

## **Does it Whistle or does it Trumpet? — Trumpeter/Whistling Swan Comparisons**

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No visual diagnostic characters have been found which invariably separate Trumpeter Swans (*Cygnus buccinator*) from those Tundra Swans of the subspecies *C. columbianus columbianus*, also known as Whistling Swans, that lack yellow loral spots. Combinations of characters are required to visually distinguish these species. Usually, a good quality spotting scope is required to see those character combinations, and at ranges of less than 400 yards. Only the voice of a Trumpeter Swan is diagnostic for identification to species if one is well acquainted with all calls of the Tundra Swan. The best lesson learned, from the observations discussed below, is that it is easy to mistake a Tundra Swan lacking yellow on the bill for a Trumpeter Swan.

I have compiled observations of 250,000+ Tundra Swans, 23 (11 adults, 12 cygnets) Trumpeter Swans, and 30,000+ Sandhill Cranes (*Grus canadensis*) from November 1975 to February 2007 in the Sacramento Valley as my source of the descriptions, below, for separating Trumpeter Swans from Whistling Swans. Also, several Trumpeter Swans seen on television and 11+ seen in Alaska have provided additional experience. None of the following descriptions use field guides, identification guides, etc., as a source, because my experience has proven that none (except Patten and Heindel, 1994, which is excellent) provide adequate visual or written descriptive comparisons between Whistling and Trumpeter Swans, or accurate vocal comparisons between swans and cranes. The Trumpeter Swan Society has a web site (<http://www.trumpeterswansociety.org/>) with useful information on this topic, including audio clips of Tundra and Trumpeter swan vocalizations. Bewick's Swan (*C. columbianus bewickii*), the Eurasian subspecies of Tundra Swan, and Whooper Swan (*C. cygnus*) are not discussed here, as their extensive yellow loral patches distinguish them. For the most part, in making the following comparisons, I prefer to use "Whistling Swans" or "Whistlings" when referring to dark-billed Tundra Swans.

### **ADULTS ON THE GROUND OR WATER**

#### *Body Size*

When swans are closely concentrated, the body size difference between the two species is seldom readily apparent. When there is good spacing between swans, Trumpeters should appear about 20-30% larger than Whistlings, especially if a Whistling Swan is in front, or along side of

a Trumpeter Swan. Because weights of Whistling Swans can vary about 25% between individuals (Bellrose 1976), a Trumpeter Swan must be compared to several Whistling Swans when making body size comparisons. The size difference will not be apparent when the two species are yards apart.

The longer neck length of the Trumpeter Swan is not readily noticeable except when closely adjacent Trumpeters and Whistlings have their necks extended: the Trumpeter Swan's neck will appear to be 4 or more inches longer than the Whistling Swan's neck.

### *Head Profile*

The forehead and crown of a Tundra Swan has a distinct round shape, if all head feathers are in a normal position. A few Tundra Swans have a dome shaped crown which is more rounded than a Trumpeter Swan "dome;" the difference is subtle (Figure 1 shows the extreme difference). Generally, the forehead of a Trumpeter Swan slants upward into the crown, a profile reminiscent of a Canvasback (*Aythya valisineria*), thus giving the top of the head a domed shape with a slight (on most birds) angled appearance at the peak, so the head does not look rounded. One of three Trumpeter Swans seen in 2005-06 lacked the angled dome shape, so its head appeared almost as round as the head of a Tundra Swan despite the somewhat subtle slant of its forehead. See the Central Valley Birds web site ([http://ph.groups.yahoo.com/group/central\\_valley\\_birds/browse/bfb9](http://ph.groups.yahoo.com/group/central_valley_birds/browse/bfb9)) for a good view (photo number 1, adult in profile) of the characters addressed in this section.

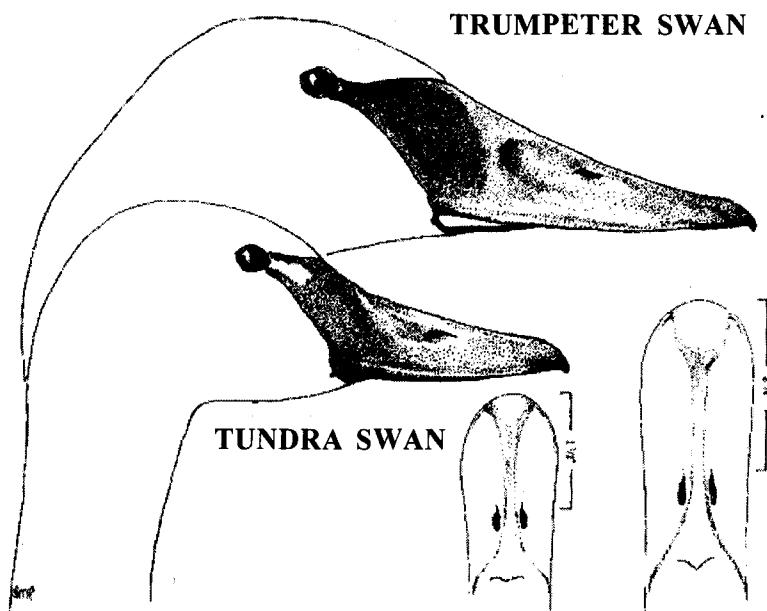
### *Bill Characters*

While the culmen of a Whistling Swan generally has a concave shape, a straight culmen (often straighter than that of a Trumpeter Swan) is not unusual, so the bill will look somewhat massive and blunt. Culmens of Trumpeter Swans are usually straighter than those of Whistling Swans, but they may show a weakly pinched depression of the culmen about the nostrils. Because of the greater length of a Trumpeter Swan's bill, it does appear blunt despite the massive base of the bill.

In a field view, the placement of the nostril on the bill (Figure 1) seems to be of little use except, maybe, for observers having great experience with swans. Although this feature has some value occasionally, its evaluation often seems to have a high element of subjectivity, especially when considering the variability in bill shape of Whistling Swans.

Tomial stripes (the cutting edges of the lower mandible) are of limited value for identification. Pinkish-red tomial stripes are found on the majority of Whistling Swans: these can range from barely noticeable to nearly as extensive as the tomial stripe of a Trumpeter Swan.

Figure 1. Head and bill comparisons between Trumpeter and Tundra (Whistling) Swans.  
sketch courtesy of the Trumpeter Swan Society



On a Whistling Swan, the tomial stripe, even an extensive one, tends to be narrower and appear to have a ragged edge compared to the tomial stripes of Trumpeters, but this is seen only at close range. Beware of the tongue: I observed a Whistling Swan at some distance that appeared to have a broad tomial stripe, giving it the appearance of a Trumpeter Swan, but I eventually discerned that the "tomial stripe" was actually the tongue in a slightly open bill.

None of the Trumpeter Swans I have observed had any loral coloration other than black. Of about 1,400 Trumpeters handled for relocation in Montana and Idaho, one or two had tiny (visible in hand only) pale spots on the loral area (R. Shea and R. Drewien, pers. comm.), and about 15-20% of the Whistling Swans handled had all black lores.

#### *Feathering Between the Eyes*

As viewed from above, over 95% of the Whistling Swans observed had U-shaped feathering between the eyes. A few Whistlings seen annually have V-shaped feathering between the eyes: the "V" tends to be broader than the "V" of a Trumpeter Swan. Although the V-shaped feathering of Trumpeters tends to be narrower than that of V-shaped Whistlings, one of the adult Trumpeter Swans I saw in 2005-06 had a "V" as broad as that of a Whistling Swan. Aberrant bill bases can confuse interpretation of this

feature: one Whistling Swan I observed had feathering which was straight across from eye-to-eye, except for a black, convex half moon shape at the center.

### *Loral Skin*

Whistling Swans show considerable variation in how broadly the black loral skin contacts the eye. The extent of contact varies from a narrow line to a band which appears to touch about a third of the eye. Usually the skin does not appear to so broadly touch the edge of the eye that the eye appears indistinct (i.e., contact with nearly half of the eye), but a few Whistlings come close to that appearance.

In the majority of Trumpeter Swans, the loral skin broadly touches the eye, so that the combination of black skin and a black eye makes the eye appear indistinct. One observed Trumpeter Swan had loral skin/eye contact which was not greater than that of the broadest contact observed in some Whistling Swans.

### *Posture and Shape*

Both species commonly show a backward kink of the neck at its base. This posture provides no means of separating the two species, 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 shape was observed between the species. In profile, while sitting on water, it is debatable that Trumpeter Swans show the high point of the back to the rear of center while Tundra Swans exhibit a high point of the back at its center; if so, this character is so subtle that it may be useful only when there is a direct comparison between the species. A Trumpeter Swan cygnet seen in profile and studied for over an hour on 6 February 2007 absolutely had the high point of its back in the center, so that there was no difference between this swan's back and those of several Tundra Swans seen in direct comparison.

### *Behavior*

No noticeable differences in behavior were noticed between the two species. Trumpeter Swans were usually mixed in with Whistling Swans, whether feeding or loafing, and they displayed no tendency to stay away from, or be in conflict with, Whistling Swans. Head bobbing occurs in both species, a behavior which usually precedes flight in Tundra Swans. Swan families tend to stay together, but, in both species, it is common for both adults and cygnets to become separated occasionally.

In the discussion of swan behavior on the Trumpeter Swan Society web site, Trumpeter Swans are said to not take flight (when a mixed flock takes

flight) until after the Tundras have left. There was no opportunity during my observations to see this. However, in one instance, a Trumpeter was seen head bobbing with three Whistlings prior to flight, then all four took off at the same time, flew a one mile circuit together, and landed together not far from where they took off. A Trumpeter and eight Whistling Swans all took flight at the same time on 17 March 1993. One Trumpeter Swan family observed to approach and land in a mixed swan flock was accompanied in flight by a Tundra Swan.

### *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 are adult-sized on winter grounds. Body size comparisons of cygnets of these species are the same as for the adults.

### *Head Profile*

Whistling Swan cygnets have a slanted forehead, so their profile has a Canvasback-like appearance, but the head appears more rounded than that of Trumpeter Swan cygnets. Trumpeter cygnets have the same head profile as do the adults, and the profile is more massive than that of a Whistling cygnet.

### *Bill Characters*

Cygnets of both species have straight culmens. Otherwise, bill proportions are essentially the same as for the adults of each species.

I saw no significant differences in bill coloration between cygnets of these species, and there is much individual variation between individuals of the same species.

### *Feathering Between the Eyes*

Both Whistling and Trumpeter Swan cygnets have V-shaped feathering between the eyes. The width of the "V," is not greatly different between the two species.

### *Loral Skin*

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

### *Body Posture and Form, Behavior, Habitat*

There is no discernible difference between the species or between cygnets and adults.

### *Plumage*

By November, most Whistling Swan cygnets have a mottled plumage of white and brownish gray, with white being a significant, if not dominant, part of the coloring. The plumage becomes progressively whiter through December, so it is the dominant color for most cygnets by January. A few cygnets have a dominantly gray plumage into early February. The neck remains dark longer than the body does; it tends to be brown tinge compared to the body, and it has a streaked look. By late February, the plumage is mostly white.

Two Trumpeter Swan cygnets, seen on 21 December 1992 had a uniform battleship gray plumage; when one extended a wing, a small area of white was seen in the upper mid-wing. Of 3 siblings seen on 23 December 2005, 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 11 January 1994 had an extensive battleship gray plumage, but small areas of white were visible on the body and wings; and one seen on 6 February 2007, was all gray (the neck and head were darker) except for a small patch of white at the base of the primaries. Generally, Trumpeter Swan cygnets showed less gray-white contrast compared to Whistling Swan cygnets, i.e., the Trumpeters were more uniformly gray in color and markings.

Plumage differences between individual cygnets of the two species are highly variable and, therefore, not diagnostic for identification. On the average, Trumpeter Swans seem to retain a grayish plumage longer than do Whistling Swans.

## SWANS IN FLIGHT

A considerable difference in size among Whistling Swans is often seen when they are in flight: total length as well as body weight may vary by 25% in this species (Bellrose, 1976). In profile, the breast/belly appears nearly flat, but slightly rounded and never V-shaped.

Viewed in profile from approximately level to an upper angle of 30% above horizontal, the breast/belly of some Trumpeter Swans form a distinct,

shallow "V"; a greater sample of observations may show this character to be common for the species. In flight, a Trumpeter Swan's neck length will appear 4 or more inches longer than a Whistling's, so that any nearby Whistling Swan will look short-necked. In the several instances where I saw both species together in flight, the Trumpeter Swan(s) appeared to be about 25% percent larger (at all angles and distances) than nearby Whistling Swans.

## VOICE

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

Trumpeter Swans have a single, deeply-pitched note which sounds similar to an old-fashioned automobile horn, and it has a duller tone than the "woo" of a Whistling Swan. The call is not made rapidly: those heard in the Central Valley have been well spaced calls. Most of the calls have been 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 is shorter than the "woo" of a Whistling Swan. In one instance, two or more Trumpeters were calling in unison, so the sound was quite similar to that of Trumpeter Swans calling in unison on the recording by Gunn and Kellogg (1962).

Trumpeter Swan vocalizations have been (erroneously in my opinion) likened to those of Sandhill Cranes (Palmer, 1976, Madge and Burn, 1988). I have heard no Trumpeter Swan make a call at all like that of Sandhill Cranes, either as a bugling or a single note. Likewise, I have never heard Sandhill Cranes make any call similar to that of Trumpeter Swans.

## ACKNOWLEDGEMENTS

Special thanks to the Trumpeter Swan Society for allowing use of line art in this article. Extra thanks to Bruce Webb, whose contributions to this article were virtually those of a coauthor, and to Tim Manolis and Bruce Deuel whose suggestions made this paper better.

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## Announcement

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### **CVBC Swan Identification Field Trip -- November 24, 2007**

Mark your calendar!

**When:** 9:00 AM Saturday, November 24th, 2007

**Where:** Meet at Carl's Jr. in Marysville at the corner of Hwy 70 and 9th Street (next to Ellis Lake). From there we will carpool to District 10.

**Leaders:** Jim Snowden and Bruce Deuel, two of California's leading waterfowl experts.

The agricultural areas east of Marysville, known as District 10, will provide the perfect opportunity for extensive study of Tundra Swans in many plumages. Both Jim and Bruce have found many Trumpeter Swans in this part of California and we will look for Bewick's Swans by scanning the thousands of Tundras. There will be various identification tools on hand including photographic comparisons and a selection of vocalizations. Jim Snowden has been searching swan flocks since 1975 for banded swans and for both Bewick's and Trumpeters. This will be his 3rd season as a federal volunteer searching wintering flocks for banded swans (2 seasons) and Trumpeters (1 season). Bruce Deuel worked as a waterfowl biologist for 20 years, first with the U.S. Fish and Wildlife Service at Malheur NWR in Oregon, then for 18 years with the California Department of Fish and Game. His jobs involved census work, banding, neck collaring, and spending hundreds of hours looking for neck collars in flocks of geese. Don't miss this wonderful opportunity!

See you in Marysville!

(Please RSVP via e-mail to Steve Abbott, CVBC Field Trip Chair, at: [papasula@gmail.com](mailto:papasula@gmail.com).)