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WINTERING CORMORANTS IN LIBYA

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From 3 to 17 January 2005 we counted wintering waterbirds and investigated the possibility of Slender-billed Curlew (*Numenius tenuirostris*) occurring at the majority of coastal wetlands in Libya, in the course of a survey promoted and sponsored by UNEP's Mediterranean Action Plan (Action Plan for Birds, RAC/SPA, Tunis) and the Afro-Eurasian Waterbird Agreement under the Convention on Migratory Species, in cooperation with EGA, Libyan Environment General Authority. A total of almost 30,000 waterbirds was censused on about 60 wetlands, located along 1800 km of coast from the Tunisian border to Tobruk (plus a few inland sites). We report here on Great Cormorant *Phalacrocorax carbo*, a species that had been previously recorded from this country only in single figures (Bundy 1976, Brehme et al. 2002), even though it was known to occur in huge flocks very close to the borders of Libya (Gloe 1992). No Mediterranean Shags *Phalacrocorax aristotelis desmarestii* were recorded during our survey, though this species was found nesting in small numbers in eastern Libya (Meininger et al. 1994).

Not surprisingly perhaps, Libya turns now out to hold some relatively large flocks. It is definitely not, however, a major country for Great Cormorant: at 26 sites where the species was observed, we counted a total of 1159 individuals. This cannot be considered a complete figure, mainly because our activities were not specifically aimed at this species. We did not visit night roosts, where larger figures might be expected, and we only occasionally monitored marine coastal waters. Nevertheless, the fact that the commonest local wetland type (shallow saline depressions – "sebkhas") is unsuitable for diving birds, and that there are few lagoons or shallow marine waters, make it very unlikely that we overlooked important cormorant concentrations. Flooding of sebkhas was later than usual in the season monitored, what might have contributed to determine unfavourable trophic conditions.

The western coast - Farwa Lagoon and nearby Gataya island, only 10 km from the Tunisian border, held the largest numbers in the country (494 birds); shallow marine waters (the 10m depth contour line falls at 4-8 km from the shore) and marked tidal movements are the outstanding features of this westernmost part of the Libyan coastline. For the rest of this coastal strip, up to the town of Misrata, we found in total only 23 birds at small river estuaries and in Tripoli Harbour, with 3 additional birds well inland at the Wadi Zaret reservoir in the foothills of the Jebel Nafusa. A previous max. count of 506 individuals was made at Farwa Lagoon in winter 1999 (Etayeb 2001).

The Gulf of Sirt – This huge gulf, whose bathymetry is probably favourable for cormorants and which has islets that could be used as night roosts, was not fully monitored. Coastal sebkhas surrounding it, however, are unsuitable for cormorants. The immense lagoon that bordered the western Sirt coast, hosting safe harbours in ancient Greek times and well known to the geographer Strabon, has long turned into an equally huge complex of mudflats and saltmarshes (Sebkhat Tawargha, over 2000 km^2). We observed only 12 Great Cormorants across this whole area.

The eastern coast – Here the coast is mainly rocky, starting with a hotspot for Great Cormorant around the city of Benghazi (281 birds, with main day-roosts of 168 in the Bou Dzira recreation pond, 43 at Ain Azziana Lagoon, 30 on Benghazi Lake and Harbour, and at least 40 more leaving the harbour area at sunrise and heading south of Garyunes along the coast). East of this area, only 22 birds were seen at 5 sites, followed by another hotspot in the shallow Gulf of Bomba (249 birds, with main feeding areas at Sebkhet Temimi and the inlet of Ain el Ghazala Cove, a night roost on the island of Jeziret al Elba) and a group of 62 in Tobrouk natural harbour.

Cormorants in the desert – To our surprise, 13 Great Cormorants constituted almost all the waterbirds present on Melfa Lake, close to Jaghbub Oasis, 300 km into the desert south of Tobrouk. This brackish lake, hosting a typical marine relict fauna (from mussels and cockles to killifish, sandsmelts and gobies), also held introduced tilapias that probably supported the cormorant flock. Most birds were in adult plumage, which suggests that a chance arrival of inexperienced migrants was not the reason for their presence.

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Status of wintering and breeding populations of Great Cormorants Phalacrocorax carbo sinensis in Switzerland

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Abstract
Following a dramatic increase until the early 1990s, the wintering population of Great Cormorants in Switzerland decreased and stabilised at 5000 to 6000 individuals at the turn of the century. During the roost count in January 2003, carried out as part of the coordinated European census organised by the Wetlands International Cormorant Research Group, 4201 Cormorants were counted in Switzerland, 5885 if the roosts across the borders to adjacent countries are included. Overall, 60 occupied roosts were found, 46 of which were in Switzerland. Cormorants established their first breeding colony in 2001 on an island in the Fanel waterbird reserve, Lake Neuchâtel. From 2 pairs in 2001, numbers increased to 53 certain broods in 2004.

Introduction
The strong increase and the development of Great Cormorant breeding colonies is well documented in many European countries. On the other hand, information about the actual situation of the wintering population of Great Cormorants in Europe is incomplete. The Wetlands International Cormorant Research Group therefore organised a coordinated census of Great Cormorants across Europe in order to get an overview on population size, migration patterns and distribution of Great Cormorants in winter. This report presents the results of this roost census in January 2003 for Switzerland and gives an overview on the development of the wintering population as well as the recently established breeding population.

Methods
In Switzerland, counting Cormorants has a long tradition. Great Cormorants were included in the national waterbird census from its start in 1967. However, a combination of methods was used. While some people counted Cormorants during daytime, others made a separate count at night roosts. These differences could largely be eliminated by a careful analysis of the data for the publications on population size and trend of Cormorants in Switzerland (Suter 1989, Pedroli & Zaugg 1995). Since 1996, daytime counts and counts at night roosts can be indicated separately on recording forms, which largely eliminates double counts. In addition, Great Cormorants were counted at night roosts in a separate programme supported financially by the Federal Agency for the Environment, Forests and Landscape FAEFL. This programme covered the winters 1995/96 to 2000/01 and incorporated in each winter a count in mid-November and one in mid-January. A summary of the situation of Great Cormorants was compiled in a fact sheet (Burkhardt et al. 2002a, Burkhardt et al. 2002b) and a more detailed analysis of the development of the wintering population is in preparation (Schifferli et al. in prep.). The European Cormorant census in January 2003 was organised by the coordinators of the Swiss national waterbird census at the Swiss Ornithological Institute in Sempach, V. Keller and M. Burkhardt. It was coordinated with the waterbird census in mid-January, which was carried out on the weekend of 11/12 January 2003.
The size of the only breeding colony of Great Cormorants is monitored by local ornithologists who carry out nest counts (J. Hassler, P. Mosimann, P. Rapin, M. Antoniazza and others).