

XVII. STATUS OF *ANSER INDICUS* IN ASIA WITH SPECIAL REFERENCE TO INDIA

P. Gole

Introduction

As we discuss the status of *Anser indicus* in Asia, skeins of these handsome geese should be winging their way to the plains of north India for their winter sojourn. They may be coming from as far as the region of Lake Baikal in the Soviet Union or Lake Koko Nor in China, or from as near as the high-altitude lakes of Ladakh, the northern most part of India. But it is difficult to be precise about their place of origin for no reports of recoveries of ringed or banded geese are available for the last many years. Indeed the most tantalizing thing about *Anser indicus* is that its total range only broadly known and there are many specifics on which information is lacking. An attempt is made in this paper to present the list of information already available, adding the author's own observations of a breeding colony from Ladakh and a summary of reports received from a number of correspondents about its present status during winter in India.

Geese in Ancient India.

In India *Anser indicus* is associated mainly with larger rivers in the north: the Ganges, the Jumna, the Chambal and the Brahmaputra. The goose has attracted man's attention since ancient times, as references to geese can be found in ancient Sanskrit texts. In Rgveda (about 1500 BC) their hissing is compared to the sound made by a burning stick put into water. The great Hindu law-maker of ancient India, Manu, has prescribed penalties for one who killed a goose. They were considered to fly at a lower height than eagles. Ancient Indians know that it was not a resident species but travelled towards the Himalayas annually. Their preference for fresh water was noted and they were believed to subsist on lotus roots. That they spread right up to Mysore in south India, was also known. Their destination beyond the Himalayas was believed to be the Lake Manas (Manaserovar) now in the Tibetan region of China. They were known to return from the north in autumn (Sharad Rtu). Goose echelons are depicted in many ancient carvings, e.g. those in Kangda, Kashmir, Sanchil, Mathura and Taxila (in Pakistan). In mediaeval India they were regularly kept by kings and noblemen in palace gardens and aviaries.

In ancient Buddhist literature also the goose is given an honoured mention as the Buddha was said to have taken the form of a goose to enlighten his disciples. Geese are sculptured on the pedestal at Bodh Gaya where the Buddha received his enlightenment.

In Tibet, according to tradition, geese marry for life and if one of the pair dies, the other pines away and never remarries. Sven Hedin had a similar experience when he shot an *Anser indicus* on Lake Koko Nor. One of my correspondents also experienced the same devotion among the pair.

Total range

According to *Ali & Ripley* (1978) *Anser indicus* breeds on high elevation lakes in central Asia from the Tien Shan to Koko Nor but it is a winter visitor to the Indian sub-continent. The northern boundary of their occurrence is said to be the Chu steppe and beyond within Mongolia (it was also taken near Lake Baikal) while the most easterly point of their occurrence appears to be the Chu steppe and beyond within Mongolia (it was also taken near Lake Baikal) while the most easterly point of their occurrence appears to be Lake Bargin in Manchuria. In winter they are most abundant in north-central India becoming scarcer towards Assam in the east and Pakistan in the west. A few winter in Baluchistan to the west and Burma to the east. In Tibet hundreds are supposed to breed on upland lakes and many winter around Lhasa and along the valley of the Taan Po in south Tibet. They are also recorded upto the Altai mountains in the north-west.

A few of the breeding localities are definitely known. According to *Dement'ev* and *Gladkov* (1952) they nest in Dzungaria and Chinese Turkestan while two geese ringed on the nesting ground in Kirghiz SSR were recovered in the early sixties in Pakistan (*Ali & Ripley*, 1978). In the early years of the present century Bailey saw many nesting on Rham Tso, a high-altitude lake south of Lhasa in Tibet. They were also reported to breed in cliffs around Lhasa. In the twenties *Osmaston* (1925) and *Meinertzhagen* (1927) found them nesting on a lake near Shushal (Chushul) and around two salt lakes the Tso Kar and the Tso Moriri at a height of over 4300 m in Ladakh.

Migration

From its breeding grounds in the north *Anser indicus* is reported to migrate south in autumn or before the onset of winter. Its return passage is observed in the Tien Shan mountains in late August. By 25 August it is known to leave even the low altitude parts of their northern range. Around Koko Nor also the return passage is recorded on 28 August. There are, however, reports of some birds lingering till late September or even October. In the Pamirs return passage is observed between 19 and 23 September or even October. (*Dement'ev & Gladkov*, 1952).

In India the geese appear to arrive on a broad front through northwest Pakistan, Kashmir, Nepal and Sikkim. Recoveries of two ringed birds in Gilgit in NW Pakistan have already been referred to. In this sector they have been observed flying at an altitude of over 4200 m during migration. They start coming in into India by late October and are well in by mid-December (*Ali & Ripley*, 1978).

One observed has described their passage through the Himalayas. He saw many *Anser indicus* flying over Bhadwar in Kashmir in autumn heading towards the Chenab and the Tawi rivers and guessed that they probably came from the Tso Moriri and the Pangong lakes in Ladakh, on the other side of the Himalayan range and crossing Lahoul on the way. The birds began flying over after sunset (*Donald*, 1952).

They leave India in March and most are gone by the end of this month,

"They leave India as soon as the crops are cut and carried and the stubbles have been pretty well gleaned" (*Hume and Marshall*, 1881). They travel north again on a broad front through the Himalayas from Chitral to Sikkim. Donald saw the geese heading north towards Tibet in February. They flew at night around 2300 hrs and again in early morning at 4000 hrs. Fleming reports from Nepal that one spring he saw about 35 000 ducks and geese flying over the Kosi barrage. While *Anser indicus* headed into the wind right up the river, *Tadorna ferruginea* flew along the wooded ridge. By end of March many were also observed going up the Karnali gorge in parties of 15 to 30 individuals. They went all through the day, in the forenoon, during mid-day, in the afternoon. In the next two hours American Dhaulagiri expedition saw the birds flying at an altitude of over 7000 m (*Fleming*, 1958).

While the geese appear in south Tibet by March end (*Ludlow*, 1944), they start coming in to Ladakh in mid-April. They are known to appear in the region of Koko Nor in mid to last week of March. In Lake Orok Nor in northern Gobi they are recorded from 14 April to the third week of May. In the northern parts of their range, e.g. in Transbaikalia and in the Altai, they appear in early May (*Dement'ev and Gladkov*, 1952).

Earlier records of breeding

Details of the nesting of *Anser indicus* are known mainly from Tibet and Ladakh and to some extent from the Soviet Union.

Though *Hume and Marshall* (1881) over than thousands of these geese breed on the Tso Moriri and other salt lakes of Ladakh, the quotation that they give from Drew mentions only a lake-island frequented by *Larus brunneiceps* and the existence of a deserted nest believed to be of a goose. *Bailey* (1908) gives a more graphic account of a nesting colony in a marsh adjoining Lake Rham Tso in south Tibet. Here, at a height of about 4500 m he saw many goose nests with eggs on 2 June 1908. They were in a 3 km stretch of a marsh on the south side of Hram village. Most nests were placed on grassy islands surrounded by water 60 cms deep. On a circular island 20 m in diameter he counted 15 nests which were only slight hollows in the grass lined with down bunched up around them. The number of eggs in each nest varied from 2 to 8, though many contained only 4 eggs. Some of the eggs from larger clutches were discoloured and he believed that they might have been laid during the previous year. He also noticed the promiscuous way in which eggs were laid, for many were lying on the bare grass outside the nests.

Swami Pranavananda (1949) a knowledgeable Indian Sadhu (hermit) who lived for many years on the banks of the sacred Lake Manas in Tibet, saw many geese nesting around the sacred lake itself and also on an island in the adjoining lake, the Rakshas Taal. He reports that they were more numerous on the latter.

Both *Bailey* and the Sadhu mention that Tibetans collected these eggs for their own consumption and that the eggs were available at the rate of 30 eggs for a rupee. *Bailey* reports that the birds start coming in by March though he saw eggs laid only in early June. The Sadhu however, states that near the Manas eggs were collected in April. *Ludlow* (1944) saw immense

numbers of these geese on Lake Yamdrok Tso in southeastern Tibet though he does not mention any nests.

In 1923 and 1925 Osmaston and Meinertzhagen recorded nesting in Ladakh. Osmaston saw 3 nesting colonies of *Anser indicus*: one on the lake at Shushal (4300 m), one near the salt lake Tso Kar (4600 m) and one on the Tso Moriri (4700 m). At the Tso Kar they were breeding in cliffs, while at the Tso Moriri and at Shusha the nests were on islands in lakes. He observed nesting on the Tso Kar and the Tso Moriri between 8 and 17 June. The cliff nest "was a dense pad of wool and hair resting on sticks, and lined with the down of the Goose". It was earlier used by a pair of *Corvus corax*. The island nests were merely slight depressions in the silt, lined with a little down. The greatest number of eggs in a clutch was six. At Shushal on 3 July, goslings were already out of the nests and were swimming in the lake.

Meinertzhagen saw no nests on 14 June at Shushal, as all the eggs had already hatched. He noted that the mortality among goslings was very heavy due to the depredations of a pair of *Haliaeetus leucoryphus*. At the Tso Kar also on 23 June he saw not a single gosling and believed that they also shared the same fate.

Soviet scientists report nests from Dzungaria and Chinese Turkestan and found them among rocks, high in trees and on islands close to banks of reservoirs or on open, swampy plots. Tree and rock nests were constructed of fine twigs with a shallow cup in the middle while in dry bogs nests were made up of moss lined with down and vegetation.

Breeding in Ladakh recent observations: 1976–1980

The earliest that I saw *Anser indicus* in Ladakh, was in the beginning of May when small groups (5–8) were seen on the Indus river in the south of Ladakh. It is possible that the geese might be following the river once they enter the region beyond the Himalayas. But when I reached the Tso Moriri in the second week of May, geese had already congregated on the lake. The lake, however, was mostly frozen; only a portion of about 1.6 km² near the northern shore was free of snow. A small island lies in this part and most of the geese (42 of them) had congregated near the island. They had already paired and scattered pairs were swimming in the lake. The geese had obviously posted sentinels. For, as we approached the lake, two pairs swam ahead and still swimming at a safe distance, protested at our presence with characteristic forward bows punctuated with alarm calls.

A pair also flew over us calling in alarm and the others raised their heads, honking with necks stretched and beaks pointing skywards. However, no nest could be seen on the island. The marsh near the northern shore where a big stream debouches into the lake, was still frozen and there was probably not enough food around.

A few days later I reached the Tso Kar. There were only 10 geese on the fresh-water lake Startsapuk Tso that drains into the Tso Kar. Apparently the whole complement of geese was not present in mid-June. For, in July I had counted about 100 geese on this lake in earlier years. The extensive salt flats of the Tso Kar usually harbour only *Tadorna ferruginea* and not geese.

On the north end of the Tso Moriri also in the third week of July, nesting appears to be over. Here 124 geese were counted. But here as also on the Tso Kar the number of families with goslings was not more than ten, confirming heavy mortality as observed by Meinertzhagen. In late July the geese were undergoing moult as some of the birds that we chased ran towards water and did not fly. In late June and early July geese were also seen on the lake Pangong and on the lake at Chushul (Shushal). But they were not nesting.

In 1980 I reached the Pangong and Chushul in late May. No geese could be seen at both these places. But when our party reached lake Tso Moriri on 8 June, *Anser indicus* were already nesting on the sloping sides of the island near the northern end of the lake. The nests were not mere scarps in the mud, lined with down. They were rather untidy heaps of vegetation. As I had no means to reach the island, I could not see the lining. The grass-like nesting material had obviously come from the lake itself as there was plenty of aquatic growth in the shallow parts. Even pairs of *Podiceps cristatus* had utilized the same plant to build their floating nests. On the island I counted eight nests on the north-facing slope and about an equal number could be partly seen on the opposite side. A few *Larus brunneicephalus* and a pair of *Sterna hirundo* had their nests on the top of the island.

My observations of the nesting birds showed that only one bird; probably female, alone incubates. The other bird stands guard near the nest or swims nearby. The incubating bird leaves the nest occasionally and goes near the edge of the water to drink or to feed in the shallows. Not all the pairs were nesting however. Some pairs were either swimming and searching for food in the lake while some were just standing and loafing on the island. Sometimes a pair from the lake would take wing and land on the island to be greeted by forward bows from the nesting pairs accompanied by loud protesting calls. One of the birds from a nesting pair was rather aggressive and drove away geese that approached too close to his territory. Once when a raven *Corvus corax* came to inspect the island, he was chased and driven away by a pair of geese and a *Sterna hirundo*. The birds that were feeding in the lake often upended like dabbling ducks. No goslings were to be seen here.

A few days later our party reached the south end of the Tso Moriri. All along the way we saw small parties of geese and one pair with lemon yellow chicks in tow. Apparently this pair must have nested even before the lake became unfrozen, i.e. in the second week of May. A group of 11 geese was also seen foraging in a grassy patch, but the grass was still quite short.

At this end of the lake a small stream that flows in from the south, meets the lake in many channels. The terrain is not marshy but rather it is a plateau of shingle. It stretches south to a considerable distance and may probably have been under water in the recent past as the lake is gradually shrinking.

A few local men with their sheep flocks were camping nearby. They informed us that to the southeast a large number of geese could be found. The geese were said to be nesting and we were assured a liberal supply of eggs if we wished to gather them for eating. We crossed the broad plateau of shingle and coarse yellow grass and Caragana. We then had to cross a small stretch of a shallow marsh. In a muddy depression we observed a pair of *Grus nigricollis*. Beyond this depression was a body of water which was actually a longish arm of a still larger one to the north, a sizeable lake, 3.4 km² in diameter and with an island in the middle. As far as we could

see it did not appear to be connected to the Tso Moriri. Several geese were seen nesting on the island in the middle of the lake.

The almost square island was about 60 m long and about 60 m wide. The island looked like a flat-topped pyramid with its sides sloping down to the water. About 200 geese had congregated on the island and another 25 were swimming in the lake.

The nests were seen on the flat top as well as on the sloping sides of this island. At some places they were packed closely with hardly 1 m between them. They were scattered at other places. I counted 45 nests on the sides while about 20 birds could be seen incubating on the flat top. Others were just standing and loafing. Here the nests were not made of any vegetation but were mere scrapes in the silt, lined with down which was banked up against their sides. Indeed no vegetation could be seen in the brackish lake and in the vast stretch of sand and shingle around, no fresh grass could be seen.

Observations of these nests also showed that only one bird incubates while the other stands guard. There was some squabbling and aggression to be seen between neighbours. Birds from some pairs were rather aggressive. As observed by Bailey some eggs were laid quite promiscuously in the open without any attempt at building a nest. These were lying without any bird attending to them. Some eggs had already hatched and egg-shells were lying scattered on the island. The pairs apparently felt quite safe as the island was deep inside the lake and did not show much alarm at our presence. Unfortunately we lacked any means of crossing the lake and approaching the island. The number of eggs in each nest could not be examined.

It seems that the families leave the island as soon as eggs hatch. This was also noticed by Bailey. I saw only one family with goslings on the island. All the other families with goslings were in the lake. Most of these families had four goslings in tow.

It was not known on what the goslings were fed. There was neither fresh grass nor any vegetation nearby. The lake appeared to be quite deep and without any plant life. But the geese were seen to be vigorously searching for food upending themselves. Apparently insect life should be available. A party of adults which was closely watched from a distance of 30 m fed on small fish and insects that were found in the fresh-water channels. In Tibet the geese were known to feed on a pond weed *Potamogeton pectinatus* (Ludlow, 1944). This was available in the estuary to the north end of the Tso Moriri but could not be detected at the south end. It is possible that the goslings were fed entirely on animal matter. The problem however, needs more investigation.

Status in India

In the last century many observers have referred to the abundance of *Anser indicus* in north India in winter. Jerdon in 1877 had said that it was most abundant in the Bundelkhand area and in the region between Agra and Gwalior. Hume saw about 10 000 geese in a 16 km stretch of river near the confluence of the Chambal and the Jumna. This was in the eighties of the last century. In his opinion *A. indicus* outnumbered every other goose in

India by a proportion of 5 to 1. This figure is reiterated by F. Finn in the beginning of the twentieth century. According to *Barnes* (1887) it was abundant in Sind to the west while *Stuart Baker* (1980) says that it was met with in considerable numbers on all larger rivers in Bengal. He saw great flocks in Jessore and Khulna (now in Bangla Desh) in January.

However, later observers did not appear to have seen them in such immense numbers. *Hutson* (1934) says that it was as common as *Anser anser* on the big zheels around Delhi. More recently *Usha Ganguli* (1975) mentions that they were irregularly seen on the Jumna, the largest party seen was of 29 birds. She also saw about 40 birds on the Sultanpur zheel near Delhi.

To assess the present position of these geese in India, an appeal was made through two well-known bird journals of India. Observers were asked to give information on the places and type of habitat used by the geese in winter, their arrival and departure dates, their number and whether it is increasing or decreasing, the probable causes of the same and the food and other habits observed.

The places where these congregate have been reported as, along the Chambal river (thousands), in the Ajmer-Marwar area of Rajasthan (1800–2000), the reservoirs at Narora (500) and Etah (20–25), the Bharatpur Bird Sanctuary (200), the Sultanpur Zheel (100), the Kaziranga National Park (50) and the Goalpara district of Assam where the geese are mostly seen along the Brahmaputra. While one correspondent expressed the opinion that their number has increased in recent years due to the almost total ban on shooting, according to the rest their number has remained either stationary or has declined. Hunting, encroachment of cultivation and settlement on riverine islands where the geese used to find resting and roosting places and increased prevalence of netting are given as probable causes of their decline.

Their usual habitat according to correspondents remains large rivers and reservoirs. They are seen to associate with other ducks and geese though a party of *A. indicus* generally keeps to itself. Where suitable water-bodies are available geese spread even to the desert where only xerophytic plants are available. Their food in winter is given as paddy and wheat shoots, chana and barley leaves and also some pulses. They are accused of causing some damage to winter crops.

Their arrival is said generally to coincide with Diwali festival at the end of October or early November and most leave by late March though a few could still be seen in mid-April.

One observer has described their winter routine: "At night they rest on open sand-bars and in wadis on sand-bars where they can have a clear skyline to show any approaching predator. They fly out at dawn to where they find suitable vegetation. At about 1100 hrs they fly back to isolated Chur (river-island) areas, beaches or sand-bars where the current is fast, bathe and go to sleep. It is then that they are most vulnerable to hunters in boats as they hate to leave the cool beach and fall to the approaching guns. If undisturbed, the siesta continues up to 1400 hrs when they fly out again in search of food. This routine is pretty set. I have never seen them break this".

Status outside India

Detailed information appears to be unavailable on the status of *A. indicus* even outside India. Soviet authors say that though it was once fairly common, in recent years it has suffered a great decline. Outside the Soviet Union the other large area in which these geese breed and winter, is Tibet. However, almost no information is available from regions under Chinese control. Dr. S. Dillon Ripley, Secretary, Smithsonian Institution, who travelled in Tibet in 1980 saw no geese during the spring. According to him, hunting pressure in Tibet should be particularly heavy as almost every young man was seen to carry a gun. He was of the opinion that the numbers in Tibet must have suffered a great decline too.

Nothing appears to be known about the number of geese breeding in Tibet and the rate of their breeding grounds. In Ladakh which actually is the western fringe of the Tibetan highlands, the large breeding colony near the south end of the Tso Moriri appears to be safe from human interference. The breeding colony in the lake near Chushul is no more, though the geese appear still to be holding their own in the Tso Kar.

Author's address:
Prakash Gole
277 Sindh Housing Society
Poona 411007 Maharashtra
India

References

- Ali, S. (1947)*: An Ornithological Pilgrimage. Journ. Bombay Nat. Hist. Soc. 46: 305 – 306.
- Ali, S. & S. D. Ripley (1978)*: Handbook of the Birds of India & Pakistan. Second Edition.
- Bailey, F. M. (1910)*: The Nesting of the Bar-headed Goose in Tibet. Journ. Bombay Nat. Hist. Soc. 19: 367.
- Baker, E. C. Stuart (1908)*: Indian Ducks & Their Allies.
- Baker, E. C. Stuart (1935)*: Nidification of Birds of the Indian Empire.
- Barnes (1887)*: Handbook of the Birds of Bombay Presidency.
- Battye RKM (1935)*: Notes on Some Birds Observed between Yatung & Gyantse. Journ. Bombay Nat. Hist. Soc. 52: 605 – 606.
- Caldwell & Caldwell (1931)*: Birds of South China.
- Delacour, J. (1954 – 1964)*: The Waterfowl of the World. Vol I and Vol IV.
- Dement'ev & Gladkov (1952)*: Birds of the Soviet Union. Vol IV.
- Finn, F. (1909)*: Waterfowl of India & Asia.
- Ganguli, Usha (1975)*: Birds of Delhi.
- Hume & Marshall (1881)*: Game Birds of India, Burma & Ceylon. Vol III.
- Hutson (1934)*: The Birds About Delhi.
- Jerdon, T. C. (1877)*: Birds of India.
- Johnsgard, P. (1965)*: Handbook of Waterfowl Behaviour. Cornell Univ. Press., Ithaca 378 pp.
- Lavkumar, K. S. (1955)*: Another Bird-watching Pilgrimage to South-west Tibet. Journ. Bombay Nat. Hist. Soc. 52.
- Ludlow, F. (1920)*: Notes on the Nidification of Certain Birds in Ladak. Journ. Bombay Nat. Hist. Soc. 27.
- Ludlow, F. (1927)*: Birds of the Gyantse Neighbourhood, Southern Tibet. Ibis.
- Ludlow, F. (1928)*: Dongtse of Stray Bird Notes from Tibet. Journ. Bombay Nat. Hist. Soc. 33.
- Ludlow, F. (1944)*: Birds of South-eastern Tibet. Ibis. 86: 348 – 389.

- Ludlow, F. (1950):* The Birds of Lhasa. *Ibis*. 92: 34-35.
- Ludlow, F. (1951):* Birds of Kongo and Pome, South-east Tibet. *Ibis*. 93: 547-578.
- Meinertzhagen, R. (1927):* Systematic Results of Birds Collected at High Altitudes in Ladak & Sikkim, Part II, *Ibis*. 69.
- Osmaston, B. (1925):* On the Birds of Ladakh, *Ibis*.
- Pranavananda, S. (1949):* Kailas & Mansarovar.
- Smythies, F. (1953):* Birds of Burma.