Ciconia nigra (Black Stork)

European Red List of Birds

Supplementary Material

The European Union (EU28) Red List assessments were based principally on the official data reported by EU Member States to the European Commission under Article 12 of the Birds Directive in 2019-20. For the European Red List assessments, similar data were sourced from BirdLife Partners and other collaborating experts in other European countries and territories. For more information, see BirdLife International (2021).

Contents

Recommended citation

BirdLife International (2021) European Red List of Birds. Luxembourg: Publications Office of the European Union.

Further information

http://datazone.birdlife.org/info/euroredlist
http://www.birdlife.org/europe-and-central-asia/european-red-list-birds-0
http://www.iucnredlist.org/regions/europe
http://ec.europa.eu/environment/nature/conservation/species/redlist/

Data requests and feedback

To request access to these data in electronic format, provide new information, correct any errors or provide feedback, please email science@birdlife.org.

Table 1. Reported national breeding population size and trends in Europe[1].

Country (or territory)[2]	Population estimate				Short-term population trend[5]				Long-term population trend[5]				Subspecific population (where relevant)
	Size (pairs)[3]	Europe (%)	Year(s)	Method[4]	Direction[6]	Magnitude (%)[7]	Year(s)	Method[4]	Direction[6]	Magnitude (%)[7]	Year(s)	Method[4]	
Albania	1–5	<1	2007-2018	partial	+	-50 to 100	2007-2018	partial	-	-90 to -75	1980-2018	expert	
Armenia	8–10	<1	2013-2018	complete	?		2007-2018	deficient	?		2003-2018	deficient	
Austria	250–350	2	2013-2018	partial	0		2007-2018	partial	+	300 to 400	1981-2018	partial	
Azerbaijan	50–200	<1	1996-2019	expert	0		2013-2019	expert	?		1980-2019	partial	
Belarus	1000–1500	10	2010-2018	partial	0	-10 to 10	2012-2019	expert	+	5 to 15	1980-2019	expert	
Belgium	100–150	1	2013-2018	partial	+	5 to 58	2008-2018	partial	+	9900 to 14900	1982-2018	partial	
Bosnia & HG	100–170	1	2015-2018	complete	?	-10 to 10	2007-2018	complete	?		1980-2018	deficient	
Bulgaria	600–900	6	2013-2018	partial	?		2000-2018	partial	+	150 to 200	1980-2018	partial	
Croatia	220–340	2	2015-2015	expert	?		2007-2018	deficient	?		1980-2018	deficient	
Czechia	400–500	4	2014-2017	complete	?		2007-2018	complete	+		1982-2018	complete	
Estonia	40–60	<1	2013-2017	complete	-	-50 to -20	2006-2017	complete	-	-100 to -50	1980-2017	complete	
France	60–80	<1	2013-2018	complete	+	0 to 25	2007-2018	partial	+	100 to 550	1985-2018	partial	
Georgia	16–32	<1	2018	complete	?			deficient	?				
Germany	800–900	7	2016-2016	complete	+	12 to 47	2004-2016	complete	+		1985-2016	expert	
Greece	110–170	1	2013-2018	partial	+		2007-2018	partial	?		1980-2018	deficient	
Hungary	350–400	3	2017-2017	complete	0		2007-2018	complete	+	25 to 50	1980-2018	partial	
Italy	20	<1	2013-2018	expert	+	60	2007-2018	expert	+		1994-2018	expert	
Latvia	80–140	<1	2018-2018	complete	-	-23 to -19	2013-2018	complete	-	-61 to -60	1989-2018	complete	
Lithuania	350–500	3	2013-2018	partial	-	-46 to -43	2013-2018	partial	-	-43 to -10	1980-2018	partial	
Luxembourg	10–15	<1	2013-2018	complete	+	10 to 20	2007-2018	complete	+	100 to 1500	1980-2018	complete	
North Macedonia	35–45	<1	2014-2019	expert	0		2007-2018	partial	?		1980-2019		
Moldova	14–20	<1	2014-2017	partial	+		2007-2018	partial	0		1990-2018	expert	
Montenegro	1–5	<1	2002-2012	expert	0		2007-2018	expert	?				
Poland	1200–1900	12	2013-2018	complete	?	-43 to 1	2008-2018	complete	+	25 to 75	1980-2018	expert	
Portugal	100–150	1	2013-2018	partial	-		2007-2018	partial	?		1980-2018	deficient	
Romania	1100–2800	14	2013-2014	complete	?		2007-2018	deficient	?		1980-2018	deficient	
Russia	500–850	5	2008-2018	partial	?		2008-2018	expert	+	0	1980-2018	partial	
Serbia	170–270	2	2013-2018	partial	0	0	2007-2018	complete	0	0	1980-2018	complete	
Slovakia	400–600	4	2013-2018	partial	-	-20 to -10	2007-2018	partial	+	10 to 20	1980-2018	partial	
Slovenia	40–60	<1	2013-2018	partial	0	0	2007-2018	partial	+	100 to 300	1980-2018	expert	
Spain	340–390	3	2017	complete	+	10 to 30	2007-2017	complete	+		1980-2017	complete	
Turkey	750–1800	9	2002-2012	partial	?		2008-2019	deficient	?		1980-2013	deficient	

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Country (or territory)[2]	Population estimate				Short-term population trend[5]				Long-term population trend[5]				Subspecific population (where relevant)
	Size (pairs)[3]	Europe (%)	Year(s)	Method[4]	Direction[6]	Magnitude (%)[7]	Year(s)	Method[4]	Direction[6]	Magnitude (%)[7]	Year(s)	Method[4]	
Ukraine	800–1000	7	2018	complete	+	10 to 15	2007-2018	complete	+	200 to 400	1980-2018	partial	
EU28	6600–10400	65											
Europe	**10100–16200**	**100**											

[1] See 'Sources' at end of factsheet, and for more details on individual EU Member State reports, see the Article 12 reporting portal at http://bd.eionet.europa.eu/article12/report.
[2] The designation of geographical entities and the presentation of the material do not imply the expression of any opinion whatsoever on the part of IUCN or BirdLife International concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.
[3] In the few cases where population size estimates were reported in units other than those specified, they were converted to the correct units using standard correction factors.
[4] The 'method used' (replacing the data 'quality' assessment in the 2015 European Red List) is reported as: a) Complete: complete survey or a statistically robust estimate; b) Partial: based mainly on extrapolation from a limited amount of data; c) Expert: based mainly on expert opinion with very limited data; d) Defficient: insufficient or no data available.
[5] The robustness of regional trends to the effects of any missing or incomplete data was tested using plausible scenarios, based on other sources of information, including any other reported information, recent national Red Lists, scientific literature, other publications and consultation with relevant experts.
[6] Trend directions are reported as: increasing (+); decreasing (-); stable (0); fluctuating (F); or unknown (?).
[7] Trend magnitudes are rounded to the nearest integer.

Trend maps

A symbol appears in each country where the species occurs: the shape and colour of the symbol represent the population trend in that country, and the size of the symbol corresponds to the proportion of the European population occurring in that country.

KEY

- Large increase (≥50%)
- Moderate increase (20–49%)
- Small increase (<20%)
- Increase of unknown magnitude
- Large decrease (≥50%)
- Moderate decrease (20–49%)
- Small decrease (<20%)
- Decrease of unknown magnitude
- Stable or fluctuating
- Unknown
- Present (no population or trend data)
- Extinct since 1980

Each symbol, with the exception of Present and Extinct, may occur in up to three different size classes, corresponding to the proportion of the European population occurring in that country.

- Large: ≥10% of the European population
- Medium: 1–9% of the European population
- Small: <1% of the European population

The designation of geographical entities and the presentation of the material do not imply the expression of any opinion whatsoever on the part of IUCN or BirdLife International concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Figure 1. Breeding population sizes and short-term trends across Europe.

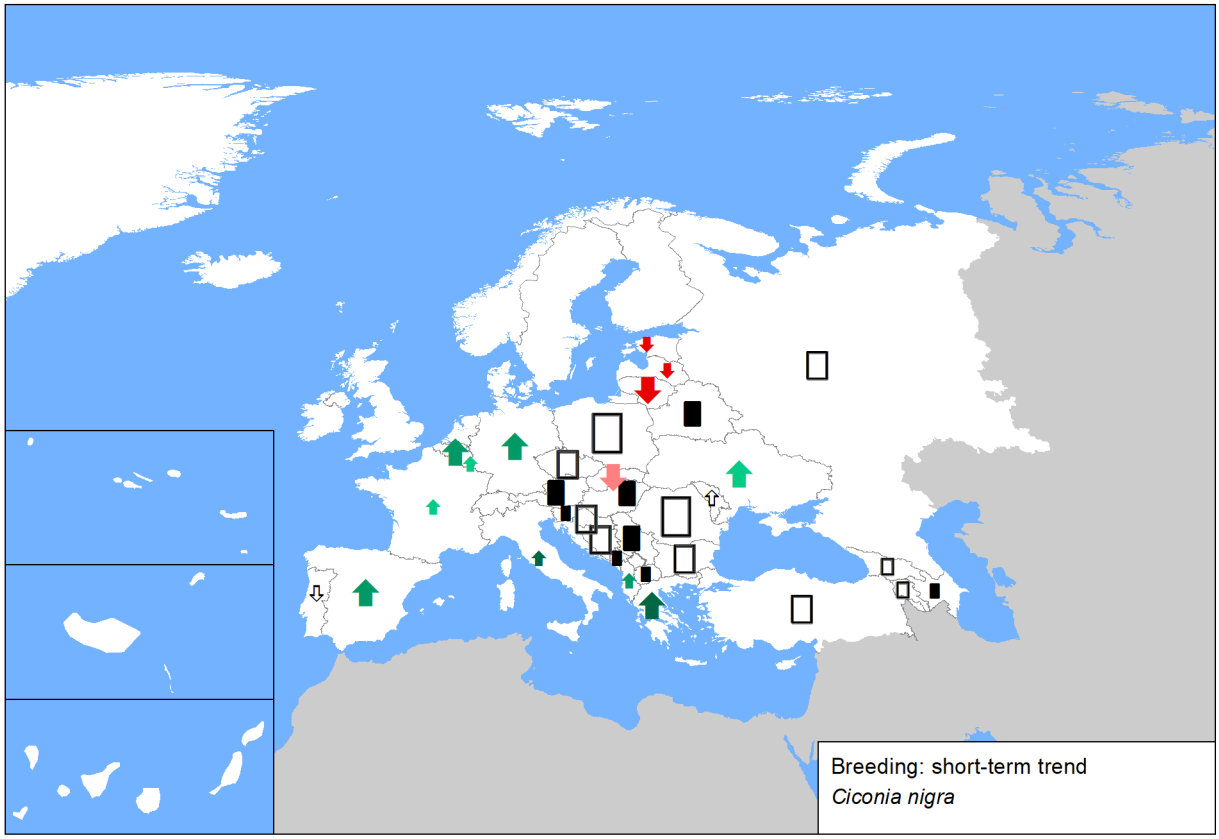
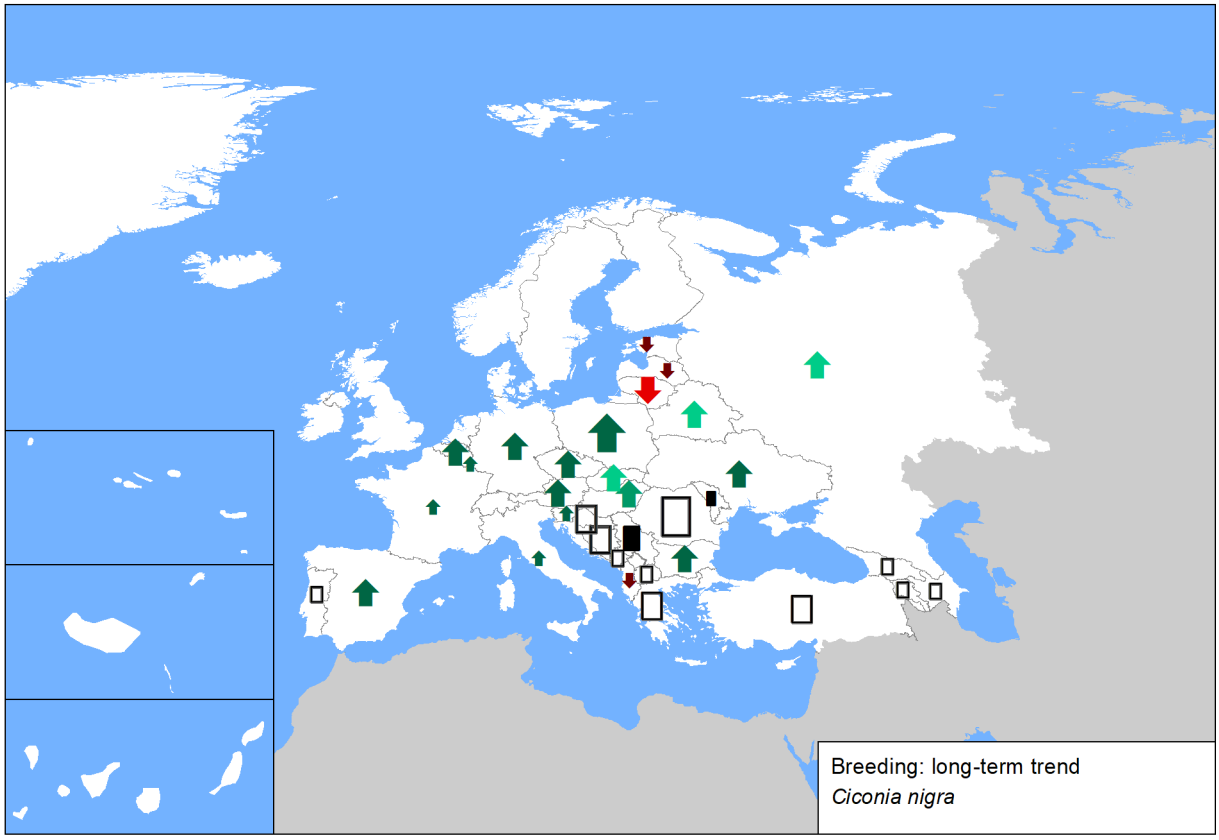


Figure 2. Breeding population sizes and long-term trends across Europe.



Sources

Albania

Breeding population size: Bino & Xeka pers. obs.
Breeding short-term trend: Bino & Xeka pers. obs.
Breeding long-term trend: Bino pers. obs.

Armenia

Breeding population size: TSE NGO
Breeding short-term trend: TSE (2020) The Atlas of the Breeding Birds in Armenia. In preparation.
Breeding long-term trend: TSE (2020) The Atlas of the Breeding Birds in Armenia. In preparation.

Austria

Breeding population size: BirdLife Austria, estimate based on a sample of breeding densities from different sites and habitats
Breeding short-term trend: BirdLife Austria, unpublished data from www.ornitho.at; BirdLife Austria, unpublished archive data
Breeding long-term trend: Dvorak, Ranner & Berg 1993 (Atlas of Austrian Breeding Birds)

Azerbaijan

Breeding population size: AOS data base
Breeding short-term trend: AOS data base
Breeding long-term trend: AOS Data Base

Belarus

Breeding population size: Research work of the National Academy of Sciences of the Republic of Belarus “Dynamics and predictive assessment of changes in the state of populations of the main resource and biocenotically most important bird species in Belarus”
Breeding long-term trend: Nikiforov M.E., Kozulin A.V., eds. Belarussian birds at the beginning of XXI century: status, numbers, distribution. - 1997. - Minsk. - 187 p.

Belgium

Breeding population size: Vermeersch G. et al. (2018, in press). Broedvogels in Vlaanderen in de periode 2013-2018. Rapporten van het Instituut voor Natuur- en Bosonderzoek (INBO), Brussel. / Paquet, J-Y., Anselin, A., Vermeersch, G., Derouaux, A., Devos, K. (2019, in prep.). Contribution of Belgium to EBCC European Breeding Bird Atlas 2. Internal Report.
Breeding short-term trend: Vermeersch G. et al. (2018, in press). Broedvogels in Vlaanderen in de periode 2013-2018. Rapporten van het Instituut voor Natuur- en Bosonderzoek (INBO), Brussel. / Paquet, J-Y., Anselin, A., Vermeersch, G., Derouaux, A., Devos, K. (2019, in prep.). Contribution of Belgium to EBCC European Breeding Bird Atlas 2. Internal Report.
Breeding long-term trend: Vermeersch G. et al. (2018, in press). Broedvogels in Vlaanderen in de periode 2013-2018. Rapporten van het Instituut voor Natuur- en Bosonderzoek (INBO), Brussel. / Paquet, J-Y., Anselin, A., Vermeersch, G., Derouaux, A., Devos, K. (2019, in prep.). Contribution of Belgium to EBCC European Breeding Bird Atlas 2. Internal Report.

Bosnia and Herzegovina

Breeding population size: Based on data for EBBA2
Breeding short-term trend: more individual articles e.g published in magazine Bilten mreže posmatrača ptica u Bosni i Hercegovini-see https://ptice.ba/bs/category/bilteni_/), individual reports (e.g. for EBBA2, projects etc)

Bulgaria

Breeding population size: BSPB Bird Database; Golemansky V. (ed.) 2011. Red Data Book of Bulgaria. Vol. 2, Animals. Http://e-ecodb.bas.bg/rdb/en/vol2/; Iankov, P. (ed.) 2007 Atlas of Breeding Birds in Bulgaria. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10, Sofia, BSPB, 679 p.; Nankinov, D., A. Dutsov, B. Nikolov, B. Borisov, G. Stoyanov, G. Gradev, D. Georgiev, D. Popov, D. Domuschiev, D. Kirov, E. Tilova, I. Nikolov, I. Ivanov, K. Dichev, K. Popov, N. Karaivanov, N. Todorov, P. Shurulinkov, R. Stanchev, R. Aleksov, R.Tsonev, S. Dalakchieva, S. Ivanov, S. Marin, S. Staikov, S. Nikolov & H. Nikolov. 2004. Breeding totals of the ornithofauna in Bulgaria, 2004. Green Balkans, Plovdiv. 32 p.; National Art. 12 reporting database 2013-2018;
Breeding short-term trend: BSPB Bird Database; Golemansky V. (ed.) 2011. Red Data Book of Bulgaria. Vol. 2, Animals. Http://e-ecodb.bas.bg/rdb/en/vol2; Iankov, P. (ed.) 2007 Atlas of Breeding Birds in Bulgaria. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10, Sofia, BSPB, 679 p.; Nankinov, D., A. Dutsov, B. Nikolov, B. Borisov, G. Stoyanov, G. Gradev, D. Georgiev, D. Popov, D. Domuschiev, D. Kirov, E. Tilova, I. Nikolov, I. Ivanov, K. Dichev, K. Popov, N. Karaivanov, N. Todorov, P. Shurulinkov, R. Stanchev, R. Aleksov, R.Tsonev, S. Dalakchieva, S. Ivanov, S. Marin, S. Staikov, S. Nikolov & H. Nikolov. 2004. Breeding totals of the ornithofauna in Bulgaria, 2004. Green Balkans, Plovdiv. 32 p.; National Art. 12 reporting database 2013-2018;
Breeding long-term trend: Golemansky V. (ed.) 2011. Red Data Book of Bulgaria. Vol. 2, Animals. Http://e-ecodb.bas.bg/rdb/en/vol2; Iankov, P. (ed.) 2007 Atlas of Breeding Birds in Bulgaria. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10, Sofia, BSPB, 679 p.; Nankinov, D., A. Dutsov, B. Nikolov, B. Borisov, G. Stoyanov, G. Gradev, D. Georgiev, D. Popov, D. Domuschiev, D. Kirov, E. Tilova, I. Nikolov, I. Ivanov, K. Dichev, K. Popov, N. Karaivanov, N. Todorov, P. Shurulinkov, R. Stanchev, R. Aleksov, R.Tsonev, S. Dalakchieva, S. Ivanov, S. Marin, S. Staikov, S. Nikolov & H. Nikolov. 2004. Breeding totals of the ornithofauna in Bulgaria, 2004. Green Balkans, Plovdiv. 32 p.; Petrov, Tz., Iankov, P., Michev, T., Milchev, B., Profirov, L. 1991. Distribution, numbers and conservation measures for the Black Stork, Ciconia nigra (L.) in Bulgaria. -Bull. Mus. South Bulgaria, 17: 25-32. (In Bulgarian with English Summary).

Croatia

Breeding population size: Zavod za ornitologiju (Sanja Barišić, Davor Ćiković, Jelena Kralj, Goran Sušić,Vesna Tutiš), Dragan Radović, Ivan Budinski, Robert Crnković, Antun Delić, Dubravko Dender, Vlatka Dumbović, Ivan Darko Grlica, Bariša Ilić, Luka Jurinović, Davor Krnjeta, Krešimir Leskovar, Duje Lisičić, Ivica Lolić, Gordan Lukač. Kristijan Mandić, Krešimir Mikulić, Tibor Mikuska, Gvido Piasevoli, Andrej Radalj, Zlatko Ružanović, Vlatka Šćetarić, Mirko Šetina, Adrian Tomik (2015): Procjene brojnosti za SPA područja. Državni zavod za zaštitu prirode, Zagreb

Ciconia nigra (Black Stork)

Croatia

Breeding short-term trend: no data available

Breeding long-term trend: no data available

Czechia

Breeding population size: Šťastný et Bejček in prep. - Atlas hnízdního rozšíření ptáků ČR 2014-2017

Breeding short-term trend: ČSO (unpubl.): Common Bird Monitoring Programme

Breeding long-term trend: ČSO (unpubl.): Common Bird Monitoring Programme

Estonia

Breeding population size: Estonian Working Group on Bird Status and Numbers

Breeding short-term trend: Estonian Working Group on Bird Status and Numbers

Breeding long-term trend: Estonian Working Group on Bird Status and Numbers

France

Georgia

Breeding population size: Dachi Shoshitashvili: dachi.shoshia@gmail.com ; Zura Javakhishvili: zurab.javakhishvili.1@iliauni.edu.ge

Germany

Breeding population size: Monitoring seltener Brutvögel (http://www.dda-web.de/index.php?cat=monitoring&subcat=ga&subsubcat=kontakt)

Breeding short-term trend: Monitoring seltener Brutvögel (http://www.dda-web.de/index.php?cat=monitoring&subcat=ga&subsubcat=kontakt)

Breeding long-term trend: Gerlach et al. (in Vorb.): Vögel in Deutschland – 2019. Dachverband Deutscher Avifaunisten, Bundesamt für Naturschutz und Länderarbeitsgemeinschaft der Vogelschutzwarten, Münster.

Greece

Breeding population size: 1. Λεγάκις Α. & Μαραγκού Π. (επιμ.) 2009. Το Κόκκινο Βιβλίο των Απειλούμενων Ζώων της Ελλάδος. Ελληνική Ζωολογική Εταιρεία, Αθήνα, 528 σελ 2. Δημαλέξης, Τ., Καστρίτης, Θ., Γρίβας, Κ., Μανωλόπουλος, Α., Καρδακάρη, Ν., Κακαλής, Λ., Ξηρουχάκης, Σ., Τσαϊτουρίδης, Χ., Papazoglou, C. & Barov, B. 2009. Προσδιορισμός συμβατών δραστηριοτήτων σε σχέση με τα είδη χαρακτηρισμού των Ζωνών Ειδικής Προστασίας της ορνιθοπανίδας. Παραδοτέο 8. Οδηγός οικολογικών απαιτήσεων, απειλών και ενδεδειγμένων μέτρων για τα είδη χαρακτηρισμού. 3. Βλάχος Χ., Μπίρτσας Π., Θωμαΐδης Χ., Χατζηνίκος Ε., Μποντζώρλος Β., Μπραζιώτης Σ., Κόντος Κ., Βλαχάκη Δ., Δεδουσοπούλου Ε., Κιούσης Δ., Ξένος Α., Στεφάνου Λ.Μ., Κασάμπαλης Δ., και Μελικώκη Κ. (Συντονιστές έκδοσης). 2015. Γ' Φάση της Μελέτης 9 «Εποπτεία και Αξιολόγηση της Κατάστασης Διατήρησης Ειδών Ορνιθοπανίδας στην Ελλάδα» ΥΠΑΠΕΝ, Αθήνα, Σύμπραξη Γραφείων Μελετών «"Φ.ΦΑΣΟΥΛΑΣ-Ν.ΜΑΝΤΖΙΟΣ" Ε.Ε. – ΡΟΔΟΥΛΑ ΚΩΝΣΤΑΝΤΙΝΙΔΟΥ ΤΟΥ ΓΕΩΡΓΙΟΥ – "ΑΘ.ΤΖΑΚΟΠΟΥΛΟΣ ΚΑΙ ΣΙΑ" Ε.Ε.», Θεσσαλονίκη. 4. BirdLife International (2017). European birds of conservation concern: populations, trends and national responsibilities. Cambridge. UK: BirdLife Internationa. ISBN 978-1-912086-00-9

Breeding short-term trend: BirdLife International (2017). European birds of conservation concern: populations, trends and national responsibilities. Cambridge. UK: BirdLife Internationa. ISBN 978-1-912086-00-9

Breeding long-term trend: no data available

Hungary

Breeding population size: Demeter, I., Horváth, M., Prommer, M. (2019): Az MME Ragadozómadár-védelmi Szakosztálya (RMvSz) által monitorozott fajok 2017-es költési eredményeinek összefoglalása/Summary of population monitoring programmes run by MME/Birdlife Hungary's Raptor Conservation Department (RCD) in 2017 (In Hungarian with English summary) – Heliaca 15:75. Kalocsa, B., Tamás, E. A. (2015-2018): A Feketególya-védelmi Munkacsoport beszámolói/Reports of the work of the Black Stork protection programme – Heliaca 11-14. National park directorates' databases http://map.mme.hu/maps/map2

Breeding short-term trend: Kalocsa, B., Tamás, E. A. (2009): Feketególya-védelmi Program – 2007/The Black Stork Protection Programme – 2007 – Heliaca 5:51. Kalocsa, B., Tamás, E. A. (2018): A Feketególya-védelmi Munkacsoport 2016. évi beszámolója/Report of the Black Stork Protection Working Group (2016) (In Hungarian with English summary) – Heliaca 14:8. National park directorates' databases http://map.mme.hu/maps/map2

Breeding long-term trend: Haraszthy L. (szerk.) (1984): Magyarország fészkelő madarai. Mezőgazdasági Könyvkiadó Vállalat, Budapest. p. 33. Haraszthy L. (szerk.) (2014): Natura 2000 fajok és élőhelyek Magyarországon. Pro Vértes Közalapítvány, Csákvár. p. 527. National park directorates' databases Consultation with national experts.

Italy

Breeding population size: Brunelli M., Bordignon L., Caldarella M, Cripezzi E., Fraissinet M., Mallia E., Marrese M., Norante N., Urso S. & Visceglia M. - Rapporto sulla nidificazione della Cicogna nera Ciconia nigra in Italia. Anno 2017;

Breeding short-term trend: Brichetti P., Fracasso G., 2018. The Birds of Italy. Vol. I. Anatidae-Alcidae. Ed. Belvedere, Latina (Italy), "historia naturae" (6), pp. 512.

Breeding long-term trend: Brichetti P., Meschini E., 1993. Stima delle popolazioni di uccelli nidificanti. In Meschini E., Frugis S.,1993. Atlante degli uccelli nidificanti in Italia. Suppl. Ric. Biol. Selvaggina, 20, 1-345.

Latvia

Breeding population size: Expert: Viesturs Kerus, viesturs@lob.lv

Breeding short-term trend: Expert: Viesturs Kerus, viesturs@lob.lv

Breeding long-term trend: Expert: Viesturs Kerus, viesturs@lob.lv

Lithuania

Breeding population size: Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) 2015-2018. Lietuvos perinčių paukščių atlaso duomenų bazė (Lithuanian Breeding Birds Atlas Database). Vilnius. Ministry of Environment of the Republic of Lithuania. 2012. Status and trends of bird populations (Article 12, Birds Directive 2009/147/EC) National Summary 2008-2012 Lithuania. Ministry of Environment of the Republic of Lithuania. 2016-2018. Leidinio "Lietuvos raudonoji knyga" parengimo paslaugos (Red data book of Lithuania). (Agreement No VPS-2016-104-ES)

Ciconia nigra (Black Stork)

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Breeding long-term trend: Logminas, V. (ed.). 1991. Lietuvos fauna: paukščiai. Vilnius: „Mokslas". Kurlavičius, P. (ed.) 2006. Lietuvos perinčių paukščių atlasas. Kaunas: „Lututė". Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) BirdLife International/European Bird Cencus Council. 2000. European bird populations: estimates and trends. Cambridge, UK: BirdLife International (BirdLife Conservation Series No. 10). Raudonikis L. 2004. Important Bird Areas of the European Union Importance in Lithuania. Lithuanian Ornithological Society & Institute of Ecology of Vilnius University. Lutute, Vilnius. Jusys, V., Karalius, S., Raudonikis, L. 2012. Lietuvos paukščių pažinimo vadovas. Kaunas: „Lututė". Ministry of Environment of the Republic of Lithuania. 2012. Status and trends of bird populations (Article 12, Birds Directive 2009/147/EC) National Summary 2008-2012 Lithuania. Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) 2015-2018. Lietuvos perinčių paukščių atlaso duomenų bazė (Lithuanian Breeding Birds Atlas Database). Vilnius. Ministry of Environment of the Republic of Lithuania. 2016-2018. Leidinio "Lietuvos raudonoji knyga" parengimo paslaugos (Red data book of Lithuania). (Agreement No VPS-2016-104-ES)

Luxembourg

Breeding population size: Melchior E., E. Mentgen, R. Peltzer, R. Schmitt, J. Weiss (1987): Atlas der Brutvögel Luxemburgs. Lëtzebuerger Natur- a Vulleschutzliga. Kremer-Muller & Cie, Foetz, Luxembourg; Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&ëmwelt Luxembourg. ISBN: 978-2-919920-01-3; Ornitho.lu (2018): online database natur&ëmwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg ; LUXOR (2018): natur&ëmwelt – Bird-database, Luxembourg

Breeding short-term trend: Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&ëmwelt Luxembourg. ISBN: 978-2-919920-01-3; Ornitho.lu (2018): online database natur&ëmwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg ; LUXOR (2018): natur&ëmwelt – Bird-database, Luxembourg

Breeding long-term trend: Melchior E., E. Mentgen, R. Peltzer, R. Schmitt, J. Weiss (1987): Atlas der Brutvögel Luxemburgs. Lëtzebuerger Natur- a Vulleschutzliga. Kremer-Muller & Cie, Foetz, Luxembourg; Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&ëmwelt Luxembourg. ISBN: 978-2-919920-01-3; Ornitho.lu (2018): online database natur&ëmwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg ; LUXOR (2018): natur&ëmwelt – Bird-database, Luxembourg

North Macedonia

Breeding population size: unpublished data from the European Breeding Bird Atlas 2

Breeding short-term trend: unpublished data from the European Breeding Bird Atlas 2

Moldova

Breeding population size: Moldova`s contribution for the second European Breeding Bird Atlas (EBBA2)

Breeding short-term trend: SPPN expert opinion (sppn.moldova@gmail.com)

Breeding long-term trend: SPPN expert opinion (sppn.moldova@gmail.com)

Montenegro

Breeding population size: Saveljić, D. (2007): Black Stork Ciconia nigra, short communications (Acrocephalus 27 (130/131) Slovenia)

Poland

Breeding population size: State Environmental Monitoring / Chief Inspectorate of Environmental Protection (survey: MPD – Raptor Survey)

Breeding short-term trend: State Environmental Monitoring / Chief Inspectorate of Environmental Protection (survey: MPD)

Breeding long-term trend: Zielinski P., Profus P., Czuchnowski R. 2011. Present situation of the Black Stork (Ciconia nigra) in Poland. Programme and Abstracts 8th Conference of the European Ornithologists' Union. Latvian Ornithological Society. Riga: 418; Keller M., Profus P. 199

Portugal

Breeding population size: eBird (2019). eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org/portugal/home. (Accessed: October 22, 2018).

Breeding short-term trend: eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org/po

Romania

Breeding population size: National Raptor Monitoring Programme, OpenBirdMaps (Milvus Group) Database

Breeding short-term trend: Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database, Rombird (Romanian Rarity Commission) Database

Breeding long-term trend: Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database, Rombird (Romanian Rarity Commission) Database

Russia

Breeding population size: Voltzit & Kalyakin 2013-2019; Database of the project on Atlas of breeding birds of European Russia

Breeding long-term trend: Ivanchev & Nazarov 2011; Khohlov & Ilykh 2005; Grishanov 2010

Serbia

Breeding population size: EBBA2 project; Puzović, S., Radišić, D., Ružić, M., Rajković, D., Radaković, M., Pantović, U., Janković, M., Stojnić, N., Šćiban, M., Tucakov, M., Gergelj, J., Sekulić, G., Agošton, A. & Raković, M. 2015. Birds of Serbia: Breeding Population Estimates and Trends for the Period 2008-2013. Bird protection and study society of Serbia, and Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad.

Breeding short-term trend: Puzović, S., Radišić, D., Ružić, M., Rajković, D., Radaković, M., Pantović, U., Janković, M., Stojnić, N., Šćiban, M., Tucakov, M., Gergelj, J., Sekulić, G., Agošton, A. & Raković, M. 2015. Birds of Serbia: Breeding Population Estimates and Trends for the Period 2008-2013. Bird protection and study society of Serbia, and Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad.

Ciconia nigra (Black Stork)

Serbia

Breeding long-term trend: Puzović, S., Radišić, D., Ružić, M., Rajković, D., Radaković, M., Pantović, U., Janković, M., Stojnić, N., Šćiban, M., Tucakov, M., Gergelj, J., Sekulić, G., Agošton, A. & Raković, M. 2015. Birds of Serbia: Breeding Population Estimates and Trends for the Period 2008-2013. Bird protection and study society of Serbia, and Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad.

Slovakia

Breeding population size: Coordinatory group for reporting 2019. Danko Š, Pčola Š: Vtáctvo Vihorlatských vrchov a ich predhorí, Správa CHKO Vihorlat, 2008; Danko Š a kol.: Vtáctvo Slanských vrchov, SOS/BirdLife Slovensko 2010, Fulín M.: Databáza spätných hlásení získaná počas monitoringu hniezdenia bociana bieleho, Danko Štefan, Darolová Alžbeta, Krištín Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002. Karaska D., Trnka A., Krištín A., Ridzoň J.: Chránené vtáčie územia Slovenska. ŠOP SR Banská Bystrica, 2015.

Breeding short-term trend: Coordinatory group for reporting 2019, AVES-Symfony Database 2013-2018, KIMS Database 2013-2018. Danko Š, Pčola Š: Vtáctvo Vihorlatských vrchov a ich predhorí, Správa CHKO Vihorlat, 2008; Danko Š a kol.: Vtáctvo Slanských vrchov, SOS/BirdLife Slovensko 2010, Fulín M.: Databáza spätných hlásení získaná počas monitoringu hniezdenia bociana bieleho, Danko Štefan, Darolová Alžbeta, Krištín Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002.

Breeding long-term trend: Coordinatory group for reporting 2019, AVES-Symfony Database 2013-2018, KIMS Database 2013-2018. Danko Š, Pčola Š: Vtáctvo Vihorlatských vrchov a ich predhorí, Správa CHKO Vihorlat, 2008; Danko Š a kol.: Vtáctvo Slanských vrchov, SOS/BirdLife Slovensko 2010, Fulín M.: Databáza spätných hlásení získaná počas monitoringu hniezdenia bociana bieleho, Danko Štefan, Darolová Alžbeta, Krištín Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002.

Slovenia

Breeding population size: Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdilk 2002–2017. – DOPPS, Ljubljana.

Breeding short-term trend: Bordjan D. (2012): Vodne ptice in ujede Cerkniškega polja (južna Slovenija) v letih 2007 in 2008, s pregledom zanimivejših opazovanj do konca leta 2010. – Acrocephalus 33 (152/153): 25–104. Denac K., Mihelič T., Božič L., Kmecl P., Jančar T., Figelj J., Rubinić B. (2011): Strokovni predlog za revizijo posebnih območij varstva (SPA) z uporabo najnovejših kriterijev za določitev mednarodno pomembnih območij za ptice (IBA). Končno poročilo (dopolnjena verzija). – DOPPS, Ljubljana. Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdilk 2002–2017. – DOPPS, Ljubljana.

Breeding long-term trend: Birdlife International (2004): Birds in Europe: population estimates, trends and conservation status. BirdLife Conservation Series No. 12. – Birdlife International, Cambrige. Bordjan D., Božič L. (2009): Pojavljanje vodnih ptic in ujed na območju vodnega zadrževalnika Medvedce (Dravsko polje, SV Slovenija) v obdobju 2002–2008. – Acrocephalus 30 (141/142/143): 55–163. Denac, K., T. Mihelič, L. Božič, P. Kmecl, T. Jančar, J. Figelj & B. Rubinić (2011): Strokovni predlog za revizijo posebnih območij varstva (SPA) z uporabo najnovejših kriterijev za določitev mednarodno pomembnih območij za ptice (IBA). Končno poročilo (dopolnjena verzija). Naročnik: Ministrstvo za okolje in prostor. DOPPS – BirdLife, Ljubljana. Geister I. (1995): Ornitološki atlas Slovenije. Razširjenost gnezdilk. – DZS, Ljubljana. Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdilk 2002–2017. – DOPPS, Ljubljana. Polak S. (ed.) (2000b): Mednarodno pomembna območja za ptice v Sloveniji. Important Bird Areas (IBA) in Slovenia. Monografija DOPPS št. 1. – DOPPS, Ljubljana.

Spain

Breeding population size: Del Moral, J.C. (eds.). (2018). La cigüeña negra en España, población reproductora en 2017 y método de censo. SEO/BirdLife. Madrid. (https://www.seo.org/boletin/seguimiento/censos/44%20ciguena%20negra/html5forpc.html?page=0)

Breeding short-term trend: Del Moral, J.C. (eds.). (2018). La cigüeña negra en España, población reproductora en 2017 y método de censo. SEO/BirdLife. Madrid. (https://www.seo.org/boletin/seguimiento/censos/44%20ciguena%20negra/html5forpc.html?page=0)

Breeding long-term trend: Del Moral, J.C. (eds.). (2018). La cigüeña negra en España, población reproductora en 2017 y método de censo. SEO/BirdLife. Madrid. (https://www.seo.org/boletin/seguimiento/censos/44%20ciguena%20negra/html5forpc.html?page=0)

Turkey

Breeding population size: Ferdi Akarsu, Süreyya İsfandiyaroğlu personal communication (2019). Eken G., Bozdoğan M., İsfendiyaroğlu S., Kılıç D.T., Lise Y. (2006) Türkiye'nin Önemli Doğa Alanları. Doğa Derneği, Bird Atlas Study (2019)Ankara. Kusbank Bird Database (Ebird) Kirwan G.M., Boyla K. A., Castell P., Demirci B., Özen M., Welch H., Marlow T., 2008, Birds of Turkey. Londra, Christopher Helm, 978-1-4081-0475-

Ukraine

Breeding population size: 1. Фесенко Г.В., Бокотей А.А. (2009): Лелека чорний. - Червона книга України. Тваринний світ. Київ: Глобалконсалтинг. 405. 2. Дзюбенко Н.В., Бокотей А.А., Бучко В.В., Весельський М.Ф., Кратюк О.Л., Кузьменко Ю.В., Панчук О.С., Скільський І.В., Федун О.М., Химин М.В. (2011): Інвентаризація гнізд чорного лелеки Ciconia nigra (L.) в Україні. - Troglodytes. 2: 9-18. 3. Аппак Б.А. (2016): Черный аист Ciconia nigra (L.) снова гнездится в Крыму. - Заповедники Крыма – 2016: биологическое и ландшафтное разнообразие, охрана и управление. Тез. VIII Международной научно-практической конференции (Симферополь, 28–30 апреля 2016 г.). Симферополь. 267-270. 4. Panchuk O., Serebryakov V. (2017): Numbers of Black Stork Ciconia nigra in Ukraine in 2008–2015. - Vogelwelt. 137 (1): 119–123. 5. Весельський М.Ф. (2017): Чорний лелека на Житомирщині. - Наук. зап. Держ. природозн. музею. 33: 33-42. 6. Панчук О.С. (2017): Результати дослідження чисельності чорного лелеки, , в Північній Україні в 2008-2016 роках. - Орнітологічні читання пам'яті М.А. Воїнственського. Вестн. зоол. Отд. вып. 35: 55-58. 7. Матеріали до 4-го видання Червоної книги України. Тваринний світ. Київ, 2018. Т. 1. 442 с. Т. 2. 454 с.

Breeding short-term trend: 1. Дзюбенко Н.В., Бокотей А.А., Бучко В.В., Весельський М.Ф., Кратюк О.Л., Кузьменко Ю.В., Панчук О.С., Скільський І.В., Федун О.М., Химин М.В. (2011): Інвентаризація гнізд чорного лелеки Ciconia nigra (L.) в Україні. - Troglodytes. 2: 9-18. 2. Panchuk O., Serebryakov V. (2017): Numbers of Black Stork Ciconia nigra in Ukraine in 2008–2015. - Vogelwelt. 137 (1): 119–123. 3. Панчук О.С. (2017): Результати дослідження чисельності чорного лелеки, , в Північній Україні в 2008-2016 роках. - Орнітологічні читання пам'яті М.А. Воїнственського. Вестн. зоол. Отд. вып. 35: 55-58. 4. Химин М.В. (2017): Лелека чорний Ciconia nigra (Linnaeus, 1758) у Волинській області: історія та результати досліджень. - Наук. зап. Держ. природозн. музею. 33: 81-90.

Ukraine

Breeding long-term trend: 1. Головач О.Ф., Грищенко В.Н., Серебряков В.В. (1990): Распространение, численность и миграции черного аиста на Украине. Рукоп. деп. в ВИНИТИ 26.02.1990. N 1110-В90. 1-48. 2. Грищенко В.М., Головач О.Ф., Серебряков В.В., Скільський І.В., Савчук О.В. (1992): Підсумки проведення "Року чорного лелеки в Україні". - Чорний лелека в Україні. Чернівці. 1-16. 3. Grishchenko V. (1994): Expansion of the Black Stork breeding area in Ukraine. - Research Notes on Avian Biology 1994: Selected Contributions from the 21st Int. Orn. Congress. J. Ornithol. 135 (Sonderheft): P. 218. 4. Grishchenko V. (1996): Dynamics of the Black Stork breeding range in Ukraine. - II Intern. Confer. on the Black Stork. Trujillo (Extremadura-Spain) 21-24 marzo 1996. 32. 5. Hagemaijer W.J.M., Blair M.J. The EBCC Atlas of European Breeding Birds: Their Distribution and Abundance. Poyser. - London. 1997. 903 p. 6. Луговой А.Е., Потиш Л.А. (2004): Современное состояние популяции и численность черного аиста в Закарпатской области. - Беркут. 13 (1): 62-66. 7. Гудина А.Н. (2007): Редкие и малоизученные птицы Восточной Украины. Т. 1. Gaviiformes - Galliformes. Запорожье: Днепровский металлург. 1-232. 8. Дзюбенко Н.В., Бокотей А.А., Бучко В.В., Весельський М.Ф., Кратюк О.Л., Кузьменко Ю.В., Панчук О.С., Скільський І.В., Федун О.М., Химин М.В. (2011): Інвентаризація гнізд чорного лелеки Ciconia nigra (L.) в Україні. - Troglodytes. 2: 9-18. 9. Panchuk O., Serebryakov V. (2017): Numbers of Black Stork Ciconia nigra in Ukraine in 2008–2015. - Vogelwelt. 137 (1): 119–123. 10. Панчук О.С. (2017): Результати дослідження чисельності чорного лелеки, , в Північній Україні в 2008-2016 роках. - Орнітологічні читання пам'яті М.А. Воїнственського. Вестн. зоол. Отд. вып. 35: 55-58. 11. Химин М.В. (2017): Лелека чорний Ciconia nigra (Linnaeus, 1758) у Волинській області: історія та результати досліджень. - Наук. зап. Держ. природозн. музею. 33: 81-90. 12. Матеріали до 4-го видання Червоної книги України. Тваринний світ. Київ, 2018. Т. 1. 442 с. Т. 2. 454 с.

Bibliography

Balian, L.V., Ghasabian, M.G., Adamian, M.S. and Klem Jr, D. 2002. Changes in the waterbird community of the Lake Sevan-Lake Gilli area, Republic of Armenia: a case for restoration. Biological Conservation 106(2): 157-163.

Billerman, S.M., Keeney, B.K., Rodewald, P.G. and Schulenberg, T.S. (eds). 2020. Birds of the World. Cornell Laboratory of Ornithology, Ithaca.

Bird, J. P., Martin, R., Akçakaya, H. R., Gilroy, J., Burfield, I. J., Garnett, S. G., Symes, A., Taylor, J., Sekercioglu, Ç. H. and Butchart, S. H. M. 2020. Generation lengths of the world's birds and their implications for extinction risk. Conservation Biology 34(5): 1252-1261. DOI: 10.1111/cobi.13486.

Brazil, M. 2009. Birds of East Asia: eastern China, Taiwan, Korea, Japan, eastern Russia. Christopher Helm, London.

Brown, L.H., Urban, E.K. and Newman, K. 1982. The Birds of Africa, Volume I. Academic Press, London.

Delany, S. and Scott, D. 2006. Waterbird population estimates. Wetlands International, Wageningen, The Netherlands.

Diagana, C.H., Dodman, T. and Sylla, S.I. 2006. Conservation action plans for the Black Crowned Crane Balearica pavonina and Black Stork Ciconia nigra in Africa. In: G. Boere, C. Galbraith & D. Stroud (eds), Waterbirds around the world, pp. 608-612. The Stationary Office, Edinburgh, UK.

Hancock, J.A., Kushlan, J.A. and Kahl, M.P. 1992. Storks, ibises and spoonbills of the world. Academic Press, London.

Hockey, P. A. R., Dean, W. R. J. & Ryan, P. G. 2005. Roberts Birds of Southern Africa. Trustees of the John Voelcker Bird Book Fund, Cape Town, South Africa.

Jiguet, F. and Villarubias, S. 2004. Satellite tracking of breeding black storks Ciconia nigra: new incomes for spatial conservation issues. Biological Conservation 120: 153-160.

Lohmus, A. and Sellis, U. 2003. Nest trees - a limiting factor for the Black Stork Ciconia nigra populations in Estonia. Aves Liege 40(1-4): 84-91.

Snow, D.W. and Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.

del Hoyo, J., Elliot, A. & Sargatal, J. (ed.). 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.