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# **The introduction and naturalisation of birds**

Proceedings of a conference organised jointly by the  
British Ornithologists' Union and the UK Joint Nature Conservation Committee

**Edited by  
J.S. Holmes and J.R. Simons**

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## Preface

Recent years have seen a growing concern over the increasing number and variety of birds becoming established in the United Kingdom as a result of introduction by man. The papers in this volume are the result of a conference organised by the JNCC and BOU in April 1995 on the theme of 'feral and introduced birds'. The aim was to examine the conservation issues surrounding bird species introduced to new areas or within their natural ranges for a variety of reasons, both within the UK and elsewhere.

As the conference proceeded it became clear that a variety of terms such as 'exotic', 'introduced', 'alien' and 'feral' are used to describe species introduced by man to a particular location, either deliberately or through escape from captivity. These terms are often used interchangeably leading to confusion. A discussion session towards the end of the conference considered the meanings of these words to seek a common understanding. The results of this discussion have been reported by Holmes & Stroud (1995) and are summarised below.

Terms such as 'exotic', 'alien' and 'non-native' describe the *origins* of the species concerned, whereas 'feral', 'introduced' and 're-established' describe the *process* by which establishment in the wild has occurred. The consensus at the conference was that 'naturalised' was a more appropriate all-encompassing term for wild self-sustaining populations of such species, describing the *outcome* of the process. The term 'naturalised' can be accompanied by a qualifier explaining the origin of the species concerned to produce the following categories:

- i. Naturalised feral: a domesticated species established in the wild. Note that mere keeping in captivity does not necessarily constitute domestication. The species must undergo some change in genotype, phenotype or behaviour in captivity.
- ii. Naturalised introduction: established species which would not occur without introduction by man.
- iii. Naturalised re-establishment: a successful re-establishment of a species in areas of former occurrence. Note that 're-established' is favoured over 'reintroduced'. The latter is often used to describe species which have been re-established in an area of former natural occurrence, following extinction. This usage is incorrect, however, since reintroduction implies that the species was *introduced* in the first place.
- iv. Naturalised establishment: establishment of a species which occurs but does not breed naturally in a given area e.g. a vagrant, passage migrant or winter visitor.

Note that these terms are meaningless without some geographical reference. For example, the greylag goose *Anser anser* is a naturalised re-establishment across much of Britain where it had previously become extinct as a breeding species. It could, however, be considered a naturalised establishment in certain areas (i.e. in areas where it had not formerly bred naturally) and is also a native breeder in Caithness, Sutherland and the Hebrides.

In submitting papers for this volume, authors were asked to follow the terms developed as far as possible. All the papers were subject to peer review. Common names for bird species follow BOU (1992) for species on the British and Irish List (J. Marchant, this volume) and Howard & Moore (1994) for other species, except where quoting from listings (e.g. legislation) which use other names or where the author considers an alternative name more appropriate. All scientific names follow Howard & Moore (1994).

John Holmes  
Jonathan Simons

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The conference was held at the Great Northern Hotel in Peterborough and organised by Jonathan Simons (JNCC) and Graeme Green (BOU), with the assistance of John Holmes, Colin Galbraith, Chris Monk, Flis Murat (JNCC), Humphrey Crick and Gwen Bonham (BOU). Janet Kear and Roy Walker gave welcoming speeches. Additional thanks are due to John Croxall, Chris Feare, Janet Kear, Christopher Lever, Mike Pienkowski and David Stroud for their contributions to the smooth running of the conference.

# Introduction

## Christopher Lever

Birds have been introduced to new regions by humans for centuries, possibly since their early domestication around 5,000 years ago. The reasons for such introductions are many. Increasing the reliability of food supplies probably inspired the early attempts at introduction. As human societies evolved and changed, so have the reasons for the introduction of birds. These have included increasing sporting opportunities, providing biological control, conservation, aestheticism and nostalgia for a homeland left behind. Some species have been released deliberately whilst others have escaped from captivity or domesticity. Several have been unwittingly given ship-borne passage to new areas.

Those introduced solely as a source of food have usually been domesticated species, such as the red jungle fowl *Gallus gallus* (the ancestor of the domestic fowl) and the feral pigeon *Columba livia*. The former is now a widespread feral species, especially in Indonesia, while the latter is virtually cosmopolitan. In the nineteenth century, wekas *Gallirallus australis scotti*, were imported from Stewart Island, New Zealand, to sub-antarctic Macquarie Island, as a source of food for visiting whalers and sealers (Lever 1994).

Deficiencies in local sporting fauna may be real or they may be perceived, 'man hankering after some particular kind of sport remembered from back home' (Bates 1956). The United States, for example, was naturally well stocked with game birds, but attempts have been made to naturalise or translocate a wide variety of different species, meeting with mixed success (Phillips 1928). In New Zealand, on the other hand, there was a relative scarcity of native game birds, and Thomson (1922) describes the introduction by early colonists of many different alien species with varying degrees of success. These introductions were subsidised by the Auckland provincial government which offered immigrants various prices for importing pairs of alien birds. Similarly, in Australia, the relative paucity of native game birds led to efforts by early settlers to establish a variety of exotic species, again with mixed results (Lever 1987).

The deliberate introduction of birds for aesthetic

reasons has involved mainly wildfowl and 'ornamental' pheasants. Many species have been used, including the mute swan *Cygnus olor* (introduced to the United States, South Africa, Australia and New Zealand), the black swan *C. atratus* (New Zealand), the Canada goose *Branta canadensis*, Egyptian goose *Alopochen aegyptiacus*, Mandarin duck *Aix galericulata*, golden pheasant *Chrysolophus pictus* and Lady Amherst's pheasant *C. amherstiae* (Britain), the peafowl *Pavo cristatus* (United States and New Zealand), Reeves's pheasant *Syrnaticus reevesii* (Britain and Hawaii) and the Kalij pheasant *Lophura leucomelana* (Hawaii) (Lever 1987).

Introductions for sentimental or nostalgic reasons have almost invariably involved songbirds. In Australia, over half of the two dozen or more introductions that became established were imported by homesick colonists trying to provide themselves with memories of their native land (Thomson 1922). The formation of the various acclimatisation societies, of which the first was the Société Impériale d'Acclimatation founded in Paris by Geoffroy Saint-Hilaire in 1854, arose from the increasing interest by naturalists in exotic species, and resulted in more intensive efforts at naturalisation (Lever 1992). Other acclimatisation societies were later founded in most Australian colonies, in New Zealand and elsewhere.

In the United States, the Natural History Society of America imported songbirds from Europe and these were released near Brooklyn, New York, in 1846. Others (including the house sparrow *Passer domesticus*) were brought in by the Brooklyn Institute between 1850 and 1853, and the Trustees of the Greenwood Cemetery on Long Island introduced several species late in 1852.

Many birds have been introduced to provide a form of biological control of insects and other pests. A good example of what can go wrong with such introductions is provided by the introduction of the Chimango caracara *Milvago chimango* to Easter Island to act as a scavenger: the species preys on colonies of nesting seabirds and has been accused of injuring cattle and damaging their hides (Johnson, Millie & Moffet 1970; Harrison 1971).

The unfortunate consequences of some introductions include the transmission of parasites, damage to human food and economic resources, competition with native species, predation, and morphological and/or genetic changes in native populations through

hybridisation. Some of the papers in this volume demonstrate our increasing awareness of such problems, although this awareness is by no means new. In its annual report for 1884, the Cincinnati Society for Natural History, referring to mass releases of imported songbirds, said that while it could not 'but admire the sentiment which promoted the introduction of these birds, we may properly at the same time express the opinion that the general principle is, zoologically speaking, a wrong one'.

It should be remembered, however, that there may also be benefits from introducing birds. These include the provision of new game species, which has had a major impact on the management of the British countryside (P. Robertson, this volume), with associated opportunities for human employment. The general public may even side with the nineteenth-century acclimatisation societies in simply enjoying the sight and sound of certain naturalised birds.

There may also be sound conservation reasons for the establishment of new populations of critically endangered species through translocation to predator-free islands (e.g. North Island saddlebacks *Creadion carunculatus rufusater* in New Zealand (B. Bell, this volume)), or to re-populate areas of former

occurrence (e.g. the red kite *Milvus milvus* and sea eagle *Haliaeetus albicilla* to parts of Britain (I. Evans, this volume)).

The papers in this volume approach the subject of introduced and naturalised birds from a variety of disciplines, demonstrating the position studies of such species have in current ornithology. Whether we like them or not, introduced and naturalised birds are increasingly likely to demand the attention of conservationists and policy makers.

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