

# Yellow-billed Storks at lake Nasser and status in Egypt

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**Y**ellow-billed Stork *Mycteria ibis* is widely distributed in the Afrotropic. In the Western Palearctic (WP, 'sensu BWP'), it is regularly recorded only in southern Egypt and at Banc d'Arguin in Mauritania (Cramp & Simmons 1977, Goodman & Meininger 1989, Isenmann 2006). In Egypt, the species is usually observed in the summer months at lake Nasser as a feeding visitor (Goodman & Meininger 1989, Baha el Din 2001, BirdLife International 2018). Observations are mostly limited to the Abu Simbel region (Elliot et al 2020), also because this part of lake Nasser is frequently visited by ornithologists due to the presence of Afrotropical species and a good touristic infrastructure.

This paper describes the counts of Yellow-billed Stork at lake Nasser during three expeditions which were mainly focused on the breeding birds

of the area in 2016, 2017 and 2019 (cf Hering et al 2017, 2018, 2019). We also discuss the status in Egypt based on other published and unpublished data.

## Material and methods

Our study area was lake Nasser, a huge freshwater reservoir in the Nile river in southernmost Egypt and one of the largest man-made water systems in the world. The inundation of the reservoir started in 1964 and ended in 1976. For more than 500 km in length, this radically changed the appearance of the Nile from a river to a lake. The general area is now defined as an Important Bird Area (Baha el Din 2001). We did not cover lake Nubia on the Sudanese side of lake Nasser in our surveys. More information on the lake can be found in Entz (1976), Goodman & Meininger

559 Yellow-billed Storks / Afrikaanse Nimmerzatten *Mycteria ibis*, with Black-winged Stilt / Steltkluut *Himantopus himantopus*, Khor Kalabsha, lake Nasser, Egypt, 29 April 2016 (Jens Hering)





560 Yellow-billed Storks / Afrikaanse Nimmerzatten *Mycteria ibis*, flying to roosting site at Khor Kalabsha, lake Nasser, Egypt, 28 April 2016 (Jens Hering)

(1989) and Baha el Din (2001). The study area was investigated with the permission and support of local authorities. Expeditions took place along similar routes of c 450 km from Aswan to Abu Simbel in each year, mostly on the western side of the lake (figure 1). These expeditions were conducted with boats: **1** 24 April to 7 May 2016 (participants: Hans-Jürgen Eilts, Elmar Fuchs, Mohamed Habib, Jens Hering and Mary Megalli); **2** 22 April to 6 May 2017 (participants: HJE, Stefan Fischer, Olaf Geiter, JH, MH, Mathias Mähler, Mary Megalli, Gerhard Nikolaus, Carlotta Schulz, Stefan Siegel, Andreas Siegmund and Martin Winter); and **3** 3-20 May 2019 (participants: Hans-Joachim Fünfstück, OG, JH, Tim Korschevsky, Tobias Krause, Victoria Mader, Bastian Meise, Daniela Pilgrim, Lothar Spath, Jannik Stipp, Michael Wimbauer and Jonas Wobker). The third expedition in 2019 also led us to Wadi Allaqi on the eastern side of the lake. In April-May 2012, a pilot trip was undertaken to Abu Simbel (participants: HJE, EF, JH and Wieland Heim). We counted all resting and flying Yellow-billed Storks along the coastline. For exact localisation, GPS coordinates were taken for every observation.

## Results

In 2016, as many as 519 Yellow-billed Storks were counted. The first two were observed on 26 April at the entry to Khor Kalabsha. Further south, we found some solitary birds as well as several larger flocks. The maximum number observed was a flock of 63 on 29 April in a bay at Khor Kalabsha (plate 559-560).

In 2017, only 53 Yellow-billed Storks were recorded. The maximum number at one place that year was six at the shore between the harbour and the city of Abu Simbel.

On 6 May 2019, a flock of 70 individuals was resting at the bay at Khor Kalabsha. Adding flying individuals, the total number there amounted to 112. The following day, 47 adults and two immatures were recorded at Garf Hussein, which is an unusually high number for that area. These were more dispersed along the shoreline compared with the individuals at Khor Kalabsha. This was also observed for 40 individuals on 17 April 2019 between Toshka island and Abu Simbel. Overall, 287 Yellow-billed Storks were counted during the expedition in 2019 (plate 561-563). Out of 95 aged individuals, 88 were adults and seven immatures.

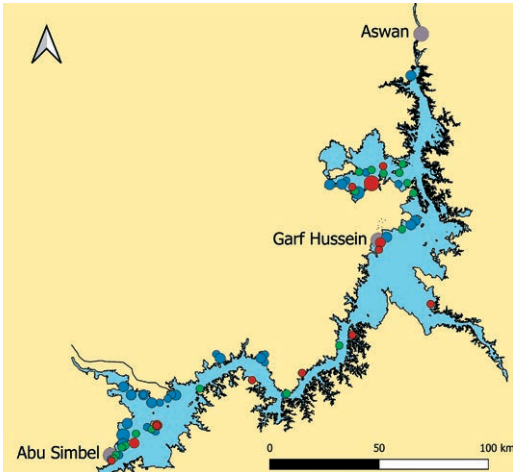


FIGURE 1 Locations of observations of Yellow-billed Stork *Mycteria ibis* at lake Nasser, Egypt during three expeditions in 2016 (blue), 2017 (green) and 2019 (red). Size of circles reflects number of individuals (1-10, 11-50, 51-100, >100).

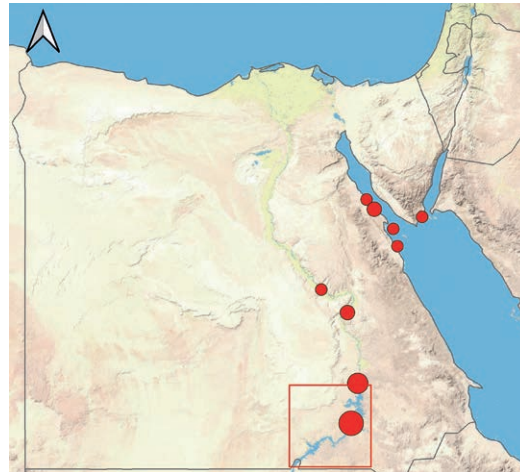


FIGURE 2 Locations of observations of Yellow-billed Stork *Mycteria ibis* in Egypt since 1950. Lake Nasser marked with red square. Size of circles represents number of records (one, three, >30, >50).

Figure 1 shows the locations of all observations during the expeditions in 2016-17 and 2019, indicating a concentration at Khor Kalabsha and north of Abu Simbel. The only roosting site we detected was a south-facing cliff close to Toshka island that was used by a maximum of 13 individuals between 14 and 17 May 2019 (plate 561, 563). The birds perched 15 m above the water line at a distance of several metres from each other.

On 4 May 2017, we found the remains of two Yellow-billed Storks at a campsite on Toshka island, which likely were shot. On 17 and 18 May 2019, feathers and bones of most probably shot individuals were discovered close to Abu Simbel.

All observed Yellow-billed Storks searched for food in shallow waters or rested on the shore of the lake. At some locations, birds were observed together with Eurasian Spoonbills *Platalea leucorodia* and Pink-backed Pelicans *Pelecanus rufescens*.

Flying birds did not show a preferred flight direction. Despite an intensive search, no indications of breeding activities by Yellow-billed Storks at lake Nasser were found.

### Status in Egypt

Yellow-billed Stork has been known in Egypt since historic times. Magaud d'Aubusson (1892) mentioned that this species could occasionally be discovered in upper Egypt during the inundation, and Flower (1933) noted that before 1913 the spe-

cies was observed with some frequency in the upper Nile valley in May-September. Moreover, small flocks were occasionally found in Qena province and Girga province in July and August. Since then, just a few observations were recorded (Goodman & Meininger 1989). Since the 1980s, the number of records has increased, especially in the lake Nasser and Abu Simbel region (table 1, figure 2). Apart from this area, the Nile in the Aswan region is another focal point of observations, with a maximum of 29 in three groups on 17 April 2018 (cf Dutch Birding 40: 182, 2018; plate 564). Additional sightings have been reported from the Nile valley north of Aswan and from the northern part of the Red Sea; all sightings outside lake Nasser are listed in table 2.

### Discussion

Our observations show that Yellow-billed Stork occurs over large parts of lake Nasser. Especially notable are the 519 individuals recorded during the expedition in 2016, which is the highest number ever recorded in Egypt and in the WP. The former maximum counts in Egypt were 114 on 17 June 1990, as well as 101 and 20 each on 17 July 2007 observed in the Abu Simbel region (Baha el Din & Baha el Din 1990; Dutch Birding 29: 242, 2007; cf table 1). In north-western Africa, there is some northbound movement in coastal Mauritania during the wet season (July-September), when some reach Banc d'Arguin (Isenmann et al 2010).

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TABLE 1 Observations of Yellow-billed Stork *Mycteria ibis* at lake Nasser, Egypt; only flocks of at least 10 individuals included

Date	Location	Number	Source
26-27 April 1984	just north of Abu Simbel	21	Goodman & Meininger (1989), Madge (1991)
5-7 July 1989	Abu Simbel	10 (incl two immatures)	Dutch Birding 11: 186, 1989
17 June 1990	Abu Simbel	114	Baha el Din & Baha el Din (1990)
1 July 1992	Abu Simbel	31	OSME Bull 29: 36, 1992
1-2 May 1994	Abu Simbel	87	Dutch Birding 16: 158, 1994, OSME Bull 33: 33, 1994
late April to May 1997	Abu Simbel	up to 45	Dutch Birding 19: 131, 1997
17-23 April 2000	Abu Simbel	89	Dutch Birding 22: 113, 2000, Bull Afr Bird Club 8: 65, 2001
6 April 2001	Abu Simbel	20	Dutch Birding 23: 156, 2001, Bull Afr Bird Club 9: 67, 2002
1 May 2002	Abu Simbel	20	Dutch Birding 24: 173, 2002, Bull Afr Bird Club 10: 58, 2003
mid-May 2003	Abu Simbel	45	Bull Afr Bird Club 11: 72, 2004
23 June 2004	Abu Simbel	40	Bull Afr Bird Club 12: 66, 2005, Sandgrouse 27: 91, 2005
6-7 April 2005	lake Nasser	15	Bull Afr Bird Club 12: 182, 2005
10 April 2006	Abu Simbel	11	Sandgrouse 28: 185, 2006
10-11 April 2006	Abu Simbel	12	Dutch Birding 28: 170, 2006
30 April 2006	Abu Simbel	25	Sandgrouse 28: 185, 2006, Bull Afr Bird Club 14: 98, 2007
19 July 2006	Abu Simbel	at least 38	Bull Afr Bird Club 14: 98, 2007, Sandgrouse 29: 10, 2007
23 May 2007	c 20 km north-east of Garf Hussein	12	Hoek & Ibrahim (2007), Dutch Birding 29: 242, 2007, Bull Afr Bird Club 15: 129, 2008
26-27 June 2007	Abu Simbel	11	Bull Afr Bird Club 15: 129, 2008
17 July 2007	Abu Simbel	20 and 101	Dutch Birding 29: 242, 2007
24 July 2007	Abu Simbel area	at least 78; maximum of 51 on Nile islands	Sandgrouse 30: 15, 2008
2 May 2008	Abu Simbel	12	Tomas Haraldsson in litt
7-8 September 2009	Abu Simbel	c 10-15	Sandgrouse 32: 92, 2010
4-6 April 2010	Abu Simbel	up to 12	Sandgrouse 32: 177, 2010
early May 2011	Abu Simbel area	at least 50	Sandgrouse 33: 201, 2011
May 2011	Abu Simbel	c 70	Bull Afr Bird Club 19: 98, 2011
12 May 2012	Abu Simbel	76	Sandgrouse 34: 190, 2012
5-7 May 2013	around Abu Simbel	c 40	Sandgrouse 35: 176-177, 2013
July 2013	Abu Simbel	>100	Bull Afr Bird Club 21: 99, 2014
12-14 September 2015	Abu Simbel	33	Sandgrouse 38: 132, 2016
24 April to 7 May 2016	lake Nasser, from Aswan to Abu Simbel	519	Dutch Birding 38: 245, 2016; this paper
22 April to 6 May 2017	lake Nasser, from Aswan to Abu Simbel	53	this paper
4-18 May 2019	lake Nasser, from Aswan to Abu Simbel	287*	this paper

\*(88 adults and seven immatures out of 95 aged birds) and two found dead

TABLE 2 Observations of Yellow-billed Stork *Mycteria ibis* in Egypt outside lake Nasser

Date	Location	Number	Source
21 October 1957	along Nile opposite El Balyana	12	Horváth (1959)
22 October 1957	near Luxor	four	Horváth (1959)
c 1980	near Aswan High Dam	one found dead; specimen at Institute of Zoology, Asyut University, Aswan branch	Goodman & Meininger (1989)
c 1980 (?)	near Aswan	mummified head of specimen found dead few years before; at Institute of Zoology, Asyut University, Aswan branch (photograph taken on 13 March 1985)	Kinzelbach (1986)
29 November 1982	Gezira Qeisum	one found dead	Baha el Din (1984)
14 March 1985	old Aswan Dam (collecting station no 85/37)	one adult circling over dam	Kinzelbach (1986)
13 August to 3 September 1995	Sharm-el Sheikh sewage ponds	one juvenile with up to 2000 White Storks <i>Ciconia ciconia</i>	Dutch Birding 17: 213, 1995, Sandgrouse 18: 76, 1996
10 May 2008	Aswan reservoir, south of Aswan between High Dam and Old Dam	one immature	Dick Hoek in litt
7 May 2013	Aswan, Tut Amon fish ponds	five soaring over fish ponds	Sandgrouse 35: 176-177, 2013
14 May 2013	Luxor, Kings island	four	Sandgrouse 35: 176-177, 2013
9-12 September 2015	Hurghada	one second-year	Sandgrouse 38: 132, 2016
19 April 2017	Ras Gharib	one juvenile	Bull Afr Bird Club 24: 236, 2017, Dutch Birding 39: 205, 2017
7-28 April 2018	Aswan reservoir	maximum of 29 in three flocks; only one adult on 17 April	Bull Afr Bird Club 25: 235, 2018, Dutch Birding 40: 182, 2018, Sandgrouse 41: 135, 2019; Dick Hoek in litt, Mohamed Farouk in litt
21 April 2018	westbank of Nile north of Aswan	one immature	Dick Hoek in litt; plate 564
28 May 2018	Luxor	three immatures	Mohamed Habib in litt
2 May 2020	Ras Shukeir	one immature migrating northwards with 49 White Storks	Watter Elbahry in litt

In this region, a maximum of 130 was counted in August 1972 (Gandrille & Trotignon 1973).

Since we only covered a fraction of the c 7500 km long shoreline of lake Nasser, the real number of Yellow-billed Storks during summer is likely higher than our numbers indicate. Probably, Yellow-billed Storks also stay further south in the Nile valley at lake Merowe in northern Sudan during the summer. This is supported by the observation of c 200 individuals on 19 April 2014 at Karima, Sudan (Bull Afr Bird Club 21: 250, 2014). That observations at lake Nasser mainly took place in April-July is mainly caused by more intensive birding activities in spring and summer. The origin of the Yellow-billed Storks in Egypt and Sudan is unclear; the nearest breeding areas are located in southern Sudan (Nikolaus 1987, Elliott et al 2020), more than 600 km south of lake Nasser.

Although the currently found high numbers suggest an increase of Yellow-billed Storks at lake Nasser, this need not be the case, as previous observations have only been made in the vicinity of Aswan and Abu Simbel. Our surveys were the first over large parts of lake Nasser. Whether the species occasionally breeds at lake Nasser should be investigated in further studies. Since the breeding period in Sudan and Ethiopia is in October-December (Nikolaus 1987, Ash & Atkins 2009), further research should examine this period in more detail. In Egypt, breeding could possibly start in late February to early March.

#### Threats

Poaching of Yellow-billed Storks and other waterbirds at lake Nasser, especially by Maltese and local hunters, seems to be considerable. For exam-

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561 Yellow-billed Storks / Afrikaanse Nimmerzatten *Mycteria ibis*, with Egyptian Goose / Nijlgans *Alopochen aegyptiaca* and Grey Heron / Blauwe Reiger *Ardea cinerea*, at roosting site near Toshka island, lake Nasser, Egypt, 15 May 2019 (Hans-Joachim Fünfstück) 562 Yellow-billed Storks / Afrikaanse Nimmerzatten *Mycteria ibis*, shore of lake Nasser, Egypt, 11 May 2019 (Hans-Joachim Fünfstück)





**563** Yellow-billed Storks / Afrikaanse Nimmerzatten *Mycteria ibis*, Toshka island, lake Nasser, Egypt, 15 May 2019  
(*Hans-Joachim Fünfstück*)

**564** Yellow-billed Stork / Afrikaanse Nimmerzat *Mycteria ibis*, immature, west bank of Nile river, north of Aswan, Egypt, 21 April 2018 (*Dick Hoek*)



ple, a huge number of dead birds (raptors, White Storks *Ciconia ciconia*, Eurasian Spoonbills, Greater Flamingos *Phoenicopterus roseus* and Yellow-billed Storks) were found wrapped in plastic bags washed ashore at Port Said on 17 May 2017. Most likely these shot birds were contraband trophies on their way to Malta and were thrown overboard for unknown reasons (Nature Conservation Egypt in litt). The problem of illegal bird hunting of numerous species, of which many are protected, at lake Nasser is well known (eg, Anonymous 2018; Bull Afr Bird Club 10: 77, 2003, 11: 7, 2004).

#### Other interesting species

Lake Nasser and especially Abu Simbel is a birding hotspot for Afrotropical species within the WP. Besides Yellow-billed Stork, also Pink-backed Pelican, Three-banded Plover *Charadrius tricollaris* and African Pied Wagtail *Motacilla aguimp* are such species. While African Pied Wagtail is widely distributed at lake Nasser (Hering et al 2019), Three-banded Plover is a very rare and localised breeding bird (Hering et al 2013, Crochet & Didner 2018) and Pink-backed Pelican was only seen occasionally during our expeditions.

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#### Samenvatting

AFRIKAANSE NIMMERZATTEN BIJ NASSERMEER EN STATUS IN EGYPTE In het West-Palearctische gebied ('sensu BWP') wordt Afrikaanse Nimmerzat *Mycteria ibis* alleen regelmatig vastgesteld in het zuiden van Egypte en in Mauretanië. Gevallen van zomergasten in Egypte komen vooral van het Nassermeer en dan meestal beperkt tot de toeristische regio van Abu Simbel. In dit artikel presenteren we de resultaten van tellingen tijdens drie expedities per boot op het Nassermeer tussen Aswan en Abu Simbel in 2016, 2017 en 2019 en vatten we het voorkomen in Egypte samen aan de hand van gepubliceerde gegevens. Het Nassermeer en de regio rond Aswan zijn de gebieden met het hoogste aantal waarnemingen (respectievelijk meer dan 50 en meer dan 30). Verder zijn gevallen bekend van de Nijlvallei ten noorden van Aswan en de Rode Zeekust. Wij vonden exem-

plaren in alle drie onderzoeksjaren in alle delen van het Nassermeer. Het hoogste aantal was 519 meest onvolwassen vogels in 2016, de hoogste telling ooit in Egypte. De grootste groep omvatte 63 vogels. Aangezien slechts delen van de totale kustlijn van het Nassermeer konden worden onderzocht zal het werkelijke aantal ongetwijfeld hoger liggen. Tot op heden zijn er geen aanwijzingen dat de soort broedt nabij het Nassermeer.

#### References

- Anonymous 2018. Ägypten – Illegale Jagd im Schutzgebiet auf bedrohte Arten. Zugvogel-Post 1/2018: 2.
- Ash, J & Atkins, J 2009. Birds of Ethiopia and Eritrea: an atlas of distribution. London.
- Baha el Din, S M 1984. New and interesting records for Egypt – 1980-82. Courser 1: 47-51.
- Baha el Din, S M 2001. Egypt. In: Fishpool, L D C & Evans, M I (editors), Important Bird Areas in Africa and associated islands: priority sites for conservation, Cambridge, p 241-264.
- Baha el Din, S M & Baha el Din, M 1990. The Abu Simbel experience. OSME Bull 25: 1-5.
- BirdLife International 2018. Important Bird Areas fact-sheet: Lake Nasser. Website: <https://tinyurl.com/y74z1qz2>.
- Cramp, S & Simmons, K E L (editors) 1977. The birds of the Western Palearctic 1. Oxford.
- Crochet, P-A & Didner, E 2018. Three-banded Plover breeding at Abu Simbel, Egypt, in May 2011. Dutch Birding 40: 36-37.
- Elliott, A, Garcia, E F J & Boesman, P F D 2020. Yellow-billed Stork *Mycteria ibis*. In: del Hoyo, J, Elliott, A, Sargatal, J, Christie, D A & de Juana, E (editors), Birds of the world, Ithaca. Website: <https://doi.org/10.2173/bow.yebsto1.01>.
- Entz, B 1976. Lake Nasser and Lake Nubia. In: Rzóska, J (editor), The Nile, biology of an ancient river, The Hague, p 271-298.
- Flower, S S 1933. Notes on some birds in Egypt. Ibis 75: 34-46.
- Gandrille, G & Trotignon, J 1973. Prospection post-estivale au Banc d'Arguin (Mauritanie). Alauda 41: 129-159.
- Goodman, S M & Meininger, P L (editors) 1989. The birds of Egypt. Oxford.
- Hering, J, Eilts, H-J, Fischer, S, Fuchs, E, Geiter, O, Habib, M, Mähler, M, Megalli, M, Nikolaus, G, Schulz, C, Siegel, S, Siegmund, A & Winter, M 2017. Ein weißer Fleck wird bunt – Avifaunistische Pionierarbeit auf dem Nassersee/Ägypten. Vogelwarte 55: 385-387.
- Hering, J, Fischer, S, Geiter, O, Eilts, H-J, Fuchs, E, Hering, H, Habib, M, Mähler, M, Megalli, M, Nikolaus, G, Scholz, C, Siegel, S, Siegmund, A & Winter, M 2018. Ein weißer Fleck bekommt Farbe: Der Nassersee in Ägypten. Falke 65: 8-14.
- Hering, J, Fischer, S, Geiter, O, Siegel, S, Eilts, H-J, Fuchs, E, Habib, M I & Winter, M 2019. Breeding population of African Pied Wagtail at lake Nasser, Egypt. Dutch Birding 41: 238-244.
- Hering, J, Fuchs, E, Heim, W, Eilts, H-J & Ibrahim, H



2013. New information on Three-banded Plover in Egypt. *Dutch Birding* 35: 23-27.
- Hoek, D & Ibrahim, H 2007. Bird counting on Lake Nasser 21-05 till 26-05-2007. Unpublished manuscript.
- Horváth, L 1959. The results of the zoological collecting trip to Egypt in 1957, of the Natural Museum, Budapest. *Ann Hist Natur Mus Nat Hung* 51: 451-481.
- Isenmann, P 2006. Les oiseaux du Banc d'Arguin. Nouakchott.
- Isenmann, P, Benmergui, M, Browne, P, Diam Ba, A, Diagana, C H, Diawara, Y & El Abidine ould Sidaty, Z 2010. Oiseaux de Mauritanie / Birds of Mauritania. Paris.
- Kinzelbach, R K 1986. New records of Goliath Heron, Yellow-billed Stork, Blyth's Reed Warbler and Clamorous Reed Warbler in the Middle East. *OSME Bull* 17: 13-17.
- Madge, S 1991. Mystery photographs 167. *Br Birds* 84: 218-219.
- Magaud d'Aubusson, M 1892. Les échassiers d'Égypte. *Bull Soc Zool d' Acclimatation* 39: 49-62, 108-126.
- Nikolaus, G 1987. Distribution atlas of Sudan's birds with notes on habitat and status. *Bonn zool Monogr* 25: 1-322.

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