

## Black Stork (*Ciconia nigra*) in Northern Primurye and adjoining territories of far eastern Russia

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### Status

This species is widely distributed in this territories, sporadic nesting, low in numbers or rare (SHIBAEV, 1989; ROSLYAKOV & ROSLYAKOV, 2001), in Yakutiya very rare (SIDOROV, 1999).

### Protection status

This species is entered in the Red Data Book of the USSR - II category, RSFSR - II category, Russian Federation - III category, the Khabarovsk Krai - II category, YaASSR - II category, Primorsky Krai, Jewish Autonomous Oblast, Japan, South Korea and Appendix II of CITES, the Convention on International Trade in Endangered Species.

### Distribution

Nesting is recorded all over the territory of Primurye in tall forests, and on the outskirts of marshes, along rocky spurs and river valleys, in Chita, Amursky, Jewish Autonomous Oblasts, Khabarovsk and Primorsky Krai. The places of nesting are localised. Storks on passage have been found on the Sakhalin Island; however, they do not nest there (SHIBAEV, 1989; ROSLYAKOV & ROSLYAKOV, 2001; GIZENKO, 1955).

Black Storks nest in the south of Yakutiya, and very rarely fly into the western and central parts

of it (SIDOROV, 1999). The Primurye population of Black Stork winters in China, South Korea, and very rarely in Japan (SHIBAEV, 1989; MASSEY *et al.*, 1985).

### Habitats and their present state

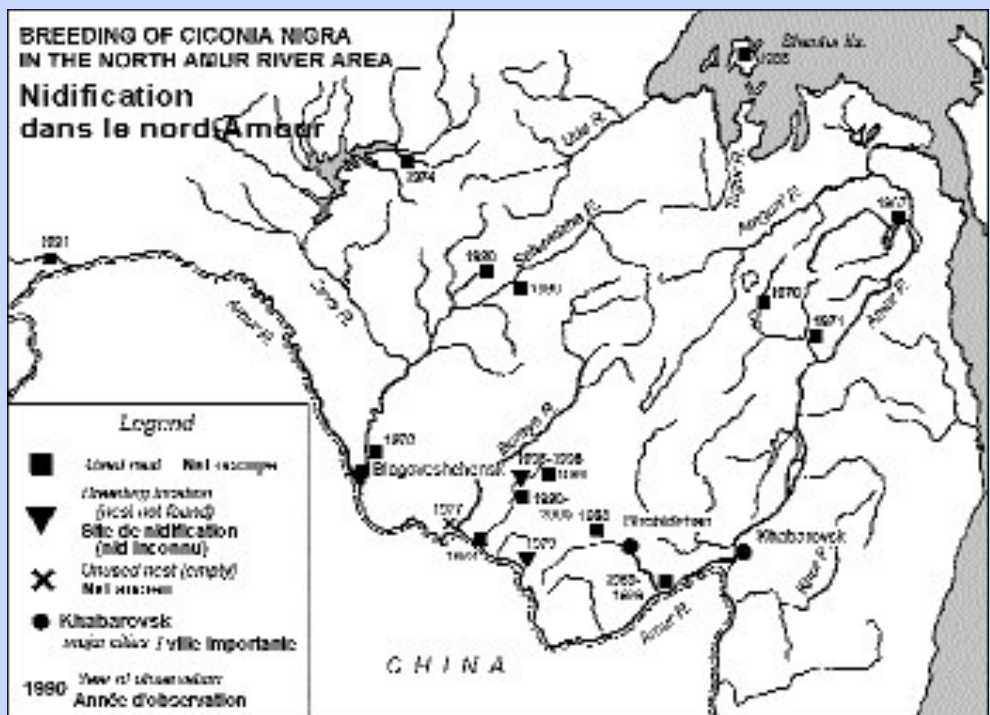
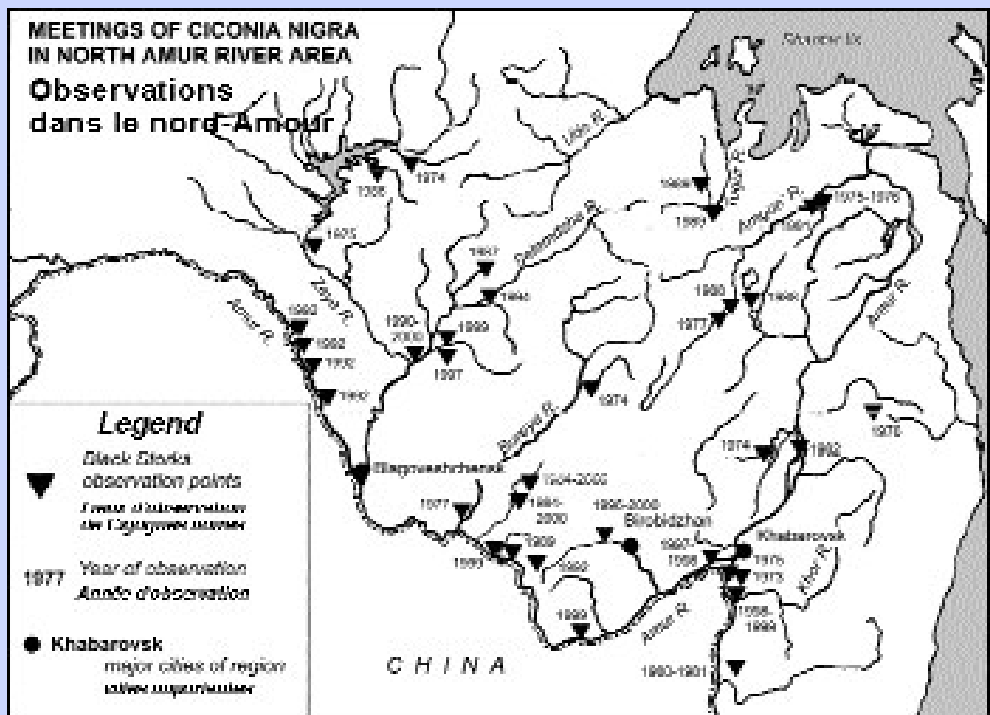
Storks prefer mixed and light coniferous forests, and also nest at the edges of marshes, small open sites, on slopes of hills along river valleys (SHIBAEV, 1989; ROSLYAKOV & ROSLYAKOV, 2001). In Yakutiya, they inhabit tall forests (SIDOROV, 1999).

The Black Stork distribution is linked to the forest zone, particularly to the remote parts of tall forests. These areas have highly productive and mature trees. For this reason timber industry is interested in logging there. Thus the area of such forests has been reduced considerably for decades.

### Numbers

According to preliminary data, in Jewish Autonomous and Amursky Oblasts, Khabarovsk and Primorsky Krai, 150-170 mated pairs are nesting and an additional 50-60 individuals are not breeding (ROSLYAKOV & ROSLYAKOV, 2001).

There is a strong tendency for reduction in the Black Stork numbers. This results from negative anthropogenic transformations of their native



habitats. It is necessary to carry out special research on the current state of Black Stork population in the Russian Far East. The aim of this research is to find ways to improve the species conservation status in the region.

## Breeding

Black Storks reach maturity at the age of 3 years (SHIBAEV, 1989) and begin to nest on the 10th-15th day after arrival to the Khabarovsk Krai (ROSLYAKOV & ROSLYAKOV, 2001). Their nests are placed on thick low branches of trees, in the forked crown as well as on cliffs. Both birds build a nest with the help of snags. The same nest can be used for several years. The clutch consists of 2-5 dirty-white eggs. The average size of eggs is 50 x 34 mm, for a mass around 35 g. Both birds incubate them during 32-38 days. Fledglings leave the nest at the age of 64-65 days. Both parents feed them, as all stork-like species, by regurgitating prey items (SIDOROV, 1999).

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## Seasonal migration

Spring arrival of Black Storks is recorded on 25-30 May (ROSLYAKOV & ROSLYAKOV, 2001) in the surroundings of Khabarovsk, on 28 May (ELSUKOV, 1982) in the Sikhote-Alin Nature Reserve, on 20-22 May (BABENKO, 2000) in the Lower Amur region, on 24 March (IVANOV, 1993) in the Bolshekhkhtskii Nature Reserve, on 17 May (DULKEIT & SHULPIN, 1937) on the Shantar Islands.

Autumn migration of Black Stork at the Lower Amur begins on 18-20 September (ROSLYAKOV, ROSLYAKOV, 2001). The latest findings were registered on 23 September in the Sikhote-Alin Nature Reserve (ELSUKOV, 1982) and on 26 October in the Bolshekhkhtskii Nature Reserve (IVANOV, 1993).

Bird banding all over the territory of North Priamurye has not been made, and reliable information about their ways of migration is lacking.

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Table 1 - Table 1: Findings of Black Storks in Northern Priamurye and adjoining territories. - Observations de Cigognes noires en Pryamurie du nord et territoires adjacents.

Date	Location	Coordinates	Detail	Author	Notes
Chita Oblast					
1991	Shilka River, 70 km from the estuary	53.30N/120.35E	nest	Darman (per.comm.)	nest on a cliff
Amursky Oblast					
02.06.1970	lower Zeya River	50.13N/127.39E	nest	Dymin Pankin (1975)	chicks beginning to fledge
08.06.1973	estuary of the Arkhara River	49.27N/129.47E	nest	Dymin Pankin (1975)	chicks beginning to fledge
20.05.1974	estuary of the Arkhara River, Verkhne-Zeya plain	54.29N/129.21E	a flock of 14 storks	Voronov (1985)	birds in flight
25.05.1974	estuary of the Arkhara River, Verkhne-Zeya plain	54.29N/129.21E	3 pairs	Voronov (1985)	birds in flight
13.06.1974	Arkhara River, Verkhne-Zeya plain	54.30N/129.21E	nest	Voronov (1985)	at a height of 10 m, larch ( <i>Larix gmeli nii</i> ), nest diameter 1 m

29.07-04.08.1975	Podgornoye lake, left bank of Zeya River	53.10N/127.20E	2 adults + 2 juv.	Voronov (1985)	at a height of 8 m, larch ( <i>Larix gmelinii</i> )
29.07.1977	Lower Burya River, at Severnoye village	49.27N/129.30E	a single individual	Voronov (per.comm.)	in flight
August 1977	Lower Burya River, at Severnoye village	49.27N/129.30E	nest not used	Voronov (per.comm.)	nest on a birch ( <i>Betula sp.</i> ), at a height of 9 m, diameter 1,3 m
1979	Floodplain of the Khingan River, near Zarechnoye village	49.00N/130.48E		Parilov (per.comm.)	nesting
1984-2000	area between two rivers : Urin and Bol. Dydu	49.36N/130.35E	2-6 individuals	Parilov (per.comm.)	birds were observed in nesting period
1984-2000	Arkhara River, near Gribovka settlement	49.30N/130.24E	2 individuals	Parilov (per.comm.)	registered regularly
21.07.1986	Urkan Bay of Zeya reservoir	54.28N/128.46E	a single individual	Voronov (per.comm.)	in flight
04.07.1987	upper reaches of the Burunda River (40 km from the Fevral'sk settlement)	52.49N/131.04E	a single individual	Voronov (per.comm.)	in flight
26.05.1989	agricultural lands near the Sagibovo village	48.56N/130.22E	5 individuals	Parilov (per.comm.)	feeding
1990-2000	Selemdja River, near Uglovoye village	51.57N/129.21E	a single individual	Darman Ivaschik (per.comm.)	in flight from Selemdja River till Stanovoy River
1990	estuary of the Burunda River, SNR "Norsky"	52.33N/130.02E	nest	Darman (per.comm.)	
22.06.1992	upper Amur, near the Novovoskresenovka cliff	52.07N/126.30E	a single individual	Voronov (per.comm.)	in flight
22.06.1992	upper Amur, near Koltsovo village	52.00N/126.27E	a single individual	Voronov (per.comm.)	in flight
23.06.1992	upper Amur, Kumarinsky cliff	51.45N/126.26E	a pair	Voronov (per.comm.)	in flight
24.06.1992	upper Amur, near Petropavlovka village	51.07N/126.56E	a single individual	Voronov (per.comm.)	a stork was feeding on the river spit
1994	Byssa River, Mordovskii spring	52.25N/130.38E	a brood	Dharman Zhilevsky (per.comm.)	
1996-1998	Arkhara River, near Gribovka village	49.30N/130.24E		Parilov (per.comm.)	nesting is recorded
June 1997	Ulma River, Makovetsky lakes	51.58N/130.24E	a pair	Darman (per.comm.)	in flight

1998-2000	Arkhara River, near Gribovka village	49.30N/130.24E	a nest	Parilov (per.comm.)	in winter 2000/2001, tree was sawn
1999	Salokachi River, Lesnoy spring	49.43N/131.00E	a nest	Parilov (per.comm.)	
29.08.1999	estuary of the Mutnaya River	48.57N/130.40E	a single individual	Parilov (per.comm.)	stork was feeding
1999	upper Ulma, Denisenko spring	51.49N/130.18E	a single individual	Darman Tovushki (per. comm.)	in flight
1999	Gerbikan River, Smidovich region	52.47N/131.49E	a nest	Darman Khoroshun (per. comm.)	a nest on the right side of the river
Jewish Autonomous Oblast					
1969-Khabarovsk Krai	Smidovich region	48.07N/133.04E	3 nests	Parilov (per.comm.)	along valleys of swamped branches
29.06.1992	Malii Khinga, upper Pompeevka River	48.24N/131.00E	a single individual	Voronov (per.comm.)	in flight
1996-2000	Trek River, SNR "Bastak"	49.00N/132.50E	a single individual	Gorobeiko (per.comm.)	Annual findings during nesting period
1998	Trek River, SNR "Bastak"	49.00N/132.50E	a nest	Gorobeiko (per.comm.)	on a Cedar ( <i>Pinus koreansis</i> ) at a height 6 m
May 1997-1998	Osinovaya branch, near Samara-Orlovka village	48.25N/134.40E	a single individual	Antonov (per.comm.)	Observed repeatedly in flight and on ground
22-23.07. 1999	Barkhatnii Island, near Nagibovo village	47.40N/131.40E	a single individual	Adnagulov (per.comm.)	stork was feeding on the river spit
Khabarovsk Krai					
18.07.1967	head of Ukhta River, near Udyl lake	52.12N/140.09E	a nest	Roslyakov, Roslyakov (2001)	on a larch ( <i>Larix gmelinii</i> ), height of 12 m, on the slope of a hill
25.05.1970	estuary of Evur River, near the Evoron lake	51.30N/136.32E	a nest	Roslyakov, Roslyakov (2001)	on a larch ( <i>Larix gmelinii</i> ), at 10 m height
16.06.1971	larch forest, near Gorin River	51.00N/137.26E	a nest	Roslyakov, Roslyakov (2001)	on a larch ( <i>Larix gmelinii</i> ), at 12 m height, slope of a hill
07.04.1973	Belii (white) Spring, SNR "Bolshekhetskii"	48.11N/135.00E	a pair	Voronov (1981)	near the old nest, in the forked crown of an oak, 10 m above the ground

08.04.1973	Belaya River, SNR "Bolshekhkhtsirskii"	48.11N/135.00E	a pair	Voronov (1981)	feeding
5-6.04.1973	Belaya River, SNR "Bolshekhkhtsirskii"	48.11N/135.00E	a single individual	Voronov (1981)	feeding
05.08.1974	Urgal River	51.13N/133.00E	a single individual	Voronov (1985)	in flight, twice
Summer 1974	flooded lands of Kharpi River	49.44N/136.10E	a flock of 10-15 birds	Roslyakov, Roslyakov (2001)	feeding
August 1974	shallow water in the estuary of Kharpi River	49.44N/136.10E	a flock of 40 birds	Roslyakov, Roslyakov (2001)	feeding by crucian fry ( <i>Carassius aurittus</i> )
14.07.1975	estuary of Chirki River	48.11N/134.40E	3 individuals	Voronov (1981)	feeding
July 1975-76	estuary of Im River	52.47N/138.24E	a single individual	Antonov (per.comm.)	in flight
25-28.06.1975	Djaur River	50.00N/138.30E	a single individual	Voronov (per.comm.)	observed repeatedly
14.08.1977	valley of Amgun River	51.41N/135.56E	a single individual	Voronov (per.comm.)	in flight, 5 km from Berezovii settlement
1980-1981	Shivki River, Ussury River tributary	47.00N/134.20E	a single individual	Voronov (1985)	observed in summer, many times
June 1982	Slavyanskii island, Gion Bay	49.30N/136.47E	a single individual	Voronov, Antonov (per.comm.)	observed many times
July 1986	Solenoye lake, Bolshoy Shantar Island	55.00N/137.51E	a nest	Roslyakov, Roslyakov (2001)	on a larch ( <i>Larix gmelinii</i> ), at 10 m height
24.07.1988	Chernii Kluch River, Amgun River tributary	51.40N/136.00E	a single individual	Voronov, Pronkevich (1991)	in flight
30.08.1988	Dosmi River, Evur River tributary	51.40N/136.40E	a single individual	Voronov, Pronkevich (1991)	in flight
5-8.07.1989	Konin River	53.10N/136.10E	a single individual	Voronov, Pronkevich (1991)	in flight
17-21.07.1989	head of Tugur River	53.00N/136.00E	a single individual	Voronov, Pronkevich (1991)	in flight
10.08.1991	Im River, Amgun River tributary	52.47N/138.24E	a single individual	Antonov (per.comm.)	in flight
Summer 1998-1999	Khor River, Bolshaya branch	47.53N/135.00E	a pair	Roslyakov, Sosov (per.comm.)	feeding

## La Cigogne noire (*Ciconia nigra*) dans le Nord-Priamurye et les territoires adjacents de l'extrême est de la Russie

La Cigogne noire est largement distribuée et niche sporadiquement dans cette région située au nord-est de la Sibérie mais l'effectif est faible à rare, voire très rare en Yakoutie. Elle est reprise en liste rouge (de seconde ou troisième catégorie) dans la plupart de ces régions ainsi qu'au Japon et en Corée du Sud. Sa nidification, très localisée, est notée sur tout le territoire du Priamurye dans les régions de Chita, de l'Amour, de la Région Autonome des Juifs, de Khabarovsk et Primorsky Kraï. Des cigognes de passage ont été rencontrées sur l'île de Sakhalin bien qu'aucune nidification n'y ait été notée. La population du Priamurye hiverne en Chine, en Corée du Sud et très rarement au Japon.

Les cigognes préfèrent les forêts claires et mélangées de conifères, mais nichent également en lisière de marais, en lisières forestières et sur les pentes des collines bordant les rivières et vallées fluviales. En Yakoutie, elles habitent les forêts âgées. La distribution de la Cigogne noire est en concordance avec la zone forestière, particulièrement avec les zones inaccessibles des forêts anciennes. Ces régions possèdent une grande quantité de bois matures auxquels s'intéresse vivement l'industrie forestière. La superficie de ces zones a considérablement diminué au cours des dernières décennies.

Selon les données préliminaires, pour la Région Autonome des Juifs et la région de l'Amour ainsi que celles de Khabarovsk et Primorsky, on dénombre 150 à 170 couples nicheurs et 50 à 60 oiseaux non-nicheurs. La tendance est à la baisse suite aux transformations anthropiques de leur habitat. Le but de la présente étude est de chercher des moyens de conservation de l'espèce

dans la région.

L'arrivée de la Cigogne noire, dont la maturité est atteinte à l'âge de 3 ans, est notée entre le 25 et le 30 mai dans la région de Khabarovsk, le 28 mai dans la réserve naturelle de Sikhote-Alin, entre le 20 et le 22 mai dans la région basse de l'Amour, le 24 mars dans la réserve naturelle de Bolshekhkhtsirskii et le 17 mai dans les îles Shantar. Elles commencent à nicher 10 à 15 jours après leur arrivée, du moins dans la région de Khabarovsk. Le nid est généralement placé sur des branches basses et épaisses d'un arbre, ou dans la fourche de celui-ci mais également en falaise. Les deux membres du couple bâtissent le nid à l'aide de branches. Celui-ci peut être utilisé pendant plusieurs années. La couvée se compose de 2 à 5 œufs blanc sale. La taille moyenne de l'œuf est de 50 x 34 mm pour un poids moyen de 35 grammes. Les deux oiseaux couvent pendant 32 à 38 jours et les jeunes quittent le nid à l'âge de 64 à 65 jours. Les deux parents s'occupent des jeunes en leur régurgitant la nourriture, comme la plupart des Ciconiidés.

La migration d'automne, dans le cours inférieur de l'Amour, débute aux alentours du 18 - 20 septembre. Les données les plus tardives ont été notées le 23 septembre à la réserve naturelle de Sikhote-Alin et le 26 octobre dans celle de Bolshekhkhtsirskii.

Le baguage des oiseaux sur l'ensemble du territoire du Nord-Priamurye n'a pas encore été effectué et les connaissances relatives à leur route de migration restent encore absentes.