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EXTINCTION PROBABILITIES FOR BRITISH ISLAND BIRDS: A REPLY

Diamond and Pimm (1993; hereafter referred to as DP) hypothesize that errors in our estimation of distances between islands and mainland, and our categorization of islands as either channel or oceanic islands, vitiate our earlier analyses (Tracy and George 1992; hereafter referred to as TG). As noted by DP, the determination of the distances between islands and mainlands is difficult because, among other things, "mainland" needs to be defined. Thus, TG abandoned actual distances and instead categorized islands as being either near (<6 km) or far (>6 km) from the mainland. Nevertheless, DP have suggested that our estimates (in TG) of distances between islands and mainland (Johnson and Simberloff 1974) were in error based on estimates given by Reed (1981). We rechecked these distances using several maps (Woodland 1979; The Ordnance Survey Road Atlas of Ireland 1985; Routemaster Series of Great Britain: Northern Scotland 1987; The Times Atlas of the World 1988) and found (a) errors in estimates given by Reed and (b) two ambiguous cases, both pointed out by DP. The first case was that we categorized Hascosay as far from the British Isles when actually it is near to the smaller Shetland Islands, which may be the immediate source of birds colonizing Hascosay. The second is that we categorized Cape Clear as near because we mistakenly identified nearby Sherkin Island as part of the mainland. We have rerun our previous analyses in TG by recategorizing Hascosay as a near island and Cape Clear as a far island, and the results are not statistically different from those in TG (i.e., the variable "distance to mainland" was once again not significant, and the difference in explained variance between TG and the new analysis was only a fraction of 1%).

Our categorization of islands as channel or oceanic was, indeed, arbitrary. Such categorizations are by their very nature arbitrary, and we should have presented the bases for our categorizations in TG. We categorized islands as being oceanic if they were found either in the Atlantic Ocean or the North Sea. We categorized islands as channel if they were in the St. Georges Channel, the North Channel, the English Channel, the Bristol Channel, the mouth of the river Dee, or the Irish Sea. The importance of island type, vis-à-vis oceanic or channel (as we defined them), was shown to be statistically significant in TG, and the statistical models including island type (along with several other variables pertaining to characteristics of the bird species and the islands; see TG) nearly doubled the explained variance in the data (from 24.6% to 45.4%) in comparison to models containing only the independent variables used in Pimm et al. (1988).

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