The Provenance of Vagrants and Their Evaluation by Rarities Committees

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Birders and rarities committees have a bias in the evaluation of records of rare birds. The bias, surprising in light of the tremendous effort expended by birders in documenting long-distance dispersal by birds, is in favor of the conclusion that a given vagrant is escaped from captivity rather than wild. A point increasingly being espoused is that if there is *any* chance that a given individual is escaped from captivity, then the chance that it is in fact a wild bird becomes irrelevant, and the record is rejected on the basis of questionable origin.

This reasoning runs counter to generally accepted scientific practice. Nothing can ever be "proved" scientifically; rather, the accepted practice is to weigh the evidence in favor of a number of possible outcomes and then choose the most likely outcome on the basis of probability. In the case of vagrants of questionable origin, this means evaluating the evidence in favor of a given bird being either escaped or wild, then drawing a conclusion based on this evidence. As in any other scientific question, the conclusion will never be absolutely certain because conclusions, outside of mathematics, are always based on probability.

The issue here is analogous to the difference between Type I and Type II Errors in statistics. Accepting a record of a vagrant that was in fact an escape would be a Type I Error, whereas rejecting a record on the basis of questionable origin when the bird was in fact wild would be a Type II Error.

In most experimental work, scientists worry much more about Type I Error — and that is because of the way experiments are designed. Experiments are designed to detect differences, not to detect *lack* of differences — and for that specific reason, scientists generally worry more about Type I Error. But there is no reason at all that rarities committees should worry more about Type I Error than Type II Error. That is, we as rarities committee members should be *just as concerned* about rejecting records of bona fide vagrants as we are about accepting records of escapes.

Therefore, in considering whether a given bird is an escape or not, we should evaluate all the available evidence and reach a conclusion based on this evidence. It makes no sense to conclude that a given bird is an escape simply because the species is commonly kept in captivity, especially if there is substantial evidence of repeated vagrancy in that species.

At one point, the Massachusetts Avian Records Committee (MARC) was simultaneously considering Pink-footed Goose, Garganey, and Cinnamon Teal. Being waterfowl, individuals of these species found "out of range" are often suspected of, or assumed to be, escapes from captivity. Using these submissions as an example, there is considerable, *direct* evidence that these species are undergoing significant range

expansion, and there has been an increasing frequency of occurrence of vagrants in the eastern United States (e.g., Caithamer et al. 1993, Caithamer and Smith 2004, del Hoyo et al. 1992, and Spear et al. 1988). On the other hand, there is no *direct* evidence for any of these individuals to involve escaped birds. The fact that these species are kept by zoos and wildfowl enthusiasts is not in itself evidence that these individuals are escapes. *[Editor's note: See* Bird Observer*, April 2002, for the MARC Annual Report discussing these submissions.]*

In sum, we need to get away from the notion that we need to know with 100 percent certainty whether any given bird is wild or not in order to form a consensus opinion. No scientist insists on such an unrealistic degree of certainty. Instead, we need to accept that occasionally we may make a mistake, and make reasoned judgments about the origins of purported vagrants on the basis of evaluation of the evidence available.

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