Phenotypic variation and systematics of Mongolian Gull

Pierre Yésou

In memory of Vladimir Vladimirovich Leonovich (1924-98)

Since Peter Grant's pioneering work (cf Grant 1982, 1986), the knowledge of the identification and phenotypic variation of the gull taxa belonging to the *Larus argentatus-cachinnans-fuscus* complex has dramatically increased in Europe. Initially, this progress benefited from studies conducted on breeding grounds where mixed gull colonies allowed the comparison of different taxa (eg, Dubois & Yésou 1984). Then, the development of colour-ringing schemes gave multiple opportunities to study the appearance of birds of known origin, sometimes at a great distance of the ringing site. Particularly remarkable was the case of Pontic Gull *L (cachinnans) cachinnans* of which the field characters were first established from birds ringed in Black Sea colonies and subsequently observed in Germany during the winter season (Klein 1994, Gruber 1995). However, because only a small number of birds at the limit of the species' winter range had been studied, the phenotypic variation found was not representative for the species. Therefore, further studies of birds on the breeding grounds were needed to describe in detail the phenotypic variation of this taxon (Klein & Gruber 1997, Liebers & Dierschke 1997).

The identification of the other taxa breeding in the former USSR remains far less easy as most descriptions, based on birds seen on the breeding grounds, are anecdotal (eg, Pleske 1928, Dement'ev 1951) or even disputable. (Unfortunately, according to knowledgeable Russian ornithologists, the review by Judin & Firsova (1990) is far from giving a reliable account of the *argentatus-cachinnans-fuscus* complex and will not be considered here.) Also, although the skin collection in the Natural History Museum at Tring, England, has been a reference for decades, it now suffers from the doubtful validity of the Meinertzhagen collection (British Ornithologists' Union 1997) and the erroneous labelling of some skins (Lars Jonsson pers comm). The collections in Russian museums harbour rich reference material but have rarely been visited by western gull students. Moreover, very few western observers have experience with the Asian taxa on their breeding grounds (eg, Liebers & Dierschke 1997, Yésou & Hirschfeld 1997).

Further, the identification of the Asian taxa at migration stopovers and on wintering grounds still remains speculative in many cases. For instance, birds looking as dark mantled as Lesser Black-backed Gull *L graellsii* used to be identified as Mongolian Gulls *L (c) mongolicus* in Hong Kong (Kennerley 1987) but are now called Taimyr Gulls *L (heuglini) taimyrensis* there as well as in Japan (Kennerley et al 1995, Hoogendoorn et al 1996) although the only Asian taxon with such a dark mantle is the western Siberian Heuglin's Gull *L (h) heuglini* (Yésou & Hirschfeld 1997). Detailed descriptions based on birds studied on the breeding grounds are available for only two Asian taxa, ie, Armenian Gull *L armenicus* (eg, Buzun 1993, Filchagov 1993, Liebers & Helbig 1999) and Baraba Gull *L (c) barabensis* (Panov & Monzikov 2000, who suggested that this taxon is a subspecies of *heuglini*), and are therefore still needed for the other Asian taxa.

In this article, the phenotypic variation of adult *mongolicus* is described and its systematic implications are discussed. It is mainly based on studies of birds in colonies at Lake Baikal, Siberia, Russia, in the spring of 1992 (24 May-30 June) and of skins at the Moscow Zoological Museum, the Zoological Institute of St Petersburg and the field station of the University of Ulan Ude in the Selenga delta, Lake Baikal. Moreover, I benefited from the experience and guidance of Sergey Pyzhianov who has been studying colonies of *mongolicus* at Lake Baikal for years (and who has developed an efficient trapping technique for ringing *mongolicus*, by putting α-chloraline baits at the nest), allowing me to visit all main colonies, except those in marshes at the north end of the lake, and to handle more than 150 adult birds.

Distribution and numbers

Mongolicus has a patchy breeding distribution, ranging from south-eastern Altai to north-eastern

85 Part of Bolshoye Toïnik, Maloye More, north-western Lake Baikal, Siberia, Russia, May 1992 *(Pierre Yésou)*. This island holds main colony of Mongolian Gull / Mongoolse Meeuw *Larus (cachinnans) mongolicus* (c 1000 pairs). Egg laying starts on c 5 May when ice still covers large parts of Lake Baikal. Temperatures of below 0°C regularly occur at night up to mid-June. Water surface temperature is still below 10°C by late June, except in some sheltered coastal bays **86** Mongolian Gulls / Mongoolse Meeuwen *Larus (cachinnans) mongolicus*, Maloye More, north-western Lake Baikal, Siberia, Russia, June 1992 *(Pierre Yésou)*

Mongolia and the western part of north-eastern China (Dement'ev 1951). The isolated breeding population of 'Herring Gulls' at Lake Khanka, situated at the border of easternmost China and Far Eastern Russia, has also been claimed to belong to this taxon (Pyzhjanov & Tupitsyn 1994) but no systematic study of this population has been published so far.

According to Pyzhjanov & Tupitsyn (1994) and Pyzhianov (1996), only 750-1200 pairs are breeding in Altai, western Mongolia and Tuva (Tuvinskaya) Autonomous Region. There are c 3600 pairs at Lake Khubsugul in northern Mongolia and c 7200 pairs at Lake Baikal. The lakes of Transbaikalya (Toresiskie Lakes) and north-eastern Mongolia and Hukun Nor in nearby China harbour 7500-10 000 pairs. The total population of *mongolicus* is estimated to be only 19 000-22 000 pairs (excluding the population of 'Herring Gulls' at Lake Khanka), ie, less than 100 000 birds (including immature and non-breeding birds). *Mongolicus* is clearly a scarce gull.

Birds ringed at Lake Baikal have been recovered on the Pacific coast of Russia in autumn, suggesting an eastward overland migration route after the breeding season (Sergey Pyzhianov pers comm). The entire population probably winters in coastal south-eastern Asia. *Mongolicus* has indeed been positively recorded in Hong Kong, Japan and South Korea (Kennerley et al 1995, Hoogendoorn et al 1996, Lethaby et al 2000). It has been claimed in Pakistan by Roberts (1991) who relied only on bare-part coloration, a character of little or no diagnostic value in this case (Yésou & Hirschfeld 1997). Therefore, the occurrence of *mongolicus* in western Asia remains undocumented.

Phenotypic variation

The original description of *mongolicus* by Sushkin (1925) is as follows: 'Above as *vegae* [Vega Gull *L vegae*], darker than *cachinnans* ([from] Kirghiz steppe and Lake Zaissan), feet pink, orbital ring vermilion-red; grey wedges of the inner webs of primaries shorter and darker than in *cachinnans* but lighter than in *vegae*. Wing male 462-480, female 442-450, tarsus 65-70, middle toe 52-58. From 8 specimens, South-Eastern Altai and NW Mongolia. Type: male ad., 9.VII.1914, Lake Uring-noor, NW Mongolia' (Sushkin's descriptions of new taxa are both in Russian and English).

Further details were given by Stegmann (1934). He studied 27 skins of adult birds and mentioned a wing-tip pattern darker than in *cachinnans* and closer to Birula Gull *L v birulai*, with black on the seven or eight outermost primaries and a subterminal black bar on p10 (primaries are numbered ascendently). The latter taxon was given the name *birulai* (Pleske 1928), in honour of the great sailor and Arctic explorer Birula, hence the male gender. Regrettably, many authors kept using the name '*birulae*', a misspelling by Stegmann (1934). *Birulai* is hardly differentiated from *vegae*, except for the variable leg colour and darker iris in some birds. It is treated as either a synonym of *vegae* or a subspecies of it (eg, Stepanyan 1990, Kennerley et al 1995, Yésou & Hirschfeld 1997, Panov & Monzikov 2000).

Thereafter, information on the phenotype of *mongolicus* remained scanty for a long time. Dement'ev (1951), in his review of the gulls of the USSR, simply stated that the plumage is similar to that of *vegae* and summarized Stegmann's (1934) description of the wing pattern. The most recent Russian systematic review (Stepanyan 1990) was even more anecdotal: 'mantle colour a little darker than in *cachinnans*, leg colour varying from pink-grey to yellow'. In his review of the variation of the Palearctic large white-headed gulls, Devillers (1983) simply mentioned a mantle similar to or darker than that of Yellow-legged Gull *L michahellis*, with more black on the primaries.

Then, western pioneers began to visit the breeding grounds of *mongolicus*, in particular Steve Madge. He described the iris as 'definitively' dark (Madge 1983), before acknowledging that the iris in fact varies from almost white to very dark (Madge 1985). Also, he found the legs to be fleshy-pink in most adult birds (Madge 1985). Grant (1986) mentioned that birds seen in Mongolia were pink legged, some yellowish legged, and seemed to have a dark iris.

Lastly, Pyzhianov & Tupitchyn (1992) published a short article, unfortunately hardly accessible to western gull students, that is the most detailed publication on the phenotypic variation of *mongolicus* to date. They mostly focused on leg colour which varied from pink to yellow and orange, none of these colours occurring in more than half of the adult birds at any of their study plots. Further articles on Asian gulls (eg, Kennerley et al 1995, Yésou & Hirschfeld 1997) were no more informative, with the exception of Panov & Monzikov (2000) who gave information on the wing-tip pattern of *mongolicus*.