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## Ornithology in China: an update

JEFFERY BOSWALL

This paper supplements an earlier one (Boswall 1986a) by summarising two Chinese reviews of Chinese ornithology covering 1950-1979 and 1950-1983 respectively. It also draws attention to other recent work and to recent books, including an important one on the endangered waterbirds of Poyang Lake. Ringing is briefly mentioned and the training of Azure-winged Magpies *Cyanopica cyana* to take pine moths described. Lastly, recent work in China by foreigners is reviewed.

### NEW SOCIETY

The Beidaihe Birdwatching Society was launched on 25 October 1988 by Martin Williams with the support of Hsu Wei-shu. It will have local, student and foreign membership (Anon. 1988). Beidaihe is on the coast of the Gulf of Bohai where migration studies have been undertaken in the 1940s and since 1985 (see Williams *et al.* 1988).

### RECENT BOOKS

Cheng's enormous volume *A synopsis of the avifauna of China*, which takes account of the literature till the end of 1982, appeared in 1987. It lists 1,186 species compared with the 1,200 of Meyer de Schauensee (1984), and a summary of some of the differences is included in a postscript.

Other recent major works include *The avifauna of Guizhou* (formerly Kweichow) by Wu *et al.* (1986), a hardback volume in Chinese that results from a ten-year survey apparently completed in 1983, dealing with 417 species. Two paperbacks on a familiar theme are *Beneficial birds in forestry* by Ying (1987) and *Protecting and attracting beneficial birds* by Yuan *et al.* (1987). More significant is a collection of 41 papers mostly with generous English summaries, *Crane research and conservation in China*, edited by Ma (1986).

A second assembly of writings, with no English summaries, is called *A report on rare migratory birds* (Anon. 1987). Copies of the book, 5,000 of which were printed, are not officially allowed to leave China, but persons interested could try writing to the Jiangxi Nature Reserve Management Officer (Beijing West Road, Nanchang, Jiangxi, China). It summarises several years' work at the now internationally famous Poyang Lake Migratory Bird Reserve on the middle reaches of the Changjiang (Yangtze) River, where, in the 1980/1981 winter, a wintering population of Siberian Cranes *Grus leucogeranus* was discovered. Chapter 5 by Liu Zhiyong, Chen Bin and Huang Zuyou deals with this bird, and Chapter 6 by Chen Bin, Liu Zhiyong and Tao Fuzhong with the Siberian Crane's close associate, the White-naped Crane *G. vipio*. Chapter 7 treats Hooded and Common Cranes

*G. monacha* and *G. grus*, (authors: Liu Zhiyong and Chen Bin and Wang Zuoyi [sic]), Chapter 8 by Chen Bin and Zhou Xiaohua covers Oriental White Stork *Ciconia (ciconia) boyciana*, and Chapter 9 by Liu Zhiyong and He Xuguang, the Black Stork *C. nigra*. The last chapter covers the numbers of anatids wintering on the reserve, notably Bewick's Swan *Cygnus bewickii*, Greater White-fronted Goose *Anser albifrons*, Swan Goose *A. cygnoides*, Bean Goose *A. fabalis*, Ruddy Shelduck *Tadorna ferruginea*, Northern Pintail *Anas acuta*, Spot-billed Duck *A. poecilorhyncha*, Mallard *A. platyrhynchos*, Common Teal *A. crecca*, Northern Shoveler *A. clypeata*, Baikal Teal *A. formosa*, Falcated Duck *A. falcata*, Goosander *Mergus merganser*, Smew *M. albellus* and Greater Scaup *Aythya marila* (authors: Zhou Xiaohua, Liu Zhiyong and He Xujiang [sic]). The opening five chapters are more general in character, dealing with the geography, climate, fresh water, and human social economy of the area, the vegetation, shellfish resources and avian species seen at all seasons since 1981. (These total 148 of which 60 nest and 69 are water birds; the list contains some surprising omissions, compared with the observations of Don Messersmith, Martin Williams, Peter Kennerley and myself.) The reserve is in three separate but proximate parts and totals nine lakes and 22,400 ha. It has rightly attracted much international attention as perhaps the most important wetland in eastern Asia. Most of the world's Siberian Cranes winter there, as do significant proportions of the global populations of White-naped Crane, Oriental White Stork and Great Bustard *Otis tarda*, as well as hundreds of thousands of wildfowl of twenty-four species.

A work edited by Xiang (1986), *Scientific survey reports on Lake Cao Hai, Guizhou, China*, runs to 282 pages. Cao Hai Lake in south-central China (27°N 104°E) is otherwise known as the 'Sea of Grass' Nature Reserve. It was established as a protected area in 1983 because of its wintering population of about 300 Black-necked Cranes *Grus nigricollis*. This volume assembles 25 papers, four of which are avian including two on Black-necked and one on Common Cranes and one on birds generally. One hundred and ten species are listed for the reserve including 16 'rare-and-precious birds'. Among the latter are Hooded Crane (as well as the two cranes above) and the Oriental White Stork. The remaining 21 papers deal with such topics as climate, physiography, soil, phytoplankton and other aquatic vegetation, mosquitoes, reptiles, amphibians and fish. All chapters have an English summary. The behaviour of Black-necked Cranes has been separately dealt with, in detail, by Wu and Li (1985); see also Marks and Tong (1988).

For a well-informed review of Meyer de Schauensee (1984) see King (1988).

#### RECENT CHINESE PUBLISHED PAPERS

Two reviews of aspects of ornithology in China, Zheng (1981) and Liu (1984) were not translated in time to be dealt with in the earlier paper (Boswall

1986a). Liu, a senior ornithologist, surveys the taxonomic research done from 1950 to 1983, and mentions regional faunistic works. He deals briefly with local zoogeography and touches on economic ornithology. There are 164 references. Zheng is more modern in outlook, deals with bird ecology and treats at length possible pest species such as the Eurasian Tree Sparrow *Passer montanus* and the Yellow-breasted Bunting *Emberiza aureola*. He deplures as 'highly worrying problems', declines in certain species and natural communities of birds. Since 1970, 44.3% of the common nesting species in Hubei province's Luoranshan and Donghu areas have either disappeared completely or become extremely scarce. In the region of the Erdao River in the Changbai Shan mountains (on the border with North Korea) there have been marked changes in the proportionate numbers of species, as those that thrive in areas of human settlement and secondary forest increase, at the expense of species confined to more natural habitats.

Zheng goes on to analyse all relevant papers published, 1950–c. 1979, first by type of research. Certain topics such as migration and the management and protection of bird populations have been virtually ignored (Table 1).

Table 1. Percentages of papers on different aspects of bird ecology published in China, 1950 to about 1979 (Zheng 1981)

Ecological distribution and community trends 18.5, breeding 42.6, feeding 19.0, wintering 6.6, behaviour 5.5, moult 0.5, ecobiology 5.0, attracting and scaring 2.3.

Table 2. Percentage of papers on different groups of birds published in China, 1950 to 1979 (Zheng 1981)

1. Pelecaniformes 1.9, 2. Ciconiiformes 1.9, 3. Anseriformes 7.6, 4. Falconiformes 3.2, 5. Galliformes 8.9, 6. Gruiformes 3.8, 7. Charadriiformes 4.5, 8. Columbiformes 2.5, 9. Cuculiformes 2.5, 10. Strigiformes 1.9, 11. Apodiformes 3.2, 12. Coraciiformes 0.6, 13. Piciformes 1.9, 14. Passeriformes 55.6 – Alaudidae (2.5), Hirundinidae (3.2), Motacillidae (1.3), Laniidae (1.9), Oriolidae (0.6), Dicuridae (0.6), Sturnidae (1.3), Corvidae (5.7), Prunellidae (0.6), Muscicapidae (13.3), Paridae (4.4), Sittidae (1.3), Remizidae (0.6), Ploceidae (14.5), Fringillidae (3.8).

A second analysis (Table 2) shows how the percentages of papers break down between the different orders (and in the case of the Passeriformes the different families) of birds. Groups of apparent economic importance, such as birds of prey, waders such as snipes and plovers, and rare (and culturally significant) birds like cranes have been comparatively neglected, at least up to 1979.

Table 3. Percentages of papers on different aspects of phasianid research published in China, 1950–1986 (Zheng 1988)

Fauna and classification 32.52, breeding biology 17.18, habitat 13.50, conservation 6.14, food and feeding ecology 8.98, breeding in captivity 4.30, growth and moult 3.68, others 13.70.

In a more recent literature survey (in English) Zheng (1988) reviews Chinese studies of the Phasianidae. Of the papers published on this family, 1950–1986, 19% appeared in the first 30 years and 81% in the last seven years. In the last decade work has been done on the breeding biology of 33 of China's 49 galliform species, most notably perhaps on Cabot's Tragopan *Tragopan caboti* (see, for example, Zheng *et al.* 1985), Sichuan Hill Partridge *Arborophila rufipectus* (King and Li 1988), and Chinese Monal *Lophophorus lhuysii* (He Fen-qi *et al.* 1988). He Fen-qi (1988) gives a bibliography of Chinese work carried out on phasianids from 1979–1986. Five papers on pheasants by Chinese authors appear in Ridley (1986).

Zhang Zhi-yen (1988) gives an account in English of Whooper Swans *Cygnus cygnus* wintering in Qinghai province.

The breeding grounds of Saunders's Gull *Larus saundersi* have been recently discovered (Shi *et al.* 1988).

Zhang (in press) discusses bird-ringing in China and de Ribeira (in press) lists the 36 Chinese recoveries of Charadriiformes ringed in Australia.

A count of the number of papers listed under 'China' in *Zoological Record* since 1979 gives: 1980, 16 entries; 1981, 33; 1982, 61; 1983, 31; 1984, 41; 1985, 53; and 1986, 66.

#### AZURE-WINGED MAGPIE AND THE PINE MOTH

A comparatively recent feature of economic ornithology that has attracted Chinese and some international attention is the training of the Azure-winged Magpie (whose vernacular Chinese name is always translated as 'Grey' Magpie) to take an injurious pinemoth caterpillar (species not known). No published scientific paper has been traced on this novel work, although articles have appeared in newspapers and periodicals, and a film has been devoted to this subject. The project began in 1977 when some forestry research workers in Rizhao county, Shandong province, brought into captivity some nestling magpies weighing about 50 grams each. The birds were fed the caterpillars of the pine moth, the pupae and later the flying insects (Zhang 1982). The birds were taught to associate the provision of food with the blowing of a whistle. If a potentially harmful outbreak of caterpillars can be predicted the temporary importation and release of around 200 magpies can have a beneficial effect (Xu Zhen verbally). To retrieve the birds at the end of a day's work the magpie-tender blows his whistle. The birds are lured into a large cage on the back of a lorry and driven home. A count showed that in 20 days 18 birds ate 8,800 larvae and 1,700 pupae in a 1.8 ha pine plantation, apparently eliminating 62% of the larvae and 70% of the pupae present. Also the magpies ate 90% of the adult moths (no absolute number given) (Zhang 1982). By 1985 at least a thousand young magpies had been trained and birds were being sent to a number of places including Beijing municipality, and Anhui, Jiangsu, Sichuan and Jilin

provinces (New China News Agency, 17 July 1985). Hsu Wei-shu (verbally 1988) expressed the view that in certain circumstances this method of control can be effective. However, the method was questioned following a paper read at the Third Symposium of the Ornithological Society of China in November 1985 (Zheng Guangmei *in litt.*). The method is said to be costly in both money and young birds' lives, and opponents feel that the limited success achieved is not worth the price. The practice is apparently now held in rather less esteem than earlier. However, a recent report suggests that Great Spotted Woodpeckers *Dendrocopos major* and Great Tits *Parus major* might become involved in comparable experimental work.\*

#### PAPERS PUBLISHED BY NON-CHINESE ORNITHOLOGISTS

King (1987a,b,c,d,e and *Forktail*, this issue) has produced a steady flow of articles with an emphasis on galliform birds. His visits to areas not visited by western ornithologists for half-a-century are fascinating and valuable.

The final report of *China Cranewatch '86*, the second Cambridge (England) expedition to study migration (this time in the autumn of 1986) at Beidaihe, Hebei province, should be published soon but, meanwhile, the preliminary summary (Williams 1986) is useful. Various European ornithologists are now more regularly making observations at this coastal site where impressive numbers of cranes, storks, bustards and birds of prey can be seen on migration (Williams *et al.* 1988, Duff 1988 and Bakewell *et al.* this issue of *Forktail*). For an account of the Earthwatch volunteers' study of the October–November 1988 migration at Beidaihe see Williams (1988).

Bird markets have long been used by expatriate ornithologists as sources of data. Fiebig (1983), Beecroft (1986) and Boswall (1986c and in press a) have carried out censuses at several different markets in China.

Bird populations in Chinese zoos are composed very largely of indigenous species (Boswall 1986b and 1989) and provide close-up views useful for later field identification. Species noted include several listed in Collar and Andrew 1988, such as the Great Bustard, Oriental White Stork and three species of crane (*Grus japonensis*, *G. monacha* and *G. vipio*) (Boswall 1989 and in press b). There was a full-winged adult Siberian Crane in Nanchang Zoo in February 1988.

\* One hundred and twenty-eight trained Azure-winged Magpies were to appear on 1 October 1984, in the first Liberation Day military parade since 1959, celebrating the 35th anniversary of the coming to power of the Communists. The birds were brought to Beijing two or three weeks early, housed in the grounds of the Capital Steel Plant in the city suburbs and there given rehearsals. Flags were waved at the float over which they were to fly freely, and recorded music was loudly played. All went well. Even on the full dress rehearsals past Tian An Men square the birds held station. But come the day, the crowds and noise proved too much. Most of the birds took fright and flew off, to be retrieved however the same evening by whistle (Shi Xianfei, in discussion).

Minna Daum translated most of the two major Chinese papers. Michael Rank helped with the transliteration of Chinese names into Pinyin. Hsu Weishu helped in discussion and with the books and reprints; and Wang Youhui and Wu Zhikang and Zheng Guangmei in correspondence. Ma Yieing sent me one book and Ben King drew my attention to two others. Don Messersmith and David S. Melville provided unpublished data. Xu Zhen and his charming interpreter Mrs Shi Xianfei withstood hours of Socratic questioning about the training of Azure-winged Magpies. Alison Gilderdale interpreted for me in China in February 1988 and scoured bookshops for bird works in Chinese.

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- Jeffrey Boswall, *clo Royal Society for the Protection of Birds, The Lodge, Sandy, Bedfordshire, SG19 2DL, England.*