frontal [underside] view of the tails.

Other diagnostic features mentioned by Pyle (1997) include the blackish primary tips and the light trailing edge on the wings of Short-eared Owls. The colouration of the primary tips of CMNAV 92233 is intermediate between the two species, as is the pattern of the secondaries (Fig. 2).

The plumage of CMNAV 92233 shows a number of additional characters that are intermediate between Short-eared Owls and Long-eared Owls. The overall buffy colouration is that of a Short-eared Owl, yet the upperparts are heavily vermiculated as in the Long-eared Owl (Fig. 3). The underparts are streaked as in the Short-eared Owl, yet many of the streaks show a minute transverse bar, reminiscent of those of the Long-eared Owl (Fig. 4). The tail bands

have features of both species, but mostly of the Long-eared Owl (Fig. 5 and 6).

The standard measurements of CMNAV 92233 fall almost halfway between the means given by Godfrey (1986) for male specimens of the two species:

#### Wing chord

Short-eared Owl	283.5-307.5 mm	mean 302.9 mm
CMNAV 92233	294 mm	
Long-eared Owl	269.5-295 mm	mean 286.7 mm

#### Tail length

Short-eared Owl	135.5-149.5 mm	mean 146 mm
CMNAV 92233	146.4 mm	
Long-eared Owl	141.5-153.5 mm	mean 148.1 mm

#### Weight

The weight of CMNAV 92233 also falls in between the means for males of the two species as given by Holt and Leasure (1993) and Marks *et al.* (1994):

Short-eared Owl	315 g
CMNAV 92233	300 g
Long-eared Owl	245 g

The large number of bars across the outer primaries, as in Long-eared Owls (Pyle 1997), and the dark point at the tip of the central rectrix, as in Short-eared Owls (Baker 1993), would indicate that CMNAV 92233 is a hatch-year bird.

Given the intermediate nature of most physical features of CMNAV 92233, and the fact that some of the plumage features fall outside the range of variation seen in Short-eared Owls or Long-eared Owls separately, it is fitting to consider this bird as a hybrid between the two species. Males are the homogametic sex in birds, and therefore hybrid birds are more often males (McCarthy 2006). McCarthy (2006) reports hybridization in several genera of owls (*Athene*, *Bubo*, *Ninox*, *Otus*, *Strix*), but not in *Asio*. He includes a puzzling reference to *Asio flammeus* x *A. otus* in the Tytonidae, but this is simply based on a Danish checklist where the two species are listed together under "*Asio otus/flammeus*" [which does not refer to hybrids, but to owls unidentified as to species]. McCarthy (2006), quoting from Flieg (1971), also reports that a female Barn Owl (*Tyto alba*) held in captivity with a male Striped Owl (*Asio clamator*) produced eggs with developing embryos — but the possibility that these embryos were parthenogenetic (see Olsen, 1962) was not raised. It must be noted that the American Ornithologists' Union (1998) currently assigns the Striped Owl to *Pseudoscops*, not to *Asio*.

CMNAV 92233 would fit in category B of Gilham and Gilham (1996) — when the hybrid parentage of an individual is not known from direct observation of the parents, but inferred from its appearance. It might be possible to investigate further the parentage of this specimen through DNA analyses, such as the ones used by Clark and Witt (2006) for hybrid hawks (*Buteo*).

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