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The Relict Gull *Larus relictus* in China and elsewhere

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Since the last review a decade ago of the Relict Gull *Larus relictus*, some new specimens have been discovered, observations made and photographic records identified. All the known localities for the species are now summarised. Historically, before the validity of the species was established in 1970, the majority of specimens and sight records seem to have been attributed to Brown-headed Gull *L. brunnicephalus*. Five breeding sites are now known. The first indications are that the non-breeding range lies at more northerly latitudes than hitherto surmised. The species seems to replace Brown-headed Gull through much of Mongolia, Nei Mongol autonomous region and neighbouring territories, but shows features suggesting close relationship with Great Black-headed Gull *L. ichthyaetus*.

On 24 April 1929 K. G. Söderbom collected a specimen of an unusual hooded gull at Tsondol on the Edsin Gol (river) in Inner Mongolia, China. The resulting controversy surrounding this bird is well summarised by Kitson (1980); the specimen was initially described as a race of Mediterranean Gull *Larus melanocephalus relictus* (Lönnberg 1931), and subsequently as an aberrant Brown-headed Gull *L. brunnicephalus* (Dement'yev and Gladkov 1969) or as a Brown-headed × Great Black-headed *L. ichthyaetus* hybrid (Vaurie 1962). The Relict Gull *Larus relictus* was eventually confirmed as a valid species in 1970 (Auèzov 1971, Stubbe and Bolod 1971, Il'ichyev and Zubakin 1988) following the discovery of two breeding colonies in the U.S.S.R. Only five breeding sites have so far been located and the wintering grounds remain largely undiscovered. The status of Relict Gull was reviewed by Kitson (1980), who reported a total of nine localities where the species had been recorded, the only two from the People's Republic of China being the initial specimen from Edsin Gol and one from Tanggu, Hebei. The total of localities for the species has now risen to over 30. Many of these new records of Relict Gull are from China, and it seems appropriate to summarise the current state of knowledge one decade later.

SUMMARY OF ALL KNOWN RECORDS OF RELICT GULL

All the known locations for the species are displayed in Figures 1 and 2, and the numbers correspond to those enumerated below. The numbers used by Kitson (1980) for those localities listed by him are also given for ease of reference. Unless otherwise specified the map coordinates are all obtained from the US Army gazetteers in the University Library Cambridge. They are not necessarily specific for the actual spot the birds were found, but merely

Figure 1. Locations for Relict Gull in central-eastern Asia. Crosses represent the sites, and the associated numbers correspond to those in the summary of all known records. Locations 2, 17 and 22 are subdivided into two localities (see summary of all known records). A large circle (open) transcribing the cross indicates a confirmed breeding site, and a small circle a suspected, but not proven, breeding location. Where the number is preceded by a question mark, this indicates that the named locality does not specify very closely the coordinates of the point of observation of the bird(s). Where the site is represented by a question mark, then the named locality could not be found.

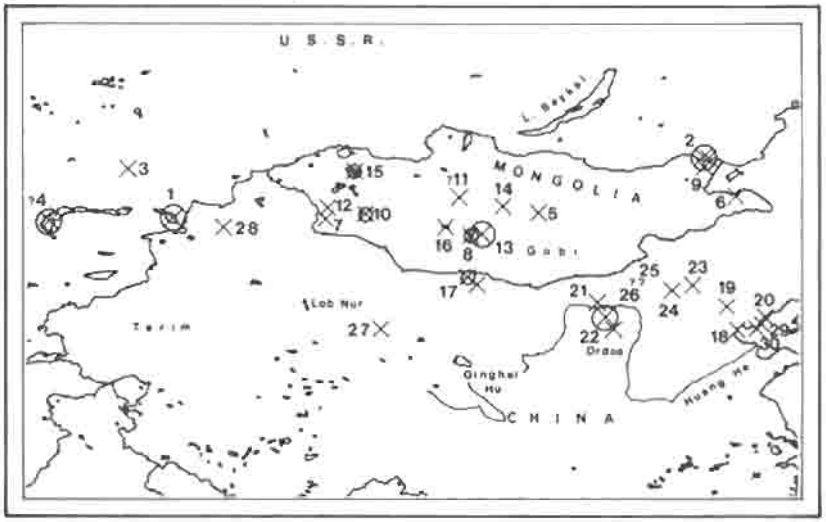
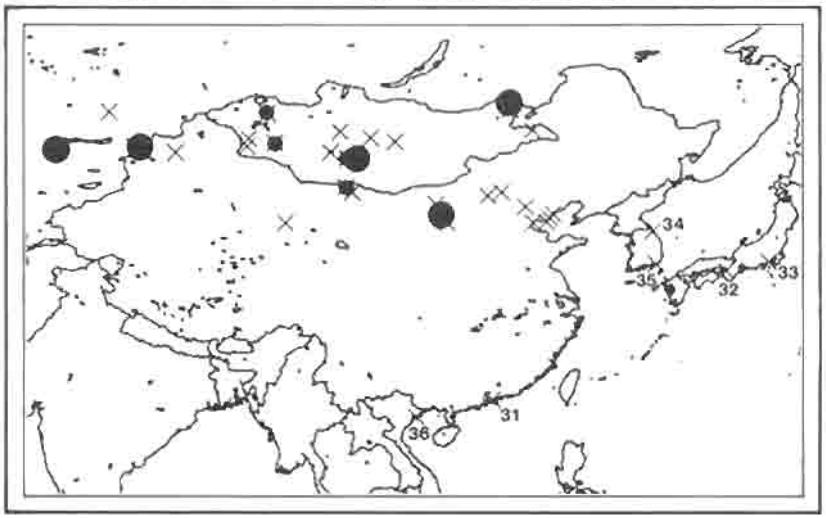


Figure 2. Records of Relict Gull in east Asia from outside the central area. Here the proven and suspected breeding sites in the central area are represented by large and small filled circles respectively.



refer to the (approximate centre of) the named location. The Mongolian word 'nuur', meaning lake, may also be transliterated 'nor', 'nur' or 'no-errh'.

U.S.S.R.

1. Lake Alakol' (Alakul, Ala Kul) (46°10'N 81°50'E), eastern Kazakhstan. The first colony of Relict Gull to be identified as such (Auèzov 1970, reported in Kitson 1980). Between 1969 and 1984 the number of pairs in the colony varied between zero and 800 (Auèzov 1975, Il'ichyev and Zubakin 1988), or between 30 and 1,200 (Knystautas 1987). A bird ringed as a nestling at the colony on Sredniy Island 25 June 1968 was recovered on 25 September of that year near the settlement of Koktuma (45°52'N 81°39'E) on the south-western shore of the lake, 30–40 km from the nesting island (Auèzov 1974). Kitson's (1980) locality number 5.
2. The Torey (Toreyskie, Torejskie, Toreyskiye etc.) lakes, or marsh (solonchak), in the Chita district (oblast) of Transbaikalia. On the eastern lake (Dzoon, or Zun, Torey – 50°05'N 115°50'E) flocks of up to 30 birds have been seen on passage (Neufeldt and Wunderlich 1980), but breeding has been proven only at the western lake (Baroon, or Barun, Torey – 50°10'N 115°30'E) on Kukan Island, with the number of pairs varying between zero and 1,025 between 1967 and 1985 (Potapov 1971, Golovushkin 1977, Il'ichyev and Zubakin 1988). The birds recorded here between 1963 and 1971 were initially identified as Brown-headed Gulls (Leont'yev 1968, Auèzov 1971, Larionov and Cheltsov-Bebutov 1972, reported in Kitson 1980). Kitson's (1980) locality number 3.
3. Abayevsk (not 'Abayesk') region (rayon) (49°20'N 79°00'E) in the Semipalatinsk district. A bird ringed at Lake Alakol' as a chick on 3 June 1971 was recovered here on 29 August of the same year, 250–300 km from the colony (Auèzov 1974). Kitson's (1980) locality number 6.
4. Lake Balkhash (centre *circa* 46°00'N 74°00'E), also transliterated 'Balkash' etc. One pair bred in 1984 (Auèzov 1986 reported in Knystautas 1987, Il'ichyev and Zubakin 1988).

Mongolia (Mongolian People's Republic, previously known as Outer Mongolia)

5. Hur Nuur (46°33'N 105°02'E), also 'Khur-Nur' etc. Here E. N. Kurochkin recorded Relict Gulls on 9 and 12 August 1970 (Il'ichyev and Zubakin 1988).
6. Bayan Nuur (47°38'N 117°36'E). Adult collected 15 May 1966, originally misidentified as Common Black-headed Gull *L. ridibundus* (Stubbe and Bolod 1971). Kitson's (1980) locality number 4.
7. Bulgan Gol (46°07'N 91°32'E). One adult was seen on the river bank on 1 May 1975 by Piechocki *et al.* (1981). Mongolian wetland site number 18 in Scott (1989).
8. Orok (Orog, Örök) Nuur (45°03'N 100°42'E). Kitson (1980) found 20 pairs here 24 April–5 May 1977, but was too early in the season to secure proof of breeding. Nevertheless this must be considered a likely breeding

ground, although recently reported to be nearly dry (Beaman 1989). Kitson's (1980) locality number 8; Mongolian wetland site number 28 in Scott (1989).

9. Höh Nuur (Hök Nor, Khukh Nur) (49°30'N 115°35'E). Three adults were collected by A. Bold and D. Batdelger on 5 July 1977 (Kitson 1980). Kitson's (1980) locality number 9.
10. Ihes Nuur (46°27'N 94°04'E), also transcribed 'Iches Nur' and 'Ikhes Nur'. Tarasov collected one here in June 1957, and it remained incorrectly identified in the collection of Irkutsk Agricultural College until seen by Piechocki *et al.* (1981); as Tarasov (Tarasow 1962, reported in Stubbe and Bolod 1971) claimed breeding Common Black-headed Gulls from this Gobi-Altai Region, there is a good chance that this lake is a breeding site of Relict Gull. Ihes Nuur is a salt lake at 1,588 m.
11. Hangayn Nuruu (47°30'N 100°00'E), or 'Khanga'. A large mountain range in Central Mongolia. E. N. Kurochkin recorded birds feeding on Brandt's Voles *Microtus brandti* in the southern foothills from 15 to 17 September 1982, but they had disappeared by 20 September with the onset of frost (Il'ichyev and Zubakin 1988).
12. Mönh Hayrhan Uul (46°50'N 91°40'E), alternatively 'Munkhe-Khayrkhan', 'Munkh-Khairkhan' etc. Two migrant individuals were noted on the northern slopes of the mountain massif (Kishchinskiy *et al.* 1982, reported in Il'ichyev and Zubakin 1988).
13. Tatsain Tsagaan Nuur (45°08'N 101°27'E), also transliterated 'Tatsing Tsagan ...' or 'Taatsín Tsagaan ...', is the fourth proven breeding site. Fisher (1985) counted 14 nests here in 1982, and he also observed birds here in 1981 and 1983, but heard that the lake was dry in 1985. Kitson (1980) recorded three birds in May 1977. Kitson's (1980) locality number 8; Mongolian wetland site number 29 in Scott (1989).
14. Hujirt (Chudshirt) (46°55'N 102°48'E). Adult seen 23 May 1986 (Stephan 1988). The International Map of the World 1:1,000,000 series gives a settlement Haluun Usanii Suma near the gazetteer coordinates, on the Hujirta Gol (river), 15 km from where the Hujirta Gol meets the Orhon (Orchon, Orkhon) Gol. The Orhon river is mentioned as a tributary of the Selenge river, wetland site number 21 for Mongolia, by Scott (1989).
15. Hirgis Nuur (Khirgiz or Hyargas Nuur) (49°12'N 93°24'E). Golovushkin (1988) had seen about 60 adults on 14 July 1969 around the south-eastern shore of the lake; breeding suspected though not confirmed. Mongolian wetland site number 8 in Scott (1989).
16. Boon (Böön) Tsagaan Nuur (45°35'N 99°09'E), in the same valley lake system as locations numbers 8 and 13. A 'Birdquest' tour group observed seven adults on 2 June 1989, 12 adults on 3 June and five adults on 4 June (Beaman 1989, Hugh Buck *in litt.* 1990, Nigel Redman verbally 1991). It seems likely that in a species dependent on transient and unpredictable water conditions, a large proportion of adults will wander during the early summer, many probably failing to find suitable areas for

breeding. Mongolian wetland site number 26 in Scott (1989).

China (People's Republic of China)

17. Edsin Gol (Ejin River) (at Tsondol – 41°53'N 101°07'E, from Kitson 1980), Nei Mongol (Inner Mongolia) autonomous region. The type-specimen, a breeding plumage adult, collected on 24 April 1929 by Söderbom. The (western part of the) Edsin (Edzin) Gol is also called Qina He (Cheng 1987), Ruo Shui (*Times atlas of the world*; 7th edition, 1985) or Jo Shu (Kitson 1980). Kitson's (1980) locality number 1. Zhang and colleagues found 14 at the nearby Ejin Qi reservoir (= Sogo Nur?) on 12 August 1985 (see Zhang *et al.*, *Forktail*, this issue, for further details). "Hundreds" of passage or breeding birds were observed by Chinese researchers at Sogo Nur (Ju Yan Hai in Chinese) and Gaxun Nur (42°15'–42°30'N 100°15'–100°50'E, 14 km north of Ejin Qi – Scott 1989) in spring 1990 (Lu Jianjian verbally 1990); although no proof was obtained, breeding at this site was considered likely. Chinese wetland site number 1 in Scott (1989).
18. Dagu (Taku, Takou etc.) (38°59'N 117°41'E), Tianjin municipality – situated on the Gulf of Bohai. It lies just south of Tanggu (also transliterated as 'T'ang-ku or 'Tang'ku') (39°01'N 117°40'E), which is the main port serving the city of Tianjin (T'ien-ching, Tientsin); in between Dagu and Tanggu lies the estuary of the Hai He, although Swinhoe (1861) refers to the river as the Pei Ho (Pai Ho, Bai He) which according to the current gazetteers is a tributary of the Hai He meeting in Tianjin. Several Relict Gull specimens obtained here have been unearthed in the Zoological Institute of the Academy of Sciences in Leningrad: first-year 28 (29?) October 1934, first-year 8 April 1935, probable second-year 9 April 1935 (reported by Neufeldt and Wunderlich 1980, Ben King – Melville 1984, Cheng 1987, Il'ichyev and Zubakin 1988); the last specimen was originally reported as an adult by Auèzov (1971). In addition M.D.W. found in the Institute of Zoology, Academia Sinica, Beijing (IZASB), two adults collected near Tanggu 8 April 1935 and 9 April 1935 (IZASB nos 03406, 03410). Because of the correspondence of dates of the specimens reported by King with the others given it seems certain that King's location '"Tang-zing', southeast of Beijing municipality and near the coast" (Cheng 1987) is in fact Tanggu, near Tianjin. It seems probable that most of these specimens were secured on one collecting expedition, and this series may indicate that the species was present here at some density on 8 and 9 April 1935. Kitson's (1980) locality number 2.
19. Miyun (Ming Tombs) reservoir (40°30'N 117°00'E – Scott 1989), Beijing municipality, north of the town of Miyun. Four breeding-plumage adults observed resting on mudbank, then flew off north-west, 10 April 1983 (A. Galsworthy verbally 1990). Chinese wetland site number 37 in Scott (1989).

20. Beidaihe Haibin (Pei-tai-ho Hai-pin, Beidaihe Beach) (39°49'N 119°30'E), Hebei province, on the Gulf of Bohai. Many individuals (up to seven a day) observed on passage between 1986 and 1989, mostly first-winter birds in the autumns of 1986 and 1987 (Bakewell *et al.* 1989). Chinese wetland site number 40 in Scott (1989).
21. Wulianxu Hai (Nur) (40°45'N 108°48'E), alternatively 'Ulansuhai Nur', 'Wu-liang-su-hai', Nei Mongol autonomous region. Numbered specimens from this site and also from sites number 22–24 refer to skins found by M.D.W. in the Institute of Zoology, Academia Sinica. Here one adult was collected 16 April 1987 (IZASB no 871035); Zhang and colleagues had found two flocks of 16 and 19 here on 15–16 April 1987 (see Zhang *et al.*, *Forktail*, this issue, for further details). Chinese wetland site number 2 in Scott (1989).
22. Dongsheng (Tung-sheng) (39°49'N 109°59'E), in the Ordos desert, Nei Mongol autonomous region. Two adults collected 29 April 1987 (IZASB nos 871001, 871002; Zhang and colleagues had found flocks of nine and over 100 individuals at Boerjiang Nur (39°45'N 109°20'E – approximate coordinates from the International Map of the World 1:1,000,000 series [relevant sheet compiled by Defense Mapping Agency, Topographic Center, Washington DC, 1975] of the lake next to the settlement 'Po-erh-chiang-hai-tzu') on 28–29 April 1987 and the nearby Hongjian Nur (not found on available maps) on 6–7 November 1989 respectively (see Zhang *et al.*, *Forktail*, this issue, for further details). Zhang and co-workers have since found breeding colonies at Boerjiang Nur (a salt-water lake) totalling 581 nests (He Fen-qi *in litt.* to Carol Inskipp 1990) and further studies on these are continuing.
23. Kangbao (K'ang-pao) (41°52'N 114°51'E), Hebei province. Adult collected 19 June 1953 (IZASB no 16816). Immature (probable second-summer) obtained 2 July 1953 (IZASB no 16815).
24. Shangdu (Shang-tu) (41°33'N 113°31'E), Nei Mongol autonomous region. Two immatures (probable second-summer) collected, one 31 July 1953, one 2 August 1953 (IZASB nos 16817, 16818).
25. Wulantuge (probably also 'Ulantuge', 'Ulantoke'), Nei Mongol autonomous region. Not found on the maps available to us, grasslands north of Hohhot. Goodwin (1987) saw 14 adults here at a small lake on 31 May 1987 and only three the next day. Directions from Samagalski *et al.* (1988): '90 km north of Hohhot, over Daqing Mountains, through Wuchuan County, veer left', and more specifically from Goodwin: '10 km NE of Zhaohe' (not found). There is a Wu-la Hu-tu-k'o (Wulahutuge) at 42°30'N 113°10'E, from U.S. Army Map Service 1:250,000 sheet (1945), near, NE from, a place Chu-jih-ho (alternatively 'Jurh'; = 'Zhaohe'?) at 42°25'N 112°50'E, which is probably too far east, since 90 km in a straight line due N of Hohhot corresponds to about 50' increase in latitude; i.e. to about 41°35'N. Wuchuan County (Hsien) is due N of Hohhot.

26. 'Gegentala', Nei Mongol autonomous region. Not found on the maps available to us. It is a grassland, north of Hohhot (Huhehaote/Hu-ho-hao-t'e) 40°47'N 111°37'E. Per Alström (U. Olsson *in litt.* 1988) saw a single adult bird 27 May 1988. 'Tal', 'tala', in Chinese, is the Mongolian for 'steppe', 'plain' or 'grassland', and there is a yurt called 'K'o-k'o-erh-kang' ['Gege(?)erjang' in Pinyin?] at 41°55'N 108°35'E, which might be related but is probably too far west.
27. Dasugan Hu and Xiaosugan Hu (38°52'–39°12'N 94°00'E–96°06'E – Scott 1989 – Chinese wetland site number 167), Qinghai province. Relict Gulls reported wintering here 1989/1990 (Lu Jianjian verbally 1990). Altitude 2,795–2,810 m (Scott 1989).
28. Kekamkyi (Karamay) Lake (45°35'N 85°00'E – Scott 1989 – Chinese wetland site number 180), Xinjiang Uygur autonomous region. The species was reported here in spring 1990 (Lu Jianjian verbally 1990).
29. Luanhe Kou ('Kou' = estuary) (Lwan-Ho K'ou) (39°22'N 119°15'E), Hebei province. M.D.W., S. J. Holloway and J. H. Christensen saw one first-winter on 28 October 1990. Chinese wetland site number 41 in Scott (1989) – N.B. not Luanhe 'Kon'.
30. Daqing He ('He' = river) (Ta-Ch'ing Ho) estuary (39°06'N 118°53'E), Hebei province. Like sites 18, 20 and 23, located on the shores of the Gulf of Bohai. M.D.W., S. J. Holloway and J. H. Christensen saw 12 adults on 13 November 1990.

Hong Kong (Xianggang)

31. Mai Po Nature Reserve, near the village of Mai Po (22°29'N 114°03'E). One first-winter seen by P. Kennerley and M. Turnbull on 31 December 1987, also seen by M.T. on 2 January 1988 (P. Kennerley *in litt.* 1988; Picken 1990). Hong Kong wetland site number 1 in Scott (1989), incorporating Deep Bay marshes.

Japan

32. Kishiwada (City) (34°28'N 135°22'E), Osaka prefecture. One first-winter photographed by T. Kimura and H. Hirota on 30 September 1984 (Anon. 1988).
33. Hiratsuka (City) (35°19'N 139°21'E), Kanagawa prefecture. One first-winter photographed 2 January 1985 was initially identified as a Ring-billed Gull *Larus delawarensis* (Ishie *et al.* 1986).

Republic of Korea (South Korea)

34. Ch'ongch'o lake (38°12'N 128°36'E), Sokch'o, Kang-Won-Do. The photograph published by Yoon (1989) as Saunders's Gull *Larus saundersi*, taken on 8 February 1988 (Park Jin Young *in litt.* 1990). South Korean wetland site number 1 in Scott (1989).
35. Naktong (Nakdong) estuary (35°07'N 128°57'E). Three adults and five

first-winters photographed on 1 January 1990 (Plate 3), and *c.* 40 were seen on 19 March 1990 including 20 adults in summer plumage (Anon. 1990). South Korean wetland site number 19 in Scott (1989).

Viet Nam

36. Baie d'Along (20°58'N 107°05'E – co-ordinates from International Map of the World 1:1,000,000 series – see discussion of location later), Quang Ninh (Kuang-nin) province, now Quang Ninh-Tinh (centre – 21°15'N 107°20'E). One ringed at Lake Alakol' on 3 June 1971 as a 1–5 day-old chick, recovered here on 30 September 1971 (Auèzov 1974). Kitson's (1980) locality number 7.

HOW WAS THE SPECIES OVERLOOKED?

Until the breeding grounds of Relict Gull were discovered in 1968, over a century of ornithological investigations in central and eastern Asia had failed to appreciate the existence of the species. This is quite remarkable; Vaurie (1962) thought the possibility of a well differentiated species surviving undiscovered so remote as to render specific status for Söderbom's type-specimen almost impossible. Nevertheless, an appraisal of some of the historical literature with the benefit of hindsight gives us some clues as to how this might have happened.

Relict Gulls occur with some frequency at Beidaihe, Hebei province, China, on spring and autumn passage (Bakewell *et al.* 1989). The avifauna of the north-east Hebei coast was extensively studied by La Touche (1921), Wilder and Hubbard (1924) and Hemmingsen (1951, 1968) in the first half of this century. Assuming that this occurrence of Relict Gull is not a new phenomenon it seems surprising that the presence of an unusual gull can have been missed by these careful observers. However, on reading these accounts it becomes apparent that interest in gull species was lower than that in many other groups of birds. As a result of such lack of interest field identification of gulls has generally developed more recently than that of many other groups (Grant 1986). Examples of this rather dismissive attitude to larids are widespread in the literature. One such is provided by La Touche (1921), who failed to obtain absolute proof that Mew Gulls *Larus canus kamschatschensis* occurred at Qinhuangdao, even after many years collecting there – 'I have seen one Common [Mew] Gull hanging in the market, and noticed medium sized Gulls about the harbour and the coast which were doubtless of this species'. We found them to be common, much more so than *L. relictus*, at Beidaihe, only 20 km to the south (Williams *et al.* in prep.).

Nevertheless, inspection of the Beidaihe literature yields one or two intriguing possibilities. First-winter Relicts are superficially similar to immature Mew Gulls (Bakewell *et al.* 1989), and Hemmingsen (in Hemmingsen and Guildal 1968) writes 'I have seen together with the adults

[Mew Gulls] in the spring what were probably young of the same species with a *narrow* black tail band, bills darker at least towards the tip, and *dark legs*' [our italics], suggesting Relict. However, it seems probable that most historical confusion has been with the similar Brown-headed Gull *Larus brunnicephalus*, another 'hooded' gull larger than Common Black-headed *L. ridibundus*. In their field guide to the birds of north-east China, Wilder and Hubbard (1938) describe Brown-headed Gull as being similar to Black-headed, but with the two outer wing-feathers largely black, instead of white – this could, however, fit immature Relict Gull as well. Hemmingsen did not record Brown-headed Gull at Beidaihe, but Wilder and Hubbard (1924) recorded 15, one collected, on 18 January 1923. This specimen may rest in one of several institutions in China (Wilder and Hubbard 1924). In addition they report the observation of one on 21 April 1923 'but with some doubt as to identity'. This date coincides well with recent spring observations of *relictus* at Beidaihe – 19, 20, 25 April 1988 (R. Thorpe verbally 1988), and 3 April to 11 May 1989 (Holt and Marshall 1989).

Shaw (1936) describes the Brown-headed Gull in Hebei as being 'a regular passage migrant, and a summer visitor between the months of April and October, frequenting the sea coast and the mouths of large rivers'. His description of adult birds fits *brunnicephalus*, but this may well have been taken from Saunders (1896) as the text is similar. That of the immature birds, though, suggests Relict Gull – 'the hood pure white, ... hind head and hind neck spotted with brown ...'. Moreover, the drawings from specimens are undoubtedly of Relict Gulls (Plate 1). The head of the adult bird shows the thick white eye-crescents mostly at the rear of the eye, and the bill blunter-ended than in *brunnicephalus*, with its more pronounced gonydeal angle. The three sketches from the young bird display the largely white head, two white outer pairs of tail feathers and single subterminal white mirror on the inner

Plate 1. Drawings of Relict Gull specimens misidentified as Brown-headed Gulls, from Shaw (1936). Heads of adult summer and first-year ('second year') birds are shown, together with outer primaries and (half) tail of (the same?) first-year bird.

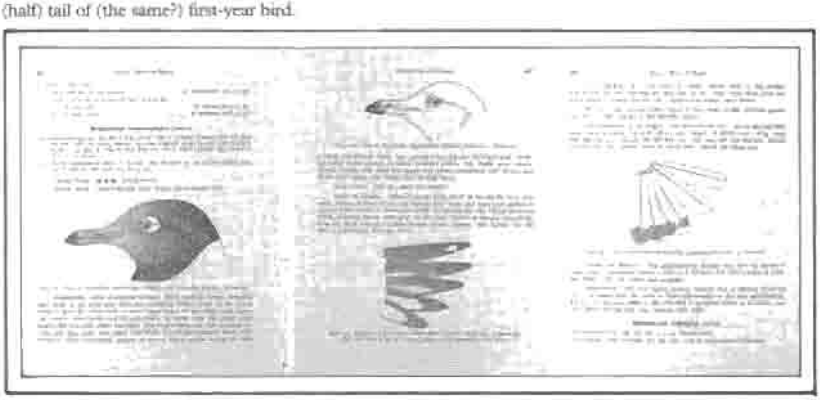
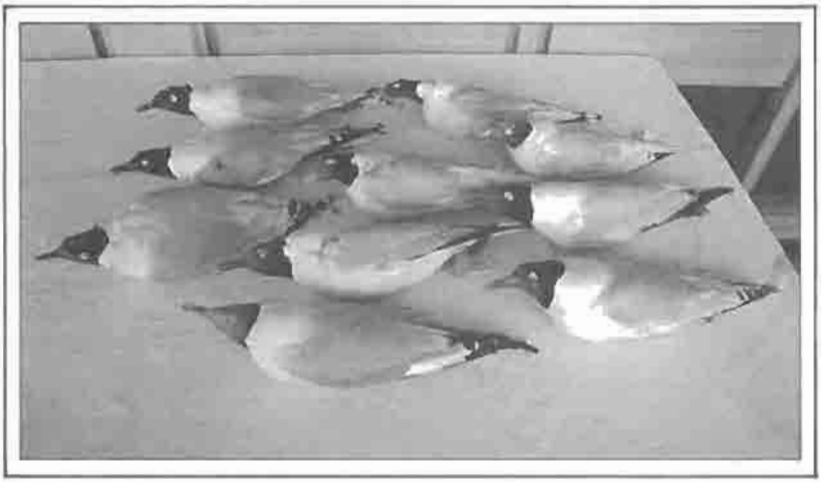


Plate 2. Specimens of Relict Gull, misidentified as Brown-headed Gull, from the collection of the Institute of Zoology, Academia Sinica, Beijing, together with a Brown-headed Gull (foreground) for comparison.



web of the outer primary diagnostic of young (juvenile and first-winter) Relict Gull (Auèzov 1971, Bakewell *et al.* 1989).

Prompted by these illustrations, M.D.W. examined the skins of *brunnicephalus* from the Institute of Zoology, Academia Sinica, Beijing, and discovered that several were Relicts (Plate 2). These birds were mostly adult and near-adult (separated by yellow-orange rather than deep-red bills; probably second, possibly first, summer). The nine specimens were all obtained in China, and gave rise to four new localities for the bird (listed above, location numbers 21–24) in Hebei province and Nei Mongol (alternatively Nei Menggu; formerly Inner Mongolia) autonomous region. Zhang and colleagues had found Relict Gulls at some of these and other sites (Zhang *et al*, *Forktail*, this issue) and have since located a large breeding colony at one of these localities (Boerjiang Nur – location number 22 above).

CONFUSION WITH BROWN-HEADED GULL

It seems likely that such confusion with *brunnicephalus* is the main reason for the historical failure to appreciate the existence of *relictus*, as *brunnicephalus* is the Central Asian gull species most similar in breeding plumage; separation of the two in the field in discussed by Zhang *et al*, *Forktail*, this issue, and photographs of summer plumage adults of the two species are reproduced in Knystautas (1987: 155 and 208). Indeed when the breeding colony at the Torey lakes in Transbaikalia was discovered, the birds were initially identified

as *brunnicephalus* (Leont'yev 1968 reported by Auèzov 1971). The measurements overlap extensively (Kitson 1980), and the wing-pattern, probably the most striking plumage difference in adult birds, is not immediately apparent in a normally prepared study skin, and is anyway confused by the presence of subadult birds.

Mongolia is the centre of the breeding distribution of Relict Gull, and it is likely that any *brunnicephalus* breeding records from here in fact refer to *relictus*. Brown-headed Gulls breed between 3,000 m (3,500: Vaurie 1965) and 5,000 m in Ladakh, Tibet and the Pamirs (Auèzov 1971, Neufeldt and Wunderlich 1986), which would seem to define an altitudinal separation between the two species, as Relict Gull has not so far been recorded breeding above about 1,500 m (approximate altitudes for the known breeding sites, from the *Times atlas of the world* [seventh edition, 1985], are 340 m: Alakol'; 339 m: Balkhash; between 500 and 1,000 m: Torey lakes; between 1,000 and 1,500 m: Tatsain Tsagaan Nuur; around 1,500 m: Boerjiang Nur). On this basis most of Mongolia would appear to be suitable as a breeding ground only for *relictus*. Allopatry for these two species is also proposed by Isenmann (1977). However, there is confusion in the literature on this point. Saunders (1896) reports no Brown-headed Gull skins in the British Museum taken from north of Koko Nor (Qinghai Hu) and states that the species is 'never found on the coast of China, nor even beyond the Upper Hoang-ho [Huang He] valley', but asserts it to breed in Mongolia. This latter statement refers to Mongolia defined by the old boundaries to include that part of China presently known as Nei Mongol autonomous region (the former Inner Mongolia), and the assertion of breeding, repeated by Dresser (1902), Hartert (1910) and Dwight (1925), almost certainly refers to Nei Mongol (see later). Vaurie (1964) does not include *brunnicephalus* at all in his list of the birds of Mongolia (under the present definition), even as a non-breeding visitor. Stubbe and Bolod (1971) describe its status in the country as unclear, but write that winter records are entirely feasible. C. Harrison (1982) does not incorporate Mongolia in his map of the breeding range, but P. Harrison (1985) is in error in depicting the species nesting right across Mongolia as far as Lake Baykal.

If there were no records of *brunnicephalus* in Mongolia prior to Vaurie's (1964) survey, then how was *relictus* overlooked there? Visual observations could have mistaken breeding Relict Gulls as Common Black-headed or Great Black-headed Gulls, the hood of Relict being somewhat darker than that of Brown-headed Gull. Kozlova (1932) collected over 2,400 bird specimens in Mongolia on three expeditions (Vaurie 1964), and spent March to June 1926 at Orok Nuur (a recent locality for Relict Gull – see above location number 8), without recording '*brunnicephalus*', but she writes (1932: 583) of Great Black-headed Gull: 'I noted this Gull on the spring migration ... They were very shy, and kept far from the shores, on the open waters of the lake'. In such gatherings Relict Gull could have been missed. Kozlova had observed Common Black-headed Gulls only on passage at the lake, reporting that they left the region in May, none remaining to breed (see Kitson 1980).

In contrast, the Mongolian-German Biological Expedition claimed breeding Common Black-headed Gulls at both Orok Nuur and Boon Tsagaan Nuur in June 1962 (Piechocki 1968, Fischer 1970); nevertheless, Piechocki gives wing and tail measurements from birds at Boon Tsagaan Nuur which fall outside the ranges given by Kitson (1980) for Relict Gull, and which are indeed consistent with Common Black-headed Gull. As Tarasov's June 1957 specimen of Relict Gull from Ihes Nuur in the Gobi-Altai (location number 10 above) had been misidentified by the collector as a Common Black-headed Gull (Piechocki *et al.* 1983), his statement (Tarasow 1962, reported in Stubbe and Bolod 1971) that Common Black-headed Gull breeds in this region suggests that he may well have seen breeding Relict Gulls at this locality. Records of Relict Gull from Mongolia were summarized by Piechocki (1983, reported in Stephan 1988).

Zheng (Cheng 1987) gives only two records of Relict Gull for China, those listed by Kitson (1980). He limits the breeding area of Brown-headed Gull in China largely to the Qinghai-Xizang plateau, but also includes the western part of the Xinjiang Uygur autonomous region (source unknown); in addition he describes the species as a migrant through Gansu (north-western part: Ruoshui river), Sichuan province (eastern and south-western parts), Shanxi and Hebei provinces. Meyer de Schauensee (1984) has no extra information. David (in David and Oustalet 1877) wrote that he had encountered *brunnicephalus* frequently in China and Mongolia (Nei Mongol), and it is the latter region from which originated the specimens sent to the Paris museum. In this account, the two species *ridibundus* and *brunnicephalus* are treated separately, and distinguishing field characters given. However, comparison of David (1871) with David (1867) shows that reference to *Larus ridibundus* in 1867 has been replaced by that to *Xema brunneicephalum* by 1871, suggesting strongly that David merely reassigned his records of Common Black-headed Gulls at this earlier time. F. Roux (*in litt.* 1990) can only locate two gull specimens collected by David in the Muséum National d'Histoire Naturelle in Paris, and both of these are Common Black-headed Gulls; only one of these came from Nei Mongol and this had been misidentified as Brown-headed. Nevertheless, it would be remarkable if David had not encountered Relict Gull, as he travelled through the Huang He basin in the vicinity of the Ordos desert in summer, and collected extensively on the coast at Dagu (site number 18 above) during autumn and winter. It is stated in David and Oustalet (1877, in translation): 'The Brown-headed Gull, of stature a little more robust than our Common Black-headed Gull, resembles it greatly, but distinguishes itself by the shade and dimensions of the hood, which in summer livery is a sooty brown and covers all the head and the major part of the neck'. Both the colour and extent of the hood are more descriptive of Relict Gull than of Brown-headed Gull (see illustration in Vaurie 1962). Swinhoe (1861) had also visited Dagu and surrounding areas in autumn, but his 'Gull *Gavia–?* A species with red bill, black towards the tip, and orange-ochre legs; somewhat allied to *G. ridibunda.*' is probably only *L. ridibundus*, as that species does not otherwise appear in his list of birds recorded. Licent (in Kiyosu 1959) claimed

L. brunnicephalus from southern Shanxi during April and May, but with no indication given of breeding.

It is tempting to assume that even the non-breeding records of Brown-headed Gull north and east of Qinghai Hu are in fact of Relict Gull. However, the situation regarding the misidentification of Relict Gull as Brown-headed in China, U.S.S.R. and Mongolia is confused by the fact that *brunnicephalus* has recently been shown indeed to occur north and east of its normal range, Mongolia included. As already mentioned it is known to breed from Qinghai Hu west to the Pamirs and south to Tibet and Ladakh, and winters south to India and Indochina (Vaurie 1965). Nevertheless Brown-headed Gull has been recorded at Beidaihe in the last few years (one adult 19–30 April 1988 and one adult 18 April 1989). The species was recorded in late May/early June 1987 at the Wulantuge grassland in Nei Mongol, China (Goodwin 1987). Three were seen at Boon Tsagaan Nuur in Mongolia on 3 June 1989 (Beaman 1989, Hugh Buck *in litt.* 1989, Nigel Redman verbally 1991). There is a record of Brown-headed Gull from Lake Khanka on the border between Heilongjiang province and the Soviet Far East on 7 July 1949 (Vaurie 1965, Il'ichyev and Zubakin 1988), but of course this might be a Relict Gull, as it pre-dates the validation of this latter species, although it appears to be somewhat out of range for both gulls. Zhang *et al.*, *Forktail*, this issue, have seen considerable numbers of Brown-headed Gulls passing through Nei Mongol in association with Relict Gulls. Hence, although Brown-headed Gull obviously occurs on passage through Mongolia and the northern regions of China to the Bay of Bohai, there is no evidence for it breeding in this area, unlike the Relict Gull. As is still largely the case with the Relict Gull, the wintering areas of those Brown-headed Gulls passing east from their breeding grounds are not yet known.

Although the Gobi was fairly well collected by the great Russian expeditions (Vaurie 1962), many of these journeys to the Tibetan plateau, such as those by Roborovski (Anon. 1896) and Kozlov (Kozloff 1902), crossed the sandy wastes in late winter/early spring, allowing access to the high altitude areas during late spring and summer. They may have been in the breeding grounds of Relict Gull too early in the spring for significant numbers of the birds to be back at the colonies; passage at Beidaihe is around mid-April, as already stated, although the first birds back at the Dzhungarian Gate near Lake Alakol' in one year arrived as early as 31 March (Il'ichyev and Zubakin 1988). But it is surprising that Kozlov failed to obtain *relictus* or '*brunnicephalus*' when he collected in the area of the type-locality, Edsin Gol and Sogo Nur, from March to June 1908, 21 years prior to Söderbom's discovery (Kozloff 1908, Kozlova 1932); large numbers of Relict Gulls have recently been recorded here (see above, location 16). Such observations tend to confirm that Relict Gull is generally scarce, and unpredictable in its breeding locations (Zubakin and Flint 1980). Xinjiang (Uygur autonomous region) lies between Edsin Gol and lake Alakol', but no sightings of the species were made on a recent extensive late-summer expedition through the region, even though post-breeding Brown-headed Gulls were frequently recorded; however, many small

lakes were passed by without being surveyed, due to the logistics of travel (Dissing *et al.* 1989).

Przhevalskiy made several expeditions across the Central Asian deserts, but his collection was never properly documented (Stresemann *et al.* 1937–1938, Vaurie 1972, Meyer de Schauensee 1984). It may be that some Relict Gulls are within his collection, although Kozlova (1932) had access to all his, and Kozlov's, specimens, and mentions no Brown-headed Gulls nor peculiar types for Mongolia and central Gobi, apart from the original '*L. melanocephalus relictus*' of Söderbom. However, the birds recorded on Przhevalskiy's first expedition are well described (Prjevalsky 1877–1878). He writes (in translation – 1878, 3: 110) of *L. brunnicephalus*: 'They breed plentifully on the lakes of the Hoang-ho valley', which is defined (1878, 3: 147) as being the area of the Ordos desert (in Nei Mongol), where the recent discovery of breeding Relict Gulls at Boerjiang Nur was made. It is therefore very likely that here at least Przhevalskiy observed breeding Relict Gulls.

Przhevalskiy's second expedition was to the Lob (Lop) Nur area and Tarim (Taklimakan) Basin in the deserts of Xinjiang. Lob Nur must have been a highly likely breeding area for Relict Gull, at an altitude of only 780 m, but is now the site of China's nuclear weapons testing; it is now reported to be dry (Scott 1989). An intriguing observation is that by Stegmann (1935), who in the Museum of the Academy of Sciences, Leningrad, examined five adult hooded gulls from Lob Nur and Kashgar, Xinjiang, collected (by Przhevalskiy?) in the months of February, March and May. He identifies these as *ridibundus* × *brunnicephalus* hybrids, and uses this to assert conspecificity of these two species – although as Vaurie (1962) points out, incidences of hybridisation between good gull species are now well established. The two sets of outer primaries chosen for illustration do indeed appear intermediate between the two species, and Stegmann further adds 'In some examples the pattern on the primaries is even asymmetric, that is to say, the right and left are quite different' which would support the hybrid theory. Nevertheless, as breeding grounds of the two species are geographically distinct, although not perhaps as widely separated as suggested by Vaurie (1962), such individuals cannot be common, and it seems rather improbable that this set of five birds did not contain any Relict Gulls. Indeed *relictus* × *brunnicephalus* may be as likely as *ridibundus* × *brunnicephalus* . He also writes 'The hood is darker brown than in *brunnicephalus*, yet a neckband, even if weakly marked, is usually present'. By 'neckband' one assumes he means posterior-hood-band in this context, rather than the area of brown streaking round the base of the neck present in immature Relicts. The description of the hood would thus be exactly right for breeding plumage Relict Gull. Also the illustration of at least one of the outer-primary patterns supposedly intermediate between Common Black-headed and Brown-headed Gull is not inconsistent with the description of a second-summer Relict Gull from Dagu, China (Il'ichyev and Zubakin 1988).

APPARENTLY EXTRALIMITAL RECORDS OF RELICT GULL

There are now several records of Relict Gull from outside the core area of northern China, Mongolia and adjacent U.S.S.R. (see Figure 2). The first such record was of a bird ringed as a pullus at the breeding colony at Lake Alakol' and recovered three months later on 30 September 1971 at 'lake Bai-ti-long', Kuang-Nin (Quang Ninh, now 'Quang Ninh-Tinh') province, in northern Viet Nam (Auèzov 1974, Il'ichyev and Zubakin 1988). However, in the maps and gazetteers of the American Military Survey for Viet Nam there is no lake called 'Bai-ti-long', or anything similar, nor could Kitson (1980) find this lake on the maps available to him. In the Quang Ninh area, north of Haiphong, there is, though, a coastal bay containing a sizeable estuary called (in French) 'Baie d'Along'. This would seem to be almost certainly the actual location. This would imply that the bird could well have been in the same sort of estuarine habitat that Relict Gulls frequent at Beidaihe in September (Bakewell *et al.* 1989).

The field identification of first-winter Relict Gull has only recently been established (Bakewell *et al.* 1989). It is therefore not surprising that birds in this plumage have even recently been misidentified. Photographs of two (or possibly the same) first-winter Relict Gulls from Japan have recently come to light. The first was photographed at Kishiwada, Osaka prefecture, on 30 September 1984, by T. Kimura and H. Hirota (Anon. 1988), and belatedly claimed as Relict Gull (Wild Bird Recording Committee of Japan 1989). The second was photographed 400 km north-east, at the mouth of the Sagami river, Hiratsuka, Kanagawa prefecture on 2 January 1985. This was initially claimed as Japan's first Ring-billed Gull *L. delawarensis* (Ishie *et al.* 1986), but later rejected in favour of Mew Gull *L. canus brachyrhynchus* (S. Usui verbally 1989), before eventually being correctly assigned (Nakamura 1989). This nicely illustrates the confusion caused by progression of first-winter *relictus* towards the appearance of *canus* through the winter as the bare parts become lighter in colour (Bakewell *et al.* 1989; also Grant 1988).

Similarly there is a photograph from the Republic of [South] Korea (Yoon 1989), where a first-winter Relict Gull is captioned as a Saunders's Gull *L. saundersi*. This photograph was taken at Ch'ongch'o Lake in the north-eastern part of the Republic of Korea on 8 February 1988 (Park Jin Young *in litt.* 1990). There are no historical records of *L. brunnicephalus* from this country, but three incidences of *saundersi* collected in mid-winter (Gore and Won 1971). Recently there have been some exciting discoveries from Korea. A group of eight birds was found on 1 January 1990 on the Naktong estuary in the Republic of Korea, including three adults (Anon. 1990). About forty birds were seen at the site later in the winter, including many adults (see above).

On 31 December 1987 Peter Kennerley (*in litt.* 1988) and M. Turnbull saw a first-winter Relict Gull at Mai Po Nature Reserve, Hong Kong, also seen by M.T. on 2 January 1988 (Picken 1990). This remains the only record for the territory.

POSSIBLE WINTERING GROUNDS FOR RELICT GULL

Kitson (1980) suggested that the wintering area of Relict Gull 'may tentatively be thought of as lying between T'ien-ching [Tianjin] and Viet Nam in the East and South China Seas'. This still seems possible, at least in part, in the light of the more recent records; however, these do suggest that the centre of the winter distribution may lie to the north of that supposed by Kitson.

The Gulf of Bohai has been established as a major migration route for *relictus*. At Beidaihe, some first-winter birds linger well into November (Bakewell *et al.* 1989), so it seems probable that at least these birds winter not much further south than Beidaihe and Tianjin – maybe the Huang He estuary, as the southern part of the Bohai Gulf does not usually experience sea-freezing in winter. Adults have not been noted to linger at Beidaihe in this manner, and so may in general winter further south. However, it seems certain that the southern boundary for this wintering area must lie north of Hong Kong, otherwise the species would be frequently recorded at this well watched site (Melville 1984). Jiangsu in particular would appear to have large areas of coastal estuarine habitat similar to Beidaihe and would be eminently suitable. The Chiang Jiang (Yangtze) estuary is also an obvious possibility. However, La Touche (1931–1934) gives no hint of *relictus* (misidentified) or *brunnicephalus* being observed in winter on the east China coast. Also D.N.B. failed to locate any Relict Gulls in the collection of the Shanghai Natural History Museum.

Another possible wintering area would be the inland lakes of the Chang Jiang river valley, which contain massive areas (formerly even more extensive) of suitable sandy habitat. A significant proportion of these remains unsurveyed, despite the discovery of large numbers of wintering water birds (such as the flocks of Siberian Crane *Grus leucogeranus*) on some relatively small sections of Poyang Hu. There was, however, until very recently no indisputable evidence for Relict Gull wintering in China. The finding of a flock of over 100 birds by Zhang *et al.*, *Forktail*, this issue, still on the Mongolian plateau on the remarkably late date of 6–7 November 1989 raised the possibility that some gulls may winter inland at this more northerly latitude, although the U.S.S.R. colonies are completely deserted (Il'ichyev and Zubakin 1988). The report of birds in winter 1989/1990 on the northern flank of the Qinghai-Xizang plateau (Lu Jianjian verbally 1990; location number 26) seems to confirm this hypothesis, although as we have not managed to obtain full details, we do not know whether the possibility of passage has been fully ruled out. This record is the highest altitude, at 2,800 m, at which Relict Gull has been recorded; the second highest, in the absence of more specific information on locations 11 and 12, is Hujirt (location 14) which lies at less than 2,000 m (*Times atlas of the world*). It is interesting to note that three of the gull specimens discussed by Stegmann were obtained in February and March in the vicinity of Lob Nur. An examination of a map of mean January isotherms shows a band of less cold values (greater than –10°C) than those in surrounding areas which extends west from Nei Mongol autonomous region

encompassing the Tarim Basin and Lob Nur (Kopanyev 1981); the winter range might reflect such a temperature distribution. To speculate further, inland wintering might be facilitated by the very low precipitation in the deserts of Central Asia and the resulting lack of snow cover, which would render rodent prey much more accessible than in habitually snowbound areas of similar winter temperatures. Although rodents (mainly Brandt's Voles *Microtus brandti*) are rarely taken in the breeding season (Zubakin and Flint 1980), Relict Gulls inland in September have been recorded making extensive use of such prey (Il'ichyev and Zubakin 1988).

As well as heading south to escape the winter cold, there is also the option of heading east. The mean January air temperature in Beijing is around –5°C, whereas that on the south coast of Korea is between 0 and 5°C (Kopanyev 1981). The recent records from Korea (see above) represent the first significant coastal discoveries in the winter period, and suggest that Korea may form an important part of the non-breeding range. However, only a very small fraction of the known breeding population has been so far recorded in winter. Il'ichyev and Zubakin (1988) report that up to 2,200 pairs may breed in the U.S.S.R. and put a ceiling on the world population at ten thousand adult individuals – this latter figure now seems somewhat conservative in light of the recent reports from China.

One must be wary of reading too much into a single specimen record. Nevertheless it seems highly improbable that the bird recovered in Viet Nam could have made the journey via the Gulf of Bohai right round the coast of China to expire in Viet Nam at around the same time as the peak of the first-winter passage at Beidaihe. This suggests a direct overland route. If Viet Nam is a wintering area, then a direct route is almost certain bearing in mind the astonishing paucity of records from Hong Kong. To speculate further, it seems feasible that coastally wintering birds from the westernmost part of the breeding range, including Lake Alakol', could take this southern route, and winter in Viet Nam, and that those from the rest of the breeding range should travel via the Gulf of Bohai eventually to reach the coast of east-central China or Korea. Alakol' is not that much further from the Gulf of Tonkin than from the Gulf of Bohai, but to reach the former requires passing round, or over, Tibet and the Himalayas. The possibility yet remains, though, that the recovery from Viet Nam represents an accidental occurrence, particularly as the record was of a bird in its first winter. This also applies to the other outlying records from Hong Kong and Japan. No further records of the species have been forthcoming from Viet Nam.

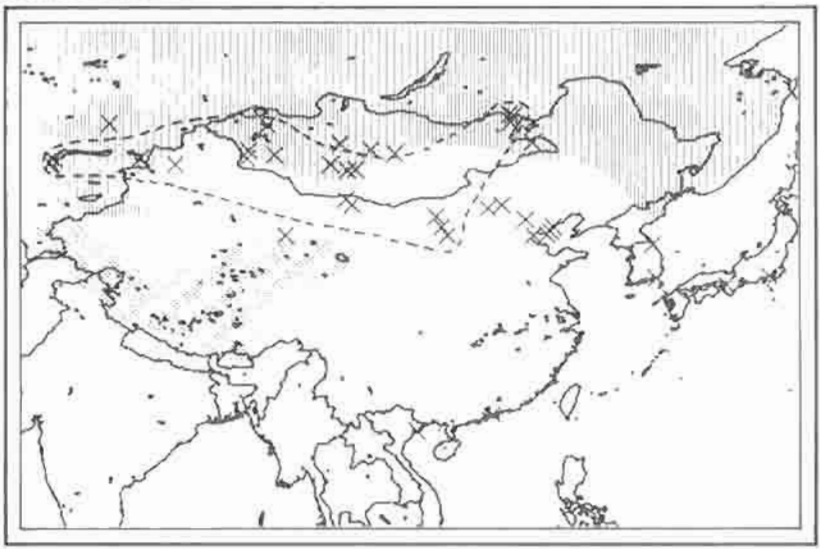
CONCLUDING REMARKS

The Relict Gull remains a poorly known species. The breeding biology and behaviour have been reported most extensively by Zubakin and Flint (1980), but also by Auèzov (1975, reported in Kitson 1980) and Zhuravlev (1975, reported in Kitson 1980), and are summarized by Il'ichyev and Zubakin

(1988). The species would appear to replace Brown-headed Gull in Mongolia and Nei Mongol autonomous region and adjacent areas. Although it overlaps with Common Black-headed Gull in northern Mongolia, over much of its range Relict Gull is the only breeding medium-sized 'hooded' gull. The probable breeding ranges of these three species in Asia are mapped in Figure 3; information on ranges of Common Black-headed and Brown-headed Gulls in Russia, Mongolia and China is from Il'ichyev and Zubakin (1988), Stubbe and Bolod (1971) and Cheng (1987) respectively, with additional reference to Neufeldt and Wunderlich (1986). The major extent of the wintering grounds of *relictus* are still unconfirmed, but appear most likely to lie along the southern part of the east-central Asian deserts (Ordos, Tarim, southern Gobi) and coastally from the Huang He delta south, and east to Korea.

Unlike *ridibundus* and most other gulls, Relict Gull shows very little tendency to scavenge around human establishments, and seems very specific to a particular habitat requirement when breeding, namely saline steppe lakes of highly fluctuating water levels (Il'ichyev and Zubakin 1988). Similarly on migration it does not seem nearly as adaptable in its feeding habits as the commoner gull species (Bakewell *et al.* 1989). This lack of adaptability may in part explain its comparative scarcity. The conservation of the species is discussed by Borodin (1984), Melville (1984) and Il'ichyev and Zubakin (1988), and that of some of the wetland localities by Scott (1989).

Figure 3. Proposed breeding range of Relict Gull (enclosed by dashed line). The approximate breeding ranges in eastern Asia of Common Black-headed Gull (hatched area) and of Brown-headed Gull (stippled) are also shown.



The plumages which have been so far described are: juvenile (Auèzov 1971, Kitson 1980, Harrison 1985, Il'ichyev and Zubakin 1988), first-winter (Bakewell *et al.* 1989, in the field; Il'ichyev and Zubakin 1988, from skins), first-summer (one individual only, in the field – Fisher 1985), second-summer (Il'ichyev and Zubakin 1988, from one skin) and adult summer (Auèzov 1971, Kitson 1980, Harrison 1985, Il'ichyev and Zubakin 1988). Photographs of birds in adult winter plumage, reproduced in Plate 3, have recently been obtained by Kimura *et al.* (Anon. 1990) and seem to show an all white head, *contra* Bakewell *et al.* (1989) who obtained brief notes on two birds seen much earlier in the post-breeding season; however, the extent of dark markings on the head in winter appears to vary, as M.D.W. recently photographed an adult bird in November with a small, dark spot behind the eye similar to that of a winter Slender-billed Gull *L. genei*.

The similarity of a range of plumage characteristics of Relict to Great Black-headed Gull, particularly the wing pattern in adults and the often pure white down of the young (but see Golovushkin and Osipova 1989), has suggested a close relationship between the two species. These morphological similarities are reinforced by recent descriptions of the plumage of first-winter Relicts (Il'ichyev and Zubakin 1988, Bakewell *et al.* 1989), from which the two species can be seen to share a largely white head and extensive brown hindneck streaking in this plumage – in which features they resemble non-'hooded' gull species. The Relict Gull thus appears to be one of the 'primitive'

Plate 3. Adult winter Relict Gull, Naktong river, Republic of Korea, 1 January 1990. Photo: M. Kamizono.

hooded gulls, placing it in the same group as Great Black-headed and Mediterranean, and distancing it from Common Black-headed and Brown-headed (Moynihan 1959), despite its superficial similarities to the latter. Potapov (in Mukhin 1974) writes (in translation) that 'here on these lakes [of Central Asia] this gull, with its limited range, as it were preserved itself and retained a much greater number of primitive features than the other [hooded] gulls mentioned. It seems likely that of all these relicts of [the prehistoric sea of] Tetiss, the new gull is closer than all the others to the original, ancestral form, and in this sense, the specific name chosen is a particularly apt one. This is indeed a relict gull, a relict of the vast inland sea of Tetiss ...'.

We have reported a remarkable case history for this recently clarified species, and have shown that it has been misidentified variously as one of at least six other gull species – Common Black-headed, Brown-headed, Mew, Saunders's, Ring-billed and Mediterranean – as hybrids and probably as Great Black-headed Gull as well. The bulk of confusion has been with Brown-headed Gull, and this appears in turn to have obscured the true status of this latter species, a situation doubtless confounded by the treatment of Brown-headed Gull for so long by some authors as merely a subspecies of Common Black-headed Gull (Stegmann 1935, Stubbe and Bolod 1971). Nevertheless, five breeding sites for Relict Gull have so far been confirmed. As the identification criteria are now becoming clearer, and given the increase of observer coverage in eastern Asia, it can only be a matter of time before the breeding and wintering distributions of this enigmatic gull are properly mapped. It is possible that events will come full circle, and the country containing the type-locality, China, will finally prove to be the most important for the species.

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