

Notes on the current status of ornithology in the People's Republic of China

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This paper is respectfully dedicated to Professor Cheng Tso Hsin (= Zheng Zuoxin) on the occasion of his 80th birthday, 18 November 1986.

As with science generally, ornithology was 'held up' for the ten years of the so-called Cultural Revolution 1966-1976, but during the past decade it has re-emerged and is now developing rapidly. Some indication is given of the scope of ornithology in China today, including its recent history, ornithological society, vehicles of publication, and the role of non-Chinese ornithologists in China.

RECENT HISTORY

The following notes expand and update earlier ones on the recent state of ornithology in China (Grimm 1979, Cheng 1979a,b).

Before the Communist Party came to power in China in 1949, many scientists were trained in the West and maintained their contacts in that direction. For example, Cheng Tso Hsin (now known as Zheng Zuoxin), the doyen of Chinese ornithology, received from the University of Michigan, Ann Arbor, an M.A. in 1928 and Sc.D. in 1930. He was a visiting professor to the United States, 1945-1946, spending his time with bird collections in Washington and New York.

After 1949, Chinese science looked more to the U.S.S.R. and many Chinese scientists were trained there during the early 1950s. Zheng twice visited the Soviet Union during this time, for three months on each occasion, to work on Chinese birds in Soviet skin collections, particularly in Leningrad. With strained Sino-Soviet relations developing in 1956, Russian aid to China was withdrawn in 1960, and Chinese science entered a period of isolation. During this time the political climate favoured economic ornithology and for example Zheng worked on the Oriental Pratincole *Glareola maldivarum* as a predator on locusts Acrididae (Cheng 1955). 'Sparrows' (which effectively meant any passerine birds), along with rats, bugs and flies, were declared pests and in 1958 a 'three-day war' was declared on the birds. The campaign was witnessed by Han Suyin (1959). Reputedly 800,000 birds were destroyed by hysterical crowds in three days in March. The destruction, it was claimed, was followed by plagues of insects, and the campaign was later officially admitted to have been a mistake (A. Galsworthy *in litt.*). To a series of books on China's 'economic fauna', Zheng contributed at this time a large volume on birds (Cheng 1963) working as editor and major contributor. The work was considered sufficiently important by the

Americans for it to be translated into English (Cheng 1964).

Mao Zedong's (= Mao Tse-tung's) Cultural Revolution (1966–1976) had a strongly anti-intellectual bias. It was a serious setback for science, the worst phase being 1966–1968. Many academics and other scientists were set to menial work, imprisoned and even tortured (Needham 1978). Many also died. Zheng was fortunate enough to be able to remain at the Institute of Zoology. There he worked on, amongst other things, the revision (up to 1973) of his two-volume checklist which first appeared in 1955–1958; this was published in 1976, and is still (1986) in print. It was soon translated into English at the Smithsonian Institution, Washington, but is not officially published. During the revolutionary decade, 1966–1976, however, he published only 15 books, papers and articles (0.7 per year), compared with 202 during the previous eleven years, 1955–1965 (18.4 per year) and at least 114 during the ten subsequent years, 1977–1986 (11.4 per year) (Cheng 1982 and *in litt.*).

At the time of Chairman Mao's death in September 1976, ten years' virtual stagnation of Chinese science had led to there being substantial gaps between its development in China and the West. In 1978 a very senior Chinese officer in the science field, Fang Yi, expressed the view that China was lagging 15 to 20 years behind the rest of the world in many branches of science and technology, even more in others (Needham 1978).

Since 1976, Chinese science had been allowed to develop more freely and there has been an intensifying desire among Chinese academics to re-establish old contacts overseas and to make new ones. For example, Zheng's institute sent Lu Taichun to work for one year (till July 1981) at the Sub-department of Ornithology of the British Museum (Natural History) at Tring. Since 1976 Zheng himself has visited Japan (twice), the United States (twice), Australia, Britain and France. In 1981 Zheng's American university honoured him with a regents' citation. In May 1984 he visited the Mai Po Marshes Reserve in Hong Kong. In 1986 he published a global list of bird names in Chinese (Zheng 1986).

In June 1986, I found him in Beijing correcting the proofs of a further update of his distributional list, and he expressed the hope that the book may appear before his 80th birthday on 18 November 1986. The work is in English and is entitled *A synopsis of the birds of China*, and will comprise 1,224 pages. It includes 20 species new to China, making the new total 1,186 species. The author's name is printed in the old romanisation: Cheng Tso Hsin. A further bird volume, on the babblers Timaliinae, in the *Vertebrata Series* of *Fauna Sinica*, has been completed by Zheng and is also awaiting publication. It is expected in 1987.

Some other Chinese ornithologists, since 1976, have also travelled abroad. A scientist from the Kunming Zoological Institute in Yunnan province, Zheng Baolai (Polly Cheng), spent twelve months during 1982–1983 at the Smithsonian Tropical Research Institute in Panama studying birds with Martin Moynihan and Neal G. Smith. She later moved on to the Division of Birds at the National Museum of Natural History in Washington D.C. to

work on a proposed Chinese-language field guide to the birds of China. Hsu Weishu of the Beijing Natural History Museum has visited Australia and other countries. Although a number of Chinese were registered to attend the 18th International Ornithological Congress in Moscow in 1982, none came. Five, however, were at the Ottawa IOC four years later (when Hsu Weishu was elected a member of the IOC Permanent Executive Committee), and in the same year the Chinese made four contributions to the Third International Symposium on Pheasants in Asia, Chiang Mai, Thailand (see Ridley 1986). Most professional ornithologists in China are found either in universities or in appropriate national or provincial academies of science. For an account of bird conservation in China see Boswall (*in press*, a) and of man–bird relations see Boswall (*in press*, b).

SOCIETY

In 1980, an Ornithological Society of China was established. The secretary-general is Tan Yaokuang and the address: Institute of Zoology, Academia Sinica, 7 Zhongguancun Lu, Haitien, Beijing (Peking). Up to at least 1985 it was not open to foreigners. In January 1985 there were 342 Chinese members. They pay no subscriptions. Most members are in Beijing, Shanghai, Guangzhou (Canton), Chengdu, Harbin and Kunming. Some are academics; many are teachers. Zhang Zhi-yen of Lanzhou, Gansu province, is one of the very few amateur ornithologists in China. He has studied, for example, the roosting behaviour in winter of Black-necked Cranes *Grus nigricollis* in Guizhou province. The society publishes a newsletter, *Zhongguo niaolei xuehui tongxun* (Newsletter of the Ornithological Society of China); the first issue appeared in April 1981. The editor-in-chief and vice secretary-general of the society is Hsu Weishu, Peking Natural History Museum, 126 Tien Chiao Street, Beijing.

The inaugural meeting and first symposium of the O.S.C. was held at Dalian in Liaoning province in 1980. The second symposium was at Xi'an in Shanxi province in 1982, and the third at Yancheng in Jiangsu province, 20–25 November 1985. At this meeting Zheng Zuoxin was elevated to president emeritus and Qian Yanwen was elected as the new president; 113 persons attended. Of the 133 papers submitted, eleven were read at plenary meetings and the remainder at meetings of one of three groups: the ecology group, the fauna group and the experimental biology group. At the ecology group meetings progress was reported on studies of rare and endangered birds such as Cabot's Tragopan *Tragopan caboti*, Chinese Monal *Lophophorus lhuysii*, Blood Pheasant *Ithaginis cruentus*, Silver Pheasant *Lophura nycthemera*, and Brown Eared Pheasant *Crossoptilon mantchuricum*. Progress with the domestication and training of the Azure-winged Magpie *Cyanopica cyana* and (it appears) the Great Spotted Woodpecker *Picoides major* as predators on injurious insects was also reported. To the fauna group were presented studies of cranes Gruidae mainly in north-east China, and

avifaunal surveys of Tongbo Mountain in Henan province, Tianmu Mountain in Zhejiang province and Yuntai Mountain in Jiangsu province, among others. Papers read to the third group included those on avian chromosomes, the structure of the egg shells of three species of crane as revealed by the scanning electron microscope, the bioenergetics of birds and the diets of artificially raised nestling birds, e.g. of Black Stork *Ciconia nigra* and Black-headed Ibis *Threskiornis melanocephalus* (Wang Qishan *in litt.*).

RECENT BOOKS

There should eventually be 14 volumes on birds within the *Vertebrata Series of Fauna Sinica* (Wong 1982). Volume 4 (Cheng *et al.* 1978) dealt with the Galliformes; volume 2 (*sic*) (Cheng *et al.* 1979) with the Anseriformes; volume 13 (Li *et al.* 1982) with the Paridae and six other passerine families and volume 8 (Zheng 1986) with the Eurylaimidae and five other passerine families. Intending purchasers can try Guoji Shudian, China Publications Centre, P. O. Box 399, Beijing, People's Republic of China; or alternatively Guanghai Bookshop Ltd., 9 Newport Place, London WC 2. A work on the birds of Xizang (Tibet) summarising the results of fifteen expeditions to that region made since 1959 appeared in 1983 (Zheng *et al.* 1983). Other recent faunistic works include *Birds of the Chanbaishan Mountains* (Fu *et al.* 1984), *The avifauna of Changbai Mountain* (*sic*) Zhao *et al.* 1985) and *Sichuan fauna economica, volume 3* (birds) edited by Li (1985).

An outline history of Chinese ornithology from the earliest times to the 1960s appeared in 1980 by Meyer de Schauensee (1980) and his comprehensive guide to the birds of China was published in 1984 (Meyer de Schauensee 1984). The second of the two volumes of *Oiseaux de Chine, de Mongolie et de Corée* by R. D. Etchécopar and F. Hüe appeared in 1983. For notes on Zheng Zuoxin's forthcoming books, see under 'Recent history' above.

PERIODICALS

To date there is no journal devoted entirely to ornithology but papers on birds appear in a number of national journals, prominent among them being *Acta Zoologica Sinica*, *Acta Zootaxonomica Sinica*, *Acta Ecologica Sinica*, *Zoological Research*, *Chinese Journal of Zoology*, *Chinese Wildlife* and *Sichuan Journal of Zoology* (Tan 1985a; see Table 1). Meyer de Schauensee (1984:523) mentions that bird papers are published in *Acta Geographica Sinica*. The occasional *Memoirs of the Beijing Natural History Museum* are worth noting; see for example Xu and Purchase (1983). In English there are *China Reconstructs* and *China Pictorial*; both are very wide-ranging but regularly carry bird and other natural history stories of significance. Iain C. Orr (1980)

has compiled an immensely useful bibliography of nature reserves and biology in China culled from a wide range of natural history journals in Chinese and popular articles in English-language Chinese government publications.

Tan (1985a) surveyed 190 published papers and two books on ornithology which had appeared in China during 1983–1984 and 75 unpublished papers on ornithology which were presented to the Eleventh Conference of the Zoological Society of China in April 1984 (see Table 2). Just over one-third of the 267 texts (265 papers and two books) are concerned with ecology. Of these, the majority deal with reproduction, feeding and behaviour of individual species. Only five concern population ecology, one of these being

Table 1. Numbers of ornithological papers in seven important Chinese scientific journals in 1983 and 1984 (after Tan 1985a).

	1983	1984	Total	%
<i>Acta Zoologica Sinica</i>	3	2	5	2.6
<i>Acta Zootaxonomica Sinica</i>	3	1	4	2.1
<i>Acta Ecologica Sinica</i>	9	1	10	5.3
<i>Zoological Research</i>	8	8	16	8.4
<i>Chinese Journal of Zoology</i>	24	19	43	22.6
<i>Chinese Wildlife</i>	46	52	98	51.6
<i>Sichuan Journal of Zoology</i>	5	9	14	7.4
Totals	98	92	190	100.0

Table 2. The subjects covered by papers and books on ornithology which were published, or presented to a conference in China, during 1983–1984 (from Tan 1985a).

Subject	Number of papers/books	%
Local avifaunas	38	14.2
Taxonomy	7	2.6
Distribution	11	4.1
Migration	3	1.1
New records for China or provinces	10	3.7
New subspecies	1	0.4
Palaeontology	1	0.4
Detailed study of individual bird	1	0.4
Ecology of species	105	39.2
Nests and eggs	4	1.5
Population size/census	2	0.8
Physiology	5	1.9
Experimental laboratory research	4	1.5
Anatomy/structure	1	0.4
Tissue	2	0.8
Diseases (of <i>Gallus gallus</i>)	2	0.8
Biological control	9	3.4
Protection	17	6.4
Domestic birds	18	6.6
Method of specimen preparation	2	0.8
Birds in ancient texts	2	0.8
Lecture course for study groups	7	2.6
Book reviews	3	1.1
Organisation news	10	3.7
Unspecified	2	0.8
	267	100.0

on the population dynamics of the Brown Eared Pheasant, which is treated in the ICBP/IUCN Red Data Book (King 1978–1979). Seventy-two species are covered by the papers on ecology. Thirty-six papers and the two books present the results of avifaunal studies. The books are based on large-scale investigations in Xizang (Tibet) (Zheng *et al.* 1983) and on Hainan Island (Gao 1984). Tan (1985a) notes that both received special commendations and that the former, in particular, is an excellent reference book.

The seven papers on taxonomy include a recent systematic review of Chinese parrotbills *Paradoxornis* (Cheng 1984), which suggests a new taxonomic system for the genus and describes a new subspecies of Black-breasted Parrotbill *P. flavirostris gongshanensis*. By 1983, the Institute of Zoology in Beijing housed over 68,000 skins, many collected since 1949 and representing about 80% of the Chinese species.

Only three of the 265 texts are concerned with migration, one of these dealing with the Black-naped Oriole *Oriolus chinensis*. Since 1984, migration has received increasing attention. Zhang *et al.* (1985) studied autumn raptor migration near Tangshan, Hebei province. Scientists from the East China Normal University made a radar and field observation study of migration at Haizhou Bay, Jiangsu province (Mao 1985).

Tan (1985b) lists 98 species as endemic to China but an analysis by Geoffrey Carey (*in litt.*) shows that at least 27 of these breed in one or more countries neighbouring China.

BIRD RINGING

The advent of bird ringing in China, in 1983, will no doubt lead to the publication of further papers on migration. By the end of 1984, 3,084 birds of 53 species had been ringed (Anon. 1984). The two species best represented on the list are the Bar-headed Goose *Anser indicus* and the Great Black-headed Gull *Larus ichthyaetus*. By the end of 1985, over 12,000 birds of 161 species has been ringed (Anon. undated). Under the guidance of Chang Fuyuen and Yang Rouli, the directors of the National Bird Banding Centre, ringing had started up at 50 different localities by the spring of 1985 (Chang Fuyuen pers. comm. to M. D. Williams). The Centre's address is: c/o Forestry Academy of Science, Beijing. In addition, Qin Jian-hua directs a National Bird Banding Office, c/o Ministry of Forestry, Beijing.

WORK BY NON-CHINESE ORNITHOLOGISTS

Teams from the International Crane Foundation and Earthwatch have operated with Chinese ornithologists in surveys of birds, particularly cranes, at the Zhalong (Heilongjiang province), Lake Poyang (Jiangsu province) and Yen Cheng (Jiangxi province) nature reserves. The Wild Bird Society of

Japan has been very active in seeking co-operation with Chinese ornithologists, and has for example hosted them in Japan and provided manpower support for the efforts to save the White Crested Ibis *Nipponia nippon*.

The 1985 spring migration at Beidaihe, Hebei province, was surveyed by a team of British ornithologists (Williams *et al.*, *Forktail*, this issue; Williams 1986); a follow-up survey was undertaken in autumn 1986. W. G. Harvey visited Karamay, Xinjiang, in June 1985 (Harvey 1985a,b). C. R. Robson (*Forktail*, this issue) and D. S. Farrow travelled in Xizang province in spring 1986.

Elsewhere (Boswall 1985) I have suggested that more bird-watching may actually be done in the U.S.S.R. by the members of specialist ornithological holiday tours than by the negligible number of Soviet birders. The same could easily prove to be true of China. For example, those on the birding trip led by Ben King to Sichuan in May–June 1984 saw sights 'not shared by any living ornithologist' (King 1984a), such as the full and extraordinary display of a wild Temminck's Tragopan *Tragopan temminckii*. It is very much to be hoped that the selected observations made on such tours will be published, following the example of King (1984b). Specialist bird-watching holidays to China were pioneered by Cecil Klein of the British company Study China Travel. Following a reconnaissance in 1981 by David McDonald, James Hancock and Christopher Perrins, the very first such trip was led by Christopher Perrins to north-east China in 1982. I followed him there in 1983 (Boswall 1983). By 1984, two more British companies (Birdquest and Ornitholidays) and two American ones (World Nature Tours and Kingbird Tours) were offering bird tours to China. In my opinion the scientific importance of these tours is underestimated by certain leaders, participants and others.

World Wildlife Fund Hong Kong has organised a number of visits to Chinese reserves, e.g. to Poyang and to forest areas in Guangdong and Fujian (David S. Melville *in litt.*).

CONCLUSION

Ornithology in China would seem to be undergoing a transition. Work which laid the foundations for modern ornithology in the West, such as the collection of specimens, is still being carried out, whilst techniques such as bird ringing and the use of radar to study migration are being introduced. Given the continuation of China's political open-door policy and the readiness of the country's ornithologists to exchange views and work with their counterparts overseas, it seems likely that any gaps between the development of ornithology in China and in the West will soon be substantially reduced.

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(1985a) and a published biography of Zheng Zuoxin. Gratitude is due also to Linda Birch, Minna Daum, Anthony Galsworthy, David S. Melville, Iain Orr, Marion Parsons, Tan Yaokuang, Wang Qishan, Martin Williams, Michael G. Wilson, Zheng Guangmei, Zheng Zuoxin and Xu Weishu for help in various ways.

POSTSCRIPT

After this paper was in proof, translations were received of Zheng (1981) and Liu (1984). Both papers are relevant and important, and it is hoped to cover them in a supplementary article in a future *Forktail*.

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