

**Global population development of the Pygmy Cormorant  
*Phalacrocorax pygmeus***

*Overview of available data and proposal to set up a network of national specialists*

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The Pygmy Cormorant is a colonial water bird that has a limited breeding range in the south-east of the Western-Palaeartic region. The species is poorly-known and vulnerable; it suffered a large-scale decline since the second half of the 19th century because of drainage and degradation of wetlands, persecution by fishermen and destruction of breeding colonies (Cramp & Simmons 1977, Collar & Andrew 1988). The species was placed on the Red List of Globally Threatened Species as “near threatened” (Birdlife 2004b) and was listed in category 1 of Species of European Conservation Concern (Tucker & Heath 1994, Birdlife International 2004a). In 1999 a Species Protection Plan was prepared by Birdlife International that aimed to halt the decline of the Pygmy Cormorant in Europe and to restore the species in its former European range (Crivelli *et al.* 1996). When this action plan was drawn up, the authors concluded that from large parts of the European distribution area data on numbers and trends were scarce or absent. Many from the actions listed in the plan therefore comprised the collection of adequate information on exact distribution and number, as well as the setting up of a monitoring scheme to investigate trends. Crivelli *et al.* (2000) subsequently published an overview, comprising many data from the former USSR not previously published in a Western-European language. Detailed information from the countries that hold the largest populations (Azerbaijan, Romania, Serbia and Montenegro, Ukraine), however were not available. This resulted in world population estimates that are not very accurate: 13.000 - 25.000 breeding pairs (Rose & Scott 1994, 1997); 22.345 - 27.055 breeding pairs (Statterfield & Capper 2000); 21.965 - 27.285 breeding pairs (Crivelli *et al.* 2000) and 21,393 – 37,323 breeding pairs (Delany & Scott 2002).

Knowledge about the species’ status and trend throughout its range is essential for the planning and evaluation of monitoring and conservation efforts. In most countries within the species range efforts have been made to make good estimates of the population’s size and to locate all colonies during recent years. In this article we present an overview of the currently available population data. We discuss reasons for the observed trends, and the possible implications for conservation and monitoring. Finally we propose to set up a network of national or regional specialists throughout the species’ range to be able to closely monitor the future population development and to set up joint research projects.

**Methods**

Data on breeding Pygmy Cormorants were collected by literature research and by contacting regional ornithologists and specialists on colonial waterbirds. For breeding sites from which we obtained no new data, this overview leans mainly on the literature research by Crivelli *et al.* (2000). The sources they cited are also mentioned in the text, when appropriate. For these areas we also consulted the Important Bird Area database (Birdlife 2003).

## Results

Figure 1 shows the distribution of Pygmy Cormorant breeding colonies (with the 10+ colonies in the Romanian Danube Delta depicted as a single dot). The dot size is relative to the number of breeding pairs. For this we used the most recent count available. When numbers in the colony were estimated, we used the upper limit of the estimate. Colonies present in the 1990s that were known to have disappeared in later years are not shown. The information used was usually gathered between 1997 and 2004. For some colonies older data was used. The total number of breeding pairs counted in all colonies together is 22.715 – 24.353 breeding pairs. Below we list the available information on breeding colonies by country/geographic area.

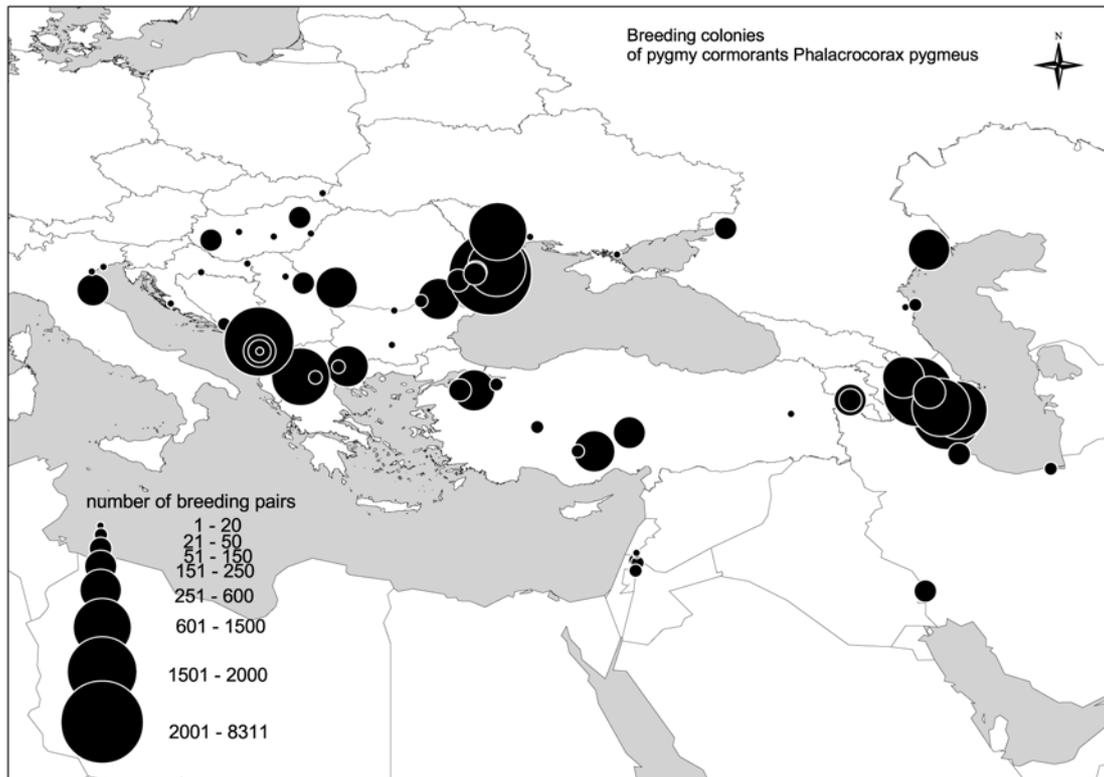


Figure 1. Distribution of Pygmy Cormorants breeding colonies in the species' global breeding range.

### Albania

Pygmy Cormorants probably stopped breeding in Albania during the late eighties or early nineties (Willems & De Vries 1998, Zekhuis & Tempelman 1996, Vangeluwe *et al.* 1996). Before 1996 100-300 pairs were known to breed in Albania. The large numbers of birds present at the Albanian part of Lake Skadar most likely originated from the Crni Žar colony at the Montenegrin side of the lake, and were probably erroneously taken for breeding birds from Albania by several authors (e.g. Cramp *et al.* 1998). In the Bojana/Buna Delta at the Montenegrin border, in 2003 a colony was found in the marshes of Velipoja Reserve (220 pairs) (Stumberger & Sackl 2004, Euronatur, M. Schneider-Jacoby pers. comm.). In 1996 this site was not occupied (F. Willems). The Albanian waters are important feeding areas for breeding birds from just across Albanian's borders (Skadar, Bojana/Buna, Prespa).

### *Armenia*

In 1994 there were 60 breeding pairs in one colony (Crivelli *et al.* 2000, Petrosyan & Petrosyan 1997) NACRES (2002), mentioned 1000-1500 resident individuals in the valley of river Araks (banks of rivers Metsamor, Razdan and fish farms in Ekhegnut, Masys & Armash), comprising 300 breeding pairs minimally (Giorgi Darchiashvili, Boris Gabrielian pers. comm.).

### *Azerbaijan*

More than half of the world's population reputedly breeds in Azerbaijan. Recent data however are absent. Cramp *et al.* (1998) reported 4800–5800 pairs and a marked increase in the Lenkoran lowlands in 1980's. In 1986 the population was estimated at 14.749 breeding pairs mainly in Lenkoran and Kura-Araks lowlands; a high figure that has been questioned (Crivelli *et al.* 2000, Stoskaya & Krivenko 1988). Perrenou *et al.* (1994) reported a drastic decline in the Caspian region. Counts of wintering birds in Azerbaijan (Paynter *et al.* 1996) however did not support this. NACRES (2002) mentions the presence of 28.000 individuals in 1998. The number of breeding pairs is not exactly known but is estimated to range between 10.000 and 12.000 breeding pairs (Elchin Sultanov, Elshad Askerov, Nigar Agayeva pers. comm.). The total number of breeding pairs from known colonies however does not exceed 6500 pairs. Breeding colonies are known from Lake Ag-gel, (max. 1800 pairs) Lake Mahmud-Chala (500-800), Lake Beuk-Shorgel (c. 50 pairs), the delta of the Kura river (1300 pairs), Kizil-Agach Bay (1400-2000 pairs). Breeding Pygmy Cormorants were also known from Lake Sarisu (166 in 1998) and the Varvara reservoir (348 in 1998) (Patrikeev 2004; BirdLife International, 2003). Patrikeev (2004) lists the Pygmy Cormorant as vulnerable in Azerbaijan.

### *Bosnia and Herzegovina*

Breeding of Pygmy Cormorants in large colonies at Hutovo Blato in Herzegovina was mentioned by Reiser (1939), who already reported a decline in 1914 (Obratil 1969). In the sixties breeding Pygmy cormorants were found in this area along the Krupa river (Sage 1964, Jonkers 1969). Sage (1964) roughly estimated 20 breeding pairs present in 1963. Obratil (1969) found approximately 40 breeding pairs in a mixed colony at the Deranjsko Jezero, a part of Hutovo Blato, during his fieldwork in 1965-1967. Rucner (1998) mentions 20-30 pairs in a colony Eastern part of Deransko Jezero in 1967. Grimmet & Jones (1989) mention breeding Pygmy Cormorants at this site, but do not give an estimate of the number of pairs present. In 2000, however, the species was still present at the site, with presumably 40-50 pairs breeding in a mixed colony (Kotrosan, D. & S. Obratil in lit.). In August 2001, 280 Pygmy Cormorants were observed feeding in the area (P.J. Voskamp), which could well indicate a higher number of breeding pairs. In 2003 however only 10-15 pairs were found in the area (Matić S. pers. comm.). Large parts of the Hutovo Blato marshes have been destroyed by the creation of a reservoir in 1979 (Obratil, 1985, 1996). This reservoir, however, forms suitable feeding habitat for Pygmy Cormorants. In August 2002 15 Pygmy Cormorants of unknown origin were observed at the reservoir in the Drina river near Zvornik (P.J. Voskamp).

### *Bulgaria*

Nankinov 1989 mentioned that many colonies disappeared in Bulgaria. Crivelli *et al.* (2000) mentioned 60-180 pairs in 1990's. In the late 1990s however, the species increased to 350-370 pairs, with the largest colony at lake Srebarna (300 pairs) and 40-50 pairs at Riahavo, a Danube island, and a further 5-10 pairs at other Danube locations (Ivailo Nikolov, Peter Shurilinkov and NGO "Green Balkans" unpublished data).

### Croatia

Until the seventies the species was known to breed in Kopački Rit, in the continental part of Croatia, (Mikuska & Majic, 1971-1972; Mikuska & Pivar, 1980; Ouweneel, 1982). In 2001 the species returned to this area, with 5-10 pairs breeding (T. Mikuska & J. Mikuska). In 2002 breeding of 4-8 pairs was confirmed in Lonjsko polje Nature Park along the Sava river (D. Kovačić, V. Dumbović-Ružić pers. comm.) while in Kopački rit adult birds were observed throughout the season, presumably breeding (T. Mikuska pers. comm.). During 2003 the species ceased nesting in the continental part of Croatia due to the extreme drought that was extending throughout the season. In 2004 1-3 pairs were observed in the mixed colony of Krapje Đol in the Lonjsko polje Nature Park (M. Schneider-Jacoby pers. comm.). During post-breeding dispersal Pygmy Cormorants can be observed along the Drava and Sava rivers, and several fish-pond areas in the Croatian lowlands (T. Mikuska pers. comm., P.J. Voskamp).

Although breeding in the mouth of the Neretva river is known from the historical situation (Matvejev & Vasic 1973), authors disagreed about the recent situation in Dalmatia, the Mediterranean part of Croatia: e.g. Lukac (1998): “regularly nesting” in north and south Dalmatia, referring to Vransko Jezero and the Neretva Delta, opposed to Kralj (1997): no confirmed breeding in Dalmatia. Breeding was suspected in 1996 at Vransko Jezero, based on summer observations (Vogrin, 1998). In 2000 and 2001 there were indications of nesting Pygmy Cormorants on Vransko Jezero. In 2002 finally breeding was confirmed at Vransko Jezero, with 11 pairs breeding (Radović *et al.* 2003, V. Žitko pers. comm.). In 2003 and 2004 the colony continued to exist, despite of large scale habitat destruction caused by the burning of reed vegetations (D. Radović pers. comm.). In Krka National Park in Southern Dalmatia at least 15 Pygmy Cormorants were seen foraging on the Krka river (P.J. Voskamp). In the Neretva Delta, in Southern Dalmatia, small groups of Pygmy Cormorants are observed regularly in summer. At these locations breeding has not been confirmed (D. Kitonić & T. Mikuska pers. comm.); observations may well concern dispersed birds from breeding populations elsewhere (Montenegro, Herzegovina).

### Greece

In 1997 1250-1310 breeding pairs were counted in Greece at three wetlands: Lake Miki Prespa (730-780 pairs), Lake Kerkini (500 pairs in 1997) and Lake Petron (15-30 pairs) (Kazantzidis & Nazirides 1999, Willems & De Vries 1998).

### Hungary

The Pygmy Cormorant colonised Hungary in 1991, showing a strong increase in number of breeding pairs. In 2003 the Hungarian breeding population was estimated at 225-291 pairs at four breeding sites, while in 2004 there were 198-220 breeding pairs at five sites (Szinai 2005).

### Iran

Crivelli *et al.* (2000) mention 20-30 pairs in wetlands along Caspian Sea and probable breeding in mangroves of Khur-Khuran along Persian Gulf. F. Willems (*in lit.*) stated that breeding along the southern half of the Persian Gulf, the Strait of Hormuz and the Sea of Oman is not probable because of the absence of fresh water habitats. A large breeding population is reported from the Hoor Al Azim marshes in Mesopotamia, Khuzestan province, at the border with Iraq (Hamid Amini *in lit.*). Breeding in wetlands along the Caspian Sea is reported for Miankaleh Wildlife Reserve (probably less than 50 pairs), and the Mordab Anzali

Complex with nests found in May 2001 and June 2003 and 310 individuals present at this site on August 4, 2002 (M.E. Sehhati, Hamid Amini pers. comm.).

#### *Iraq*

Large colonies were present in the Mesopotamian marshes of southern Iraq in the mid seventies (Cramp & Simmons 1977). Large-scale destruction of habitat is known to have taken place after the end of the first Gulf War in 1991, destroying more than 90% of the marshland. Restoration actions were taken from May 2003, resulting in reflooding of up to 40% of the former marshlands ([www.edenagain.org](http://www.edenagain.org)).

#### *Israel*

Breeding since 1982, gradually increasing to 60 pairs in the Bet Shean Valley in 1998. In 1999 the population increased to 100 pairs. Increasing conflicts with fisheries led the Israel Nature and Parks Authority to start a management program, which involved non-lethal harassment in fall and winter. This resulted in newly established colonies at The Sea of Galilee (Lake Kinneret). In 2000 there were 115-155 breeding pairs in Israel (Nemtzov 2003). The dramatic growth of breeding and especially wintering numbers led to a strong conflict with fisheries and stimulate to start research on the species aimed to develop a MVP model and a management plan in Israel (Ohad Hatzofe *in lit.*).

#### *Italy*

The first breeding of Pygmy Cormorants was reported in 1981 in a mixed heronry, located in the natural reserve of Punte Alberete (Ravenna) in the southern Po Delta (Fasola & Barbieri 1981). After more than ten years of absence, in early 1990s breeding was again confirmed for Punte Alberete (Volponi & Emiliani 1995) and suspected for the Lagoon of Venice (Nardo 1994). Since then the breeding population strongly increased in both areas. Preliminary analysis of data collected for the monitoring of colonial waterbirds in the Po Delta Regional Park report more than 600 breeding pairs in 2004 (Volponi 2004). Nowadays, while nesting is still restricted to Punte Alberete and the Lagoon of Venice (Associazione Faunisti Veneti 2004), from late summer to mid winter high numbers are regularly recorded in the central Po Delta where birds disperse after breeding (Borgo et al. 2003). Colour-ringing showed that birds born at Punte Alberete regularly move to the Po Delta and may breed in the Lagoon of Venice. Strangely, up to now, the strong increase of the population has not resulted in settlements in the inland freshwater wetlands of the Po Delta, or the coastal lagoons of the Friuli-Venezia Giulia in the upper Adriatic (max of 46 birds in winter 2002). A further spread of the species may be limited by actions aimed to reduce the impact of piscivorous birds on extensive aquaculture. Illegal shooting and disturbance of breeding colonies has been recorded in aquaculture areas of the Lagoon of Venice and Po Delta where the Pygmy Cormorants are often confused with Great Cormorants *Phalacrocorax carbo* which is claimed to cause heavy damage to traditional extensive aquaculture.

#### *Macedonia*

The Pygmy Cormorant once was a numerous breeder at Lake Ochrid and Lake Dojran (Stresemann 1920) but the species became extinct. With the increase in the remaining Balkan populations Lake Dojran was recolonised, with 30-45 pairs breeding in 2001 (Birdlife International 2003). BirdLife International (2004a) estimated 100-150 pairs breeding in Macedonia.

### *Moldova*

First breeding in 1982 along Prut river, increase to 500 pairs (Kunichenko 1991, Crivelli *et al.* 2000). According to Birdlife International (2003) breeding of Pygmy Cormorants is known from the Manta flood-plain-Beleu (probably referring to the same colony in the Prut Valley). BirdLife International (2004a) mentions only 8-12 pairs for the 1990s.

### *Romania*

Crivelli *et al.* 2000 reported breeding Pygmy Cormorants only in the Danube Delta. Puzović *et al.* (1999) however mentioned the existence of a colony on the Romanian bank of the Danube that shifted to the Serbian bank in 1985. Birdlife-International (2003) mentions the existence of two other colonies outside the Danube Delta: in the Parches-Somova wetland (80 pairs in 1999) and at The Little Island of Braila (100 pairs in 1993). The total number in the Danube Delta was estimated to be 4000-7000 breeding pairs in the 1990's (Marinov & Hulea 1996). In 2000 L. Szabo & B. Kiss estimated 4500-5000 pairs present (Capelle & De Smet 2002). A joint Romanian-Ukrainian-Dutch aerial survey revealed the existence of no less than 8311 pairs breeding pairs at 11 sites in the Romanian part of the Danube Delta in 2002 (Platteeuw *et al.* 2003, Platteeuw *et al.* 2004).

### *Russian Federation*

In the Volga Delta 21 breeding pairs were present in the 1980s. The species was not breeding in the Terek Delta (Stoskaya & Krivenko 1988 in Crivelli *et al.* 2000). Cramp *et al.* (1998) mention 150-250 breeding pairs, with a slight increase in numbers. V. Moseikin (*in lit.*) mentioned the existence of large colonies of Pygmy Cormorant in the Volga Delta and the Don Delta. He also listed smaller nesting colonies (with several tens of pairs) in Southern Russian regions: Stavropol (Northern Caucasus), Astrakhan, Kalmykia and Krasnodar. Birdlife International (2003) mention 300 pairs in the Volga Delta in 1995, but do not mention the species for the Don Delta. BirdLife International (2004a) estimated the Russian population to have increased to 2000-5000 pairs in 2000.

In Dagestan, 170 breeding pairs were counted in the 1980's at Achikol lakes (Crivelli *et al.* 2000, Pishvanov & Prilutskaya 1988). Birdlife International (2003) mentioned 20 pairs for Achikol Lakes in 1988 and 15-25 pairs for Agrakhanski Bay in 1997.

### *Serbia and Montenegro*

Breeding in Dubovacki Rit marsh along the Danube river since 1985. This colony was formed by birds that moved from a colony in Romania. In 1998 this colony held 340-360 breeding pairs. In 2001 this colony reduced to 70-100 breeding pairs, but a new colony was established at Mala Vrbica along the Danube river, comprising 200-300 breeding pairs. A small breeding location was found near Baranda, with 3-5 breeding pairs in 2001. There are some indications that small numbers of Pygmy Cormorants may breed in some other wetlands, predominantly in Vojvodina, but proof is still missing. The total estimate for Serbia is 273-405 and 350-500 breeding pairs respectively in 2001 and 2003 (S. Puzović & M. Tucakov *in lit.*, Puzović *et al.*, 2003).

In Montenegro breeding in large numbers was reported from Skadarsko Jezero (Lake Skadar), but precise data were absent (Vasić *et al.* 1992). Large number of feeding birds at the lake were believed to breed at the Albanian side of the Lake, and/or along the Bojana river (Grimmet & Jones 1989). In the 1990s a single large colony was located at Crni Žar, a peat island in Lake Skadar near the Albanian border. The number of breeding pairs at this location varied from year to year, with a minimum of 1100 and a maximum of 1600 breeding pairs.

(pers. com. Ondrej Vizi, Vizi 1997). The most recent estimate reaches 1700-2000 pairs (M. Tucakov: D. Saveljić, pers. comm.). In the Bojana/Buna Delta at the Albanian border, in 2003 colonies were found on Paratuk Island (20 pairs) and on Ada Island (125 pairs) (Stumberger & Sackl 2004, Euronatur, M. Schneider-Jacoby pers. comm.). The colony at Ada Island was destroyed by humans during the breeding season. In 1996 a rough estimate of 350 pairs was made for Ada Island, based on counts of birds flying in and out of the colony (Zekhuis & Tempelman 1998).

#### *Slovakia*

In 1992 and 1993 2-3 breeding pairs were present at the Senné Fish ponds in Eastern Slovakia (Danko S. 1994). In 1997 nest building of several birds was observed at the same location (J. Driessen; A. Wieland).

#### *Syria*

Pygmy Cormorants were reported to be possibly breeding at a single site (Cramp & Simmons 1977). Baumgart (1995) mentions the species to be a rare visitor, possibly breeding near Jarablus close to the Turkish border.

#### *Turkey*

The main breeding areas are the Eregli Marshes in central Anatolia (600 pairs), Lake Uluabat (300 pairs, Crivelli *et al.* (2000) mentioned c. 800 pairs for this site), the Sultan Marshes (200 pairs) and Lake Manyas (Kus) (150 pairs). Smaller colonies were found in Lake Iznik (30 pairs), the Aksehir and Eber Lakes (50 pairs), the Hotamis Marshes (25 pairs), and the Bulanik Plains (10 pairs) (Magnin & Yasar 1997). BirdLife International (2004a) estimated the Turkish population to hold 1300-1800 pairs in 2001. The Turkish population should be considered threatened because wetlands are drying out (caused by a long-term drought and water extraction), for example in the Eregli Marshes and the Sultan Marshes.

#### *Turkmenia*

Breeding occurred in the 1980s (65 breeding pairs), no data for 1990s (Crivelli *et al.* 2000, Bukreev 1997).

#### *Ukraine*

Hagemeyer & Blair (1997) reported a decrease in Ukraine. Crivelli *et al.* (2000) however reports a strongly increasing population. The only known colony, located in the Dniestr Delta, was said to hold 320 pairs in 1999 (Crivelli *et al.* 2000). Rusev & Korzyukov (2003) provide detailed information on the evolution of numbers in 6 colonies holding a total of 1181 breeding pairs in 2000. According to their data the above mentioned Dniestr Delta colony held 315 breeding pairs in 1998 and 550 breeding pairs in 1999. In 2000 this colony had grown to 715 breeding pairs. Platteeuw *et al.* (2004) found 1030 pairs in 2002 at three sites in the Ukrainian part of the Danube Delta, more than doubling the figure found by Rusev & Korzyukov (2003) for this area in 2000.

#### *Uzbekistan*

Crivelli *et al.* (2000) mentioned Pygmy Cormorants to occur from time to time in small numbers. The Uzbek Wetland Working Group mentions the species breeding at the Karakyr Lakes near Bukhara ([www.nature.uz](http://www.nature.uz)).

## Discussion

The information on the colonies mentioned in this article, although not completely up to date, probably gives a clear image of the situation of the species in the Mediterranean basin as well as in the Black Sea area. In the Black Sea regions the Pygmy Cormorant is undergoing a phase of population and range expansion that has led the species to colonise new areas in central and western Europe. The situation in the breeding areas around the Caspian Sea however is still unclear. The sum of all maximum estimates of known colonies listed above is 24,353; considerably less than the maximum estimate of the species' breeding population (up to 37,323 breeding pairs in Delany & Scott 2002). This discrepancy can almost fully be accounted to the unknown situation in the Caspian area, with high estimates for Azerbaijan and the Russian Federation but lacking information on the existence of colonies and the number of breeding pairs for many areas. From the point of view of the species' conservation, Birdlife International (2004a) concludes that the key populations in Azerbaijan and Romania were stable or increasing, and the species underwent an overall moderate increase. Consequently, this globally Near Threatened Species - previously assessed as Vulnerable in Europe - is now evaluated as Secure. However, in our opinion, the world population of the species cannot be considered secure, since there is still uncertainty about the status of the populations in the eastern part of its range (cf. Statterfield & Capper 2000).

In medieval times the species was present in Spain (Hernandez-Carrasquilla *et al.* 1999), maybe even in England (Cowless 1981). The current expansion of the species' range in Europe can therefore be considered a re-occupation of the former range. According to Burton (1995) the northwards range extension that occurred since 1980s and has led Pygmy Cormorants to winter in Lower Austria and to breed in Hungary and Moldova may be related to climate warming and mild winters. Climate amelioration in the 20<sup>th</sup> centuries has been claimed as a (co)factor for the population increase and range extension of many colonial waterbirds (Burton 1995) which share many ecological needs and are often associated with the Pygmy Cormorant (such as the Great Cormorant, and several species of herons and egrets). As for many other colonial piscivorous waterbirds, the reasons for the geographical expansion and population change of the the Pygmy Cormorant should be viewed in the context of unprecedented landscape and social change during the late 20<sup>th</sup> century. For example, factors considered in the expansion of the Great Cormorant (*P. c. sinensis*) in Europe included: (i) protective international legislation under 79/409/EEC Directive and several conventions (the Bern Convention on the Conservation of European Wildlife and Natural Habitats, the Bonn Convention on the Conservation of Migratory Species of Wild Animals, the Ramsar Convention on Wetlands of International Importance); (ii) "non limiting food supply" due to water eutrophication, expansion of extensive and intensive aquaculture, restocking of rivers and lakes with hatchery-reared fish; (iii) creation of artificial wetland habitat as a result of gravel and sand extraction and construction of reservoirs; (iv) a reduction in chemical aquatic pollution associated to the recent decline in heavy industry in Eastern and Central Europe (Carss 2003). The Pygmy Cormorant probably profited specifically from the construction of reservoirs in the eastern Mediterranean and increasing water eutrophication. Both of these factors contributed to good feeding conditions for Pygmy Cormorants. In the Danube Delta one of the suspected reasons for the spectacular increase of the population is thought to be the linking of formerly isolated waters to the river, leading to nutrient rich waters in larger areas of the Delta (M. Platteeuw, pers. comm.). The construction of shallow reservoirs (e.g. Kerkini in Greece and Hutovo Blato in Bosnia and Herzegovina) led to the destruction of valuable marshland habitats, but resulted in fish-rich shallow water bodies of considerable size that probably benefits large numbers of Pygmy Cormorants.

Shooting of Pygmy Cormorants and destruction of colonies may have been the most important factor that has caused the decline of the species. In many countries the level at which waterbirds are hunted is still high. The near-absence of the Pygmy Cormorant in Albania illustrates the vulnerability of the species. Regulation of hunting is an important factor for the conservation of the species in for example Montenegro, Iran and Azerbaijan.

The lack of even basic information on the ecology (e.g. food composition) and biology (e.g. age of first breeding, reproduction and survival rates, see Cramp & Simmons 1977 and Del Hoyo 1992), coupled with recent population growth, range expansion and, last but not least, rising conflicts with fish-farmers have drawn new attention to this bird in several countries. Colour-ringing projects and studies on distribution and dispersal have recently started in Bulgaria, Croatia, Hungary, Israel, Italy and Serbia and are planned for Romania. As for other colonial waterbirds, such new studies would greatly benefit from data sharing and exchange of information. With this in mind and further stimulated by the recent formation of a specific working group inside the EU Cost Action 635 Intercafe ([http://cost.cordis.lu/src/action\\_detail.cfm?action=635](http://cost.cordis.lu/src/action_detail.cfm?action=635)), we propose the establishment of an international network of researchers dedicated to the Pygmy Cormorant. We hope this network will bring together ornithologists from all countries within the species' range. The network will operate under the umbrella of the IUCN Specialist Group. In line with the scope of the Cormorant Research Group, the network will be aimed to improve the knowledge on the ecology of the Pygmy cormorant by facilitating international collaboration. Data and other information collected by the network will be available for the preparation and update of national and international action and conservation plans.

Among the first activities of the network we announce: (I) the set up of an updated bibliography on the species; (II) the search for published and unpublished data on breeding colony distribution for the creation of a GIS based online database; (III) the co-ordination of a simultaneous census of breeding colonies, to be held at least at European level in the breeding season 2006 simultaneously with the pan-European count of Great Cormorant colonies. To clarify the situation of the Pygmy Cormorant in the Eastern part of its range, the network will contribute to a survey of breeding colonies in the area around the Caspian Sea, seeking collaboration with regional ornithologists and organisations.

To facilitate collaboration and information sharing, a dedicated space will be reserved for the network in the Cormorants internet website (<http://web.tiscali.it/sv2001>).

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