

EUROPEAN CENSUS OF CAPTIVE NORTH AMERICAN RUDDY DUCKS *OXYURA J. JAMAICENSIS*

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An international initiative to stop and reverse the population and range expansion of the naturalised North American Ruddy Duck in the Western Palearctic, in order to safeguard populations of the globally threatened White-headed Duck from hybridisation, began in earnest in 1993. As part of this initiative, a census of North American Ruddy Duck in captivity in Europe was conducted in 39 European countries in 1995. A total of 741 birds was reported, distributed amongst 80 private collections and zoos in nine countries, entirely within western Europe. However, it was estimated that the true number of Ruddy Ducks in captivity was in excess of 3,300 birds and thought to be increasing. Observed levels of duckling production suggest that the captive Ruddy Duck population has a high capacity for growth. Belgium, The Netherlands, United Kingdom, France and Germany held the largest captive populations. A general reluctance of aviculturists to respond to the questionnaire was attributed to a) adverse publicity associated with the current threat to the White-headed Duck, b) the growing call in some European countries for the outlawing of pinioning and c) speculation over legislation restricting the keeping of Ruddy Ducks. A major report published by the Council of Europe in 1996 suggested strict and legally-enforceable regulation of the keeping of potentially harmful exotic species. A preferable option for aviculturalists may be the establishment of a self-regulatory system. Given the threat to the White-headed Duck from Ruddy Ducks escaping from captive collections, persons dealing in Ruddy Ducks should consider whether free trade is justifiable.

Keywords: *Aviculture, Hybridisation, Naturalised, Ruddy Duck, White-headed Duck.*

The North American Ruddy Duck *Oxyura j. jamaicensis*, hereafter Ruddy Duck, is endemic to North America and was introduced into captive collections in Europe in the 1930s (Lever 1977). After escaping from captivity in the United Kingdom (UK) in 1953, breeding in the wild began at Chew Valley Lake, Avon, in 1960 (King 1961). The naturalised population expanded rapidly (Hudson 1976) and, by 1993, had reached approximately 3,500 wintering birds, with a minimum of 600 breeding pairs (Hughes & Grussu 1994).

In Europe, Ruddy Ducks were first recorded outside the UK in Sweden in 1965, and there

have now been over 600 records from 19 Palearctic countries excluding the UK, mostly from western Europe. Annual breeding attempts now take place in the wild in six of these countries (Belgium, France, Iceland, Ireland, The Netherlands and Spain) and breeding is suspected in Morocco (Hughes 1996a).

The spread of the Ruddy Duck into southern Europe has brought it into contact with the globally threatened White-headed Duck (Collar *et al.* 1994). Hybridisation to at least second and possibly third generation has occurred in Spain, posing a serious threat to the White-

headed Duck (Urdiales & Pereira 1993).

A meeting was held at Arundel, UK, in March 1993, at which 50 delegates from 10 countries agreed that action was necessary 'to stop and reverse the population and range expansion of the naturalised Ruddy Duck in the Western Palearctic, in order to safeguard populations of the White-headed Duck' (Anon. 1993). The meeting produced a range of recommendations under six major themes: legislation and international agreements, monitoring, research, control measures, public relations and captive birds. Regarding captive birds, the meeting recommended that 'a European census of *Oxyurinae* in captivity should be carried out'. A preliminary census of all stiffetails was conducted amongst Aviornis members in Belgium, France, The Netherlands and the UK in 1994, but the response outside the UK was generally poor (N. Worth unpublished data). The current census, which concentrated solely on Ruddy Ducks, planned to achieve wider European coverage.

Methods

Details on the numbers of Ruddy Ducks (males, females, fertile females, and juveniles of the year) held at each collection in 1995 were requested from approximately 2,000 private collections and zoos throughout Europe during the winter of 1995-96, via membership mailings of Aviornis and the European Endangered Species Programme (EEP) (EC Zoo Federation). This effectively covered the vast majority of captive waterfowl collections throughout Europe. The accuracy of the totals for each country was assessed by estimating subjectively the proportion of captive Ruddy Ducks located during the survey as >75%, 51-75%, 25-50%, and <25% based on either direct contact with key aviculturists or, in the absence of suitable contacts, on the authors' own knowledge.

Results

Of the 39 European countries, the census located captive Ruddy Ducks in nine (23%), distributed amongst 80 private collections and

zoos in west Europe (**Table 1; Figure 1**). A total of 741 Ruddy Ducks was reported, of which 647 (87%) were in just four countries (UK, The Netherlands, Belgium and Germany).

Overall, the proportion of males to females was 1.1:1, while 71% of the females were considered fertile; 256 birds (35%) were juveniles raised during 1995, indicating a production of 1.1 young per female.

The response to the survey was generally poor, with returns from only 17 countries (44%). At least five of the countries from which no returns were received are known to hold Ruddy Ducks. The level of response from countries for which returns were received was variable. Most notable was: (i) the good response from the UK; and (ii) the poor response from other countries with reasonable populations, namely Belgium, Denmark, France, Germany, The Netherlands and Spain (**Table 1**). Overall, it was estimated that the census total of 741 birds represented 22% of the actual total, indicating that there were probably some 3,300 Ruddy Ducks in captivity in Europe in 1995. In addition to those countries mentioned above, France was also estimated to hold in excess of 200 birds.

Discussion

The results of this study improve on census data for Ruddy Ducks in captivity in Europe although the overall response was still poor except from the UK. The reluctance of aviculturists to provide data was thought to be caused by three factors; first, the adverse publicity regarding Ruddy Ducks in Europe since the threat to the White-headed Duck arose; second, the growing call in some European countries for the outlawing of pinioning (V. van den Berk *pers. comm.*) and, third, speculation in some countries over the possible introduction of new legislation to control the numbers of Ruddy Ducks in captivity.

Regarding the dynamics of the captive population, it appears that numbers of captive Ruddy Ducks in Europe are increasing as more aviculturalists acquire the expertise required to breed the birds. Long-term survey data are,

Table 1. Census results for Ruddy Ducks in captivity in Europe in 1995. No returns were received from countries in italics. Estimated figures without superscripts are the authors' own estimates in the absence of survey information.

COUNTRY	COLLECTIONS WITH BIRDS	ADULT MALES	ADULT FEMALES (% FERTILE)	JUVS	JUVS/ FEMALE	TOTAL ¹	ESTIMATED TOTAL
<i>Albania</i>	0	0	0	0	-	0*	0
<i>Austria</i>	0	0	0	0	-	0****	10
<i>Belarus</i>	0	0	0	0	-	0*	0 ²
Belgium	13	25	35 (46%)	54	1.5	114****	see NL ³
<i>Bosnia & Herzegovina</i>	0	0	0	0	-	0*	0
<i>Bulgaria</i>	0	0	0	0	-	0*	0 ⁴
<i>Corsica</i>	0	0	0	0	-	0*	0
<i>Croatia</i>	0	0	0	0	-	0*	0 ²
<i>Czech Republic</i>	0	0	0	0	-	0*	5 ²
Denmark	3	6	9 (56%)	19	2.1	34****	70
<i>Estonia</i>	0	0	0	0	-	0*	0
<i>Finland</i>	0	0	0	0	-	0*	0 ²
France	2	1	3 (100%)	2	0.7	6****	see NL ³
Germany	8	32	27 (81%)	8	0.3	67****	200
<i>Greece</i>	0	0	0	0	-	0*	20
<i>Hungary</i>	0	0	0	0	-	0*	0
<i>Iceland</i>	0	0	0	0	-	0*	0 ²
<i>Ireland</i>	3	22	14 (70%)	0	0	36*	40
Italy	2	6	6 (100%)	0	0	12**	40
<i>Latvia</i>	0	0	0	0	-	0*	0
<i>Lithuania</i>	0	0	0	0	-	0*	0 ²
<i>Luxembourg</i>	0	0	0	0	-	0*	0
<i>Macedonia</i>	0	0	0	0	-	0*	0
<i>Moldova</i>	0	0	0	0	-	0*	0
Netherlands	21	35	42 (64%)	57	1.4	133****	2,500 ³
<i>Norway</i>	0	0	0	0	-	0*	0 ⁵
<i>Poland</i>	0	0	0	0	-	0*	0
<i>Portugal</i>	0	0	0	0	-	0*	0 ²
<i>Romania</i>	0	0	0	0	-	0*	0
<i>Russia (European)</i>	0	0	0	0	-	0*	0
<i>Sardinia</i>	0	0	0	0	-	0*	0
<i>Serbia & Montenegro</i>	0	0	0	0	-	0*	0
<i>Slovakia</i>	0	0	0	0	-	0*	0
<i>Slovenia</i>	0	0	0	0	-	0*	0
<i>Spain</i>	0	0	0	0	-	0****	30 ⁶
Sweden	1	3	3 (100%)	0	0	6*	10
<i>Switzerland</i>	0	0	0	0	-	0****	10
<i>Ukraine</i>	0	0	0	0	-	0*	0
United Kingdom	27	119	98 (78%)	116	1.2	333*	400
TOTAL	80	249	236 (71%)	256	1.1	741*	3,335

¹ Estimated proportion of birds located: * >75%; ** 51-75%; *** 25-50%; **** <25%. ² Rose (1994); ³ 1994 Aviornis survey estimated 2,500 birds in Belgium, France, and The Netherlands; ⁴ V. Georgiev in litt.; ⁵ T.J. Samuelsen in litt.; ⁶ Marti (1993).

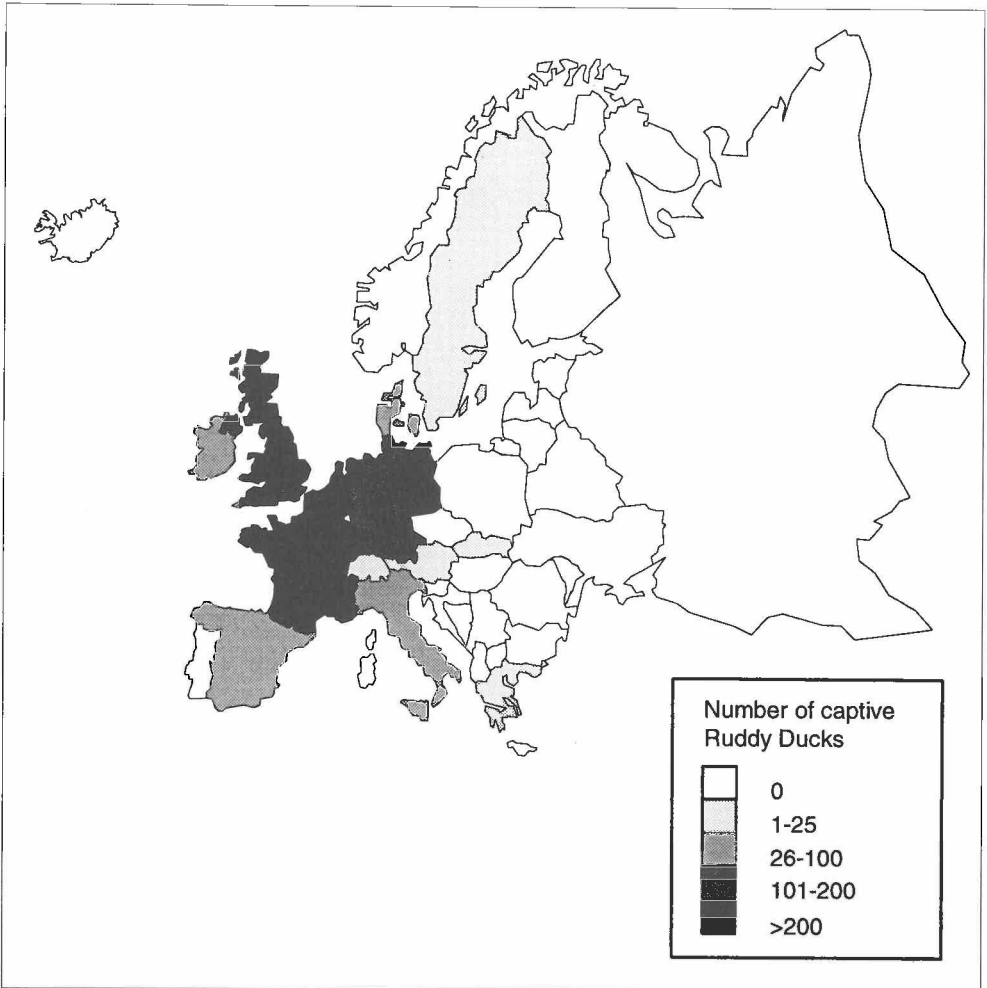


Figure 1. Estimated numbers of captive Ruddy Ducks in Europe in 1995.

however, only available for the UK where numbers of Ruddy Ducks reported rose from 302 in 25 collections in 1994 (B. Hughes unpublished data, Rose 1995) to 333 in 27 collections during the present census, an increase in numbers of some 10%. Assuming an annual survival of 70% (Hughes 1996b), the mean productivity recorded during the present census (1.1 young per female) suggests that the captive Ruddy Duck population possesses a high capacity for further growth and, therefore, for further escapes. With a captive population in Europe currently numbering some 3,300 birds, equivalent to the naturalised population

in the UK (Hughes 1996a), preventing further escapes is clearly an important component of a long-term solution to the threat posed by Ruddy Ducks to White-headed Ducks along with the reduction of existing naturalised populations.

Action to prevent further escapes is increasing. In the UK, The Wildfowl & Wetlands Trust and Aviornis UK, on behalf of the UK Ruddy Duck Working Group, produced guidelines for the keeping of Ruddy Ducks in captivity. These have been widely circulated, nationally and internationally. Since 1 January 1995 in Britain it has been illegal to trade in

Ruddy Ducks without an individual licence and the addition of the Ruddy Duck to Schedule 4 of the Wildlife and Countryside Act 1981, which would require the registration and ringing of all captive birds, is under consideration. A voluntary monitoring scheme is in place via the UK Census of Captive Wildfowl which is conducted every three years by an independent waterfowl breeder. Aviculturists in the UK are well informed of the Ruddy Duck issue and Aviornis (UK) believes trade in Ruddy Ducks will decrease gradually as legislation takes effect. In The Netherlands, a meeting of conservationists and aviculturists on 6 June 1996 advised a discouragement policy for keeping Ruddy Ducks in captivity and the development of a voluntary monitoring system (V. van den Berk *pers. comm.*). Spain has carried out a national survey of captive Ruddy Ducks and Spanish conservationists and aviculturists continue to work together to address the issue (Marti 1993, Rose 1994, 1995).

The Convention on Biological Diversity states that “each Contracting Party shall, as far as possible and appropriate, prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species”. Following this recommendation, the Council of Europe produced a report on introductions of non-native organisms into the natural environment (de Klemme 1996). The report recommended the following measures to prevent the escape of exotic species: a) strict standards of security for enclosures and for the transportation of animals; b) prohibition from keeping in captivity certain species considered to represent a serious ecological danger in the event of their escape; c) the limiting of commercial breeding installations to species whose use constitutes a recognised economic activity or which are unable to survive in the wild; d) the requirement that all establishments keeping captive animals should be licensed; e) a register of and indelible mark on animals so that their origin can be identified in the event of their escape; f) strict rules in the event of captive collections closing down to prevent animals from being deliberately or accidentally freed; g) penal and administrative sanctions that

could include the withdrawal of permits, the closing of the establishment and the confiscation of animals in the event of a violation of regulations.

If such recommendations are implemented, via national and international legislation, there could be serious implications for aviculturists. Unquestionably, there is the need to monitor captive populations of Ruddy Ducks (and other species). What needs to be resolved is whether this system should be voluntary or obligatory. Although the Arundel meeting in 1993 recommended a legally-enforceable register for Ruddy Ducks (Anon. 1993), most aviculturists would undoubtedly prefer a self-regulatory approach to the management and monitoring of captive species. Many larger collections and zoos are members of ISIS (the International Species Inventory System) and enter husbandry data on ARKS (the Animal Record Keeping System), but there is currently no universal system of registration for smaller or private collections. Members of Aviornis routinely close-ring captive waterfowl and discussions are now underway within the organisation regarding the possibility of developing a Europe-wide database for captive waterfowl.

Although the numbers of Ruddy Ducks escaping from captive collections are not known, a reduction in trade would no doubt serve to reduce the number of birds escaping. Larger collections represent the main source of birds and should therefore take the lead in reducing trade. Persons dealing in Ruddy Ducks currently do so with the backing of international law, however such dealers should consider whether open trade in Ruddy Ducks can be justified given the threat to the survival of the White-headed Duck.

We thank the great many people who kindly provided assistance during this study, particularly those aviculturists who returned completed survey forms. Andy Green, Louisa Beveridge and Ute Zillich kindly translated various texts. This work was carried out under contract to the Department of the Environment and is published with the Department's agreement.

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