

Leucistic Bewick's Swans

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More than a century ago, one museum specimen of a mysterious swan, *Cygnus davidi*, was seen in Peking by Swinhoe (1870). It was subsequently lost and there was much puzzlement as to its identity, for no other records came in. It had white plumage, a vermilion bill tipped by a black nail, and orange-yellow legs and feet. The fact that the area between the bill and eye was feathered led some workers to suggest it was a Coscoroba Swan *Coscoroba coscoroba*, though they could not explain how it had got from S. America to China. Kear (1972) pointed out that this degree of feathering is found in the juvenile Bewick's Swan *Cygnus columbianus bewickii* (the size was about right), and that the mysterious swan might have been of this species but a leucistic variety, i.e. one genetically deprived of the black pigment melanin. Support for this view has been forthcoming from a number of sightings among wintering Bewick's Swans.

In April 1956 a Bewick's Swan at Gunton, Norfolk, had flesh-pink legs and feet and a bill that was mahogany coloured apart

from the normal yellow patch. It was filmed by Mr R. P. Bagnall-Oakeley (Seago, 1957). In January 1962 on Cockerham Moss, Lancashire, an apparently adult Bewick's Swan was seen with bright orange-yellow legs and feet—brighter on the outside of the tarsus. The bill was normal. It was mated to a completely normal black-legged bird, and they were accompanied by a single immature whose appearance seems to have been unremarkable (Sharrock, 1962). In January 1963 there was another report of a Bewick's Swan with flesh-pink feet in Norfolk, at Cley (Seago, 1964).

The suspicion that these swans in Britain and the mysterious 'David's Swan' were only colour variants of the Bewick's Swan has received confirmation by the close attention now being given to that species in Britain and the Netherlands. Until recently the chances to study the legs of Bewick's Swans were distinctly limited; now at Slimbridge, Gloucestershire, and Welney, Norfolk, the observatory facilities set up by the Wildfowl Trust have greatly enhanced the opportunities.

Figure 1. A leucistic Bewick's Swan (Needham) at Welney, February 1972.



During the winter 1971–72 a completely yellow-legged Bewick's Swan was present for several weeks at Welney. About 75% of what would normally have been black on the bill pattern was red. The nail was black. The iris of the eye was pale blue, instead of dark brown, but this is sometimes observed on otherwise normal birds. A detailed record of the identifying bill pattern was made, and it was named 'Needham' (see Figure 1). Sometimes normal second winter birds, with black legs, have a very little red in the centre of the bill. This is, however, quite different, for it occurs approximately where Needham has his only true patch of black, and it disappears by the third winter.

A second, distinct bird with much less red on its bill than Needham, and with grey-yellow legs with a few black spots, was also present at Welney that winter.

On 30 December 1972, Needham reappeared, not at Welney but at Slimbridge. This time he was accompanied by a normal mate and, most interestingly, a completely white cygnet with flesh/chalky grey legs. Its whole bill was a strong pink tipped with a black nail. Its description almost exactly matches that by Swinhoe. Unfortunately the trio spent only the one evening at Slimbridge, leaving early next morning for fields about 15 kilometres away. There they remained for the whole of January and until 26 February 1973.

Meanwhile another yellow-legged

Bewick's Swan, possibly the same as the second bird from the previous season there, was again to be seen at Welney.

Then across the North Sea yet another example was observed, near Ouwkerk, Schouwen-Duivenland, on 27 January 1973. In this bird all the bill that would normally be black was bright crimson and there was no black nail. The yellow bill patches and the eyes appeared normal, but the legs were flesh coloured.

The leucistic condition is known in the Trumpeter Swan *Cygnus c. buccinator* and even in the Black Swan *Cygnus atratus*; in the Mute Swan *Cygnus olor* the genetic sorting out of the characters has been described in detail (Kear, 1972). It would seem that in Bewick's Swans the leucistic gene is also 'recessive' and perhaps sex-linked. A mating with a normal bird not carrying the gene could then give rise either to white cygnets (as in Needham's mating) or to normal ones (as in the Lancashire report).

It seems possible that there is a change with age from flesh-coloured legs, through grey to yellow. Likewise the pure pink bill may become progressively darker and flecked with black (Needham) until it appears normal (as in the Lancashire and second Norfolk birds). Alternatively the various combinations reported may reflect different genetic mixtures. Clearly it would be desirable to ring a leucistic cygnet and follow its colour changes in detail.

References

- Kear, J. 1972. Reproduction and family life. In: *The Swans* by Peter Scott and the Wildfowl Trust. London, Michael Joseph, Pp. 105–9.
- Seago, M. J. 1957. (Ed.) Norfolk Bird Report for 1956. *Trans. Norfolk and Norwich Nat. Soc.* 18:32.
- Seago, M. J. 1964. (Ed.) Norfolk Bird and Mammal Report for 1963. *Trans. Norfolk and Norwich Nat. Soc.* 20:158.
- Sharrock, H. 1962. A yellow-legged Bewick's Swan in Lancashire. *Wildfowl Trust Ann. Rep.* 13:168.
- Swinhoe, R. 1870. Zoological notes of a journey Canton to Peking and Kalgan. *Proc. zool. Soc. Lond.*: 427–51.
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