ADVANCED IDENTIFICATION
TRUMPETER WATCH TIPS

TRUMPETER vs. TUNDRA (*var. Whistling*) SWANS

"WHISTLES VERSUS TRUMPETS"
Notes from Jim Snowden, an Observer
Contributing to TRUMPETER WATCH in California

From November 1975 through February 2011, I made visual and aural observations of 300,000+ Tundra Swans (Cygnus columbianus) and 40,000+ Sandhill Cranes (Grus canadensis) in the Sacramento Valley of northern California. During that period, Trumpeter Swans (C. buccinator) were detected and studied, 42+ (19 adults and 23 cygnets were seen, two or more were heard only). Studying several Trumpeters seen on television, and 11+ seen in Alaska, provided me additional Trumpeter experience. All of these observations are the basis for separating, in the descriptions below, the Trumpeters from Tundra Swans or, vocally, from Sandhill Cranes. None of the descriptions use field guides, identification guides, etc. as a source, because I have found that none (except Patten and Heindel, 1994, which is excellent) provide adequate visual or written descriptive comparisons between Whistling (race of Tundra) and Trumpeter Swans, or accurate vocal comparisons between swans and cranes.

The Whistling Swan (*C. c. columbianus*) is the race of Tundra Swans discussed in the following descriptions. Bewick's race (*C. c. bewicki*) of Tundra Swans is not discussed as the yellow loral patch of adults and late winter cygnets (or whitish triangular patch on early winter Bewick's cygnets), found on the upper mandible, distinguishes it from Trumpeters.

No single visual diagnostic character was found which separated Whistling Swans (Whistlers), without yellow loral spots, from Trumpeter Swans (Trumpeters); combinations of characters were required to visually identify Trumpeters as such. Usually, a good quality spotting scope was required to see those character combinations, and at ranges of less than 400 yards. Only the voice of a Trumpeter Swan was diagnostic for identification to species. The best lesson learned, from the above observations, was that it is easy to mistake Whistlers for Trumpeters.

Adults On the Ground or Water

Body Size

When swans are closely concentrated, the body size difference between the two species was seldom readily apparent. When there was good spacing between swans, Trumpeters appeared to be about 20-30% larger than Whistlings, especially if a Whistling was closely in front, or alongside, of a Trumpeter. Because Whistling weights can vary about 25% (Bellrose 1976) between individuals, a Trumpeter had to be compared to several Whistling swans when making body size comparisons. The size difference usually was not apparent when the two species were many yards apart.

The longer neck length of Trumpeters was not readily noticeable except when closely adjacent Trumpeters and Whistlings had their necks extended: a Trumpeter's neck appeared to be 4 or more inches longer than a Whistling's neck.

Head Profile

The forehead and crown of Whistlings was distinctly round-shaped, when seen in profile, when all of the head feathers were in a normal position. A few Whistlings had a slightly domed shaped crown which was more rounded than a Trumpeter's "dome", the difference was subtle. Generally, the forehead of Trumpeters slanted upward into the crown, similar to Canvasback Ducks (*Aythya valisineria*), thus giving the top of the head a domed shape, with a slight (for most birds) angled appearance at the peak, so the head did not look rounded: one of three Trumpeters seen in 2005-06 lacked the angled dome shape, so its head appeared almost as round as the head of Whistlings despite the somewhat subtle slant of its forehead.

Bill Characters

While the culmen of Whistlings generally had a concave shape, a straight culmen on Whistlings was not unusual, so the bill looked comparatively massive and blunt-tipped. Trumpeter culmens were usually straighter than Whistler culmens, but they sometimes appeared to show a weakly pinched depression of the culmen near the nostrils, which gave the culmen a weak concave appearance. However, the massive size of the bill gave it a blunter appearance than the bill of most Whistlings.

In a field view, the placement of the nostril on the bill of Whistlings (closer to the bill tip than to eye) and Trumpeters (midway between the eye and the bill tip) was not always discernible unless the bird was at close range. Although this feature had value, it often seemed to have an element of subjectivity, especially when considering the variability in the culmen shape of Whistlings.

Tomial stripes (the cutting edge of the lower mandible) were of no value for Whistling/Trumpeter identification. Pinkish-red tomial stripes were seen on the majority of Whistlings: it ranged from barely noticeable to nearly as extensive as a Trumpeter's tomial stripe. On Whistlings, the tomial stripe, including extensive ones, tended to be narrower and appeared to have a ragged lower edge compared to a Trumpeter's even edge tomial, but this was seen only at close range. Beware of the tongue: a Whistling seen far out appeared to have a broad "tomial stripe", giving the Whistling a Trumpeter appearance; eventually the "tomial stripe" was discerned to be the pink tongue in a slightly open bill.

None of the observed Trumpeters had any loral coloration other than black. Of about 1400 Trumpeters handled for relocation in Montana and Idaho, 1 or 2 had tiny (visible in hand only) pale spots on the loral area (Ruth Shea and Rod Drewien, personal comm.); probably 15-20% of the Whistlings handled had all black lores.

Feathering Between the Eyes

Over 95% of the Whistlings had U-shaped feathering between the eyes. A few Whistlings were seen annually which had V-shaped feathering between the eyes: the V tended to be broader than the V of trumpeters. Although the V-shaped feathering of Trumpeters tended to be narrower than that of V-shaped Whistlings, one of the adult Trumpeters seen in 2005-06 had a V as broad as that of a Whistling. Aberrant bill bases confused this feature: one Whistling was observed which had feathering which was straight across from eye-to-eye, and the black loral skin had a convex half-moon shape at the center.

Loral Skin

Whistlings had a broad range as to how broadly the black loral skin met the eye: it varied from a narrow line-like contact with the eye to a contact which appeared to touch about a third of the eye. Usually, the skin did not appear to so broadly touch the eye that the eye appeared indistinct (i.e., contact with nearly half of the eye), but a few Whistlings came close to that appearance.

For the majority of Trumpeters, the loral skin broadly touched the eye, so the combination of black skin/black eye made the eye appear indistinct. One observed Trumpeter had loral skin/eye contact which was not greater (maybe lesser) than that of the broadest contact observed in some Whistlings.

Posture and Body Form

Whistlings commonly had their necks kinked back on the body, as do Trumpeters. This habit provided no means of separating the two species readily, either while standing or swimming. Significant differences in head posture (e.g., head held level or angled) were not evident for either species.

No readily discernible difference in body form/shape was observed between the species. In profile, while sitting on water, it was debatable that Trumpeters had the high point of the back to the rear of center. A Trumpeter cygnet seen in profile, and studied for over an hour, absolutely had the high point of its back in the center, so that there was no difference between the Trumpeter's back and those of several Whistling swans seen in direct comparison.

Behavior

No noticeable differences in behavior were noticed between the two species. Trumpeters were usually mixed in with Whistlings, whether feeding or loafing, and they usually displayed no tendency to stay away from, or be in conflict with, Whistlings. The only overtly aggressive behavior occurred in December 2010: and adult Trumpeter, with three cygnets, pecked at seven or more Whistlings as the Trumpeters walked through a swan flock although most of the swans were spaced several feet apart.

Head bobbing occurred in both species, a behavior which usually preceded flight. Both species were seen to do bob together.

Swan families tended to stay together, but, in both species, it was fairly common for both adults and cygnets to become separated. Both Whistling and Trumpeter cygnets were sometimes found to be 200+ yards from their parents: it was not unusual to see Whistling cygnets with no other swans within half a mile of them, and this distant separation was observed for Trumpeter cygnets at least once.

There were only two opportunities to observe mixed Trumpeter/Whistling groups taking flight. In one instance, a Trumpeter and two Whistlings were head bobbing together, and all three took flight at the same time; they flew together for about half a mile, and then returned for a landing in the field from whence they flew. On another occasion, a Trumpeter, which was with eight Whistlings, remained in the field for 20+ seconds when the Whistlings flew, and then it flew and quickly overtook the Whistlings. A family of six flying Trumpeters was trailed by a whistling swan on one occasion.

Habitat

Nearly all of the swans observed were in agricultural land, predominately in dry (burned or unburned) or flooded rice stubble. There was no difference, between the two species, in habitat use with regard to water depth, vegetation density, field size, etc.

Cygnets

Body Size

Among both swan species, the cygnets were adult-sized on winter grounds. Body size comparisons of Whistling and Trumpeter cygnets were the same as for the adults.

Head Profile

Whistling cygnets had somewhat of a Canvasback Duck profile because the culmen is straight in their first winter, but the head had a more rounded shape than that of Trumpeter cygnets. Trumpeter cygnets had the same profile as do the adults, and the profile was more massive than that of a Whistling cygnet.

Bill Characters

Whistling cygnets had a straight culmen as did the Trumpeter cygnets. Otherwise, bill proportions were essentially the same as for the adults of each species.

No significant differences in bill coloration were readily seen between Whistling and Trumpeter cygnets. While the Trumpeter cygnets seemed to have more pink, on the average, on their bills than did the Tundra cygnets, there was a great variability in the amount of pink on the bills of both species.

Feathering Between the Eyes

Both Whistling and Trumpeter cygnets had V-shaped feathering between the eyes. The width of the V was not greatly different between the two species.

Loral Skin

The extent to which loral skin contacts the eye in cygnets could not be used because the gray plumage makes this feature indistinct.

Plumage

By November, most whistling cygnets had a mottled plumage of white and brownish gray, with white being a significant, if not dominant, part of the coloring. The plumage became progressively whiter through December, so it was the dominant color for most cygnets by January. A few Whistling cygnets had a dominantly gray plumage into early February. The neck remained dark longer than the body did; it tended to be brown tinged compared to the body, and it had a streaked look. By late February, the plumage was mostly white.

Two Trumpeter cygnets, seen on December 21, had a uniform battleship gray plumage; when one extended a wing, a small area of white was seen in the upper mid-wing. Of three siblings seen on Dec. 23, one had a dark gray head and neck with a grayish body showing some small white patches; the other two were grayish brown with scattered white blotches. Two cygnets seen on Jan. 11 had an extensive battleship gray plumage, but small areas of white were visible on the body and wings; and one seen on Feb. 6 was all gray (the neck and head were darker) except for a small patch of white at the base of the primaries. Generally, the Trumpeter cygnets showed less contrast of color compared to Whistling cygnets, i.e., the Trumpeters were more uniform (grayer, in particular) in color and markings, and without brown-tinged, streaky appearing necks. However, there was often a considerable plumage color variation among Trumpeter siblings, and many of the cygnets had a plumage with large, pale blotchy areas by December.

Plumage differences between individual cygnets of the two species were highly variable and, therefore, not diagnostic for identification. On the average, Trumpeters seemed to retain a grayish plumage longer than Whistlings did.

Swans in Flight

A considerable difference in the size of Whistlings was often seen when they were in flight: total body weight and length may vary by 25% (Bellrose, 1976) between individual Whistlings. In profile, the breast/belly appeared to be nearly flat, but slightly rounded and never V shaped.

Of the few Trumpeters well seen in a flight profile, from approximately level to a 30% above the horizon angle, the breast/belly profile of several trumpeters formed a distinct shallow V shape; more visual sample observations may find this character to be common (diagnostic?) for Trumpeters. In flight, a Trumpeter's neck length appeared to be equal to its body length and 4 or more inches longer than a Whistling's, so that any nearby Whistling looked short-necked in comparison. In the several instances of seeing both species together in flight, the Trumpeter(s) appeared to be about 25% percent larger (at all angles and distances) than the Whistlings.

Voice

Whistling swans had a variety of calls, the most common was a single syllable woo or hoo sound, which was sometimes given as a two syllable woo-oo (hoo-oo). This call was heard on the ground and in flight: generally, it was made at a lower volume on the ground than it was in flight. For some Whistlings, the pitch of the woo call was quite low, enough so that a person not well acquainted with swan calls may readily mistake it for a trumpeter call. Another common call was a bugling, sort of a higher pitched variation of the woo call, which sounded similar to the bugling call of distant Sandhill Cranes; this call was heard when Whistlings were on the ground. The least frequently made call was a shriek (whistle) which was given in flight.

Trumpeters had a single, deep-pitched note which sounded similar to an old-fashioned automobile horn, and it had a duller tone (no variation or quaver was heard) than the woo call of Whistlings. The call was not made rapidly: those heard in the valley were well spaced calls; most of the calls were loud, but one adult in flight and one juvenile swimming seemed to be calling at "half volume" or less. Also, the duration of the call was shorter than the woo call of Whistlings. In one instance, two or more unseen Trumpeters were calling in unison, so the sound was quite similar to the recording of Trumpeters calling

in unison on the Gunn and Kellog recording (1962); in another encounter, two Trumpeters were seen and heard calling in unison prior to flight.

No Trumpeters were heard to make a call at all like that of Sandhill Cranes, either as a bugling call (such a call was not heard from Trumpeters) or a single note call. Palmer, 1976, Madge and Burn, 1988, both liken a Trumpeter's call to that of Sandhill Cranes; I am convinced that is erroneous. Likewise, no Sandhill Crane(s) was heard to make any call similar to that of Trumpeters: the single note call of a Sandhill had a quaver, a higher pitch and lasted longer than a Trumpeter's call, and the Sandhill's bugling call sounded much like the bugling of Whistling Swans.

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