

## SPECIAL REPORT:

### ORNITHOLOGY IN THE PEOPLE'S REPUBLIC OF CHINA (PRC)

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Twenty years ago in late March, Han Suyin returned to Peking for the funeral of her father, arriving on the eve of what was officially a three-day war on the Eurasian Tree Sparrow (*Passer montanus*). She later described (Han 1959) how a city of then three million mobilized and destroyed 800,000 birds as a part of a countrywide effort to diminish the conflict over grain between birds and people. Yellow-breasted Buntings (*Emberiza aureola*) in their northward migration, weavers (*Ploceus*) and mannikins (*Lonchura*) were also recognized grain-eaters. But Tree Sparrows, concentrated in cities and living in association with humans for millenia, were among the four pests identified by Chairman Mao and marked for destruction along with rats, mosquitoes, and flies.

Aside from this story and an occasional rumor, essentially nothing has been known in western countries about the status of birds, ornithology, and ornithologists in the PRC during the turbulent years of the Cultural Revolution through the end of the Gang of Four in October of 1976 and to the present time. How have each fared?

I report here the highlights of a two-hour discussion about birds and ornithology in the PRC with Cheng Tso-Hsin, Sc.D., distinguished Professor of Ornithology at the Institute of Zoology in Peking (Academia Sinica), Vice President of the Chinese Zoological Society, and recently elected (1976) corresponding fellow of the A.O.U. I visited Professor Cheng in his Institute office on the afternoon of June 20, 1978 while on a trip to the PRC. Earlier in the spring we had corresponded and I had suggested that his views would be of great interest to colleagues in the West. I subsequently received a cordial reply to visit him in Peking. It led not only to the passing of new information about PRC ornithology, but to my experiencing of the legendary warmth extended by Chinese to visitors, especially to those with interests in zoology. Much of what follows I trust will be of general interest regarding heretofore unknown information about certain aspects of ornithology in the PRC by one of China's most knowledgeable ornithologists talking about a country



FIGURE 1. Cheng Tso-Hsin at the Institute of Zoology in Peking, June 1978.

which possesses within its borders the largest avifauna in the world.

Having completed his monumental *Distributional Checklist of Chinese Birds* (Cheng 1976), Professor Cheng at 72 is currently editing a series of monographs (*Fauna Sinica*) whose purpose it is to survey the *entire* fauna of the PRC. Under his direction, this comprehensive zoological effort is rapidly progressing.

Cheng sandwiches editorial chores between his directorship of the Division of Vertebrate Taxonomy and Faunistics (formerly the Bird Division) at the Zoology Institute, special lectureships elsewhere in the PRC, and duties connected with correspondent membership in ornithological societies of Japan, Germany, Britain, and the A.O.U. He resides in Peking with his wife Chen Chia-Chien, now retired from the cadre of the All-China Women's Association. Their four children are educated, married, and working at various educational, technical, and medical posts in the PRC.

My interview with Professor Cheng was conducted in English. I kept notes and reconstructed his answers that evening, using his exact words whenever possible. His English was rusty, but excellent. He spoke slowly, in response to questions that I had written out

ahead of time on cards. I later sent him draft copies of the manuscript for any corrections he saw fit. I have included in this report some expansion of several questions which were either touched upon only briefly in the interview or to which he replied in subsequent correspondence. He commended the effort, believing that in the spirit of a traditional friendship between the peoples of China and the United States, such efforts would foster new scientific exchanges in ornithology between our countries.

RG: I understand you were educated in Ann Arbor.

Cheng: That was a long time ago. I was there between 1926 and 1930, finishing in that year. I was twenty-three at the time. My degree wasn't in ornithology but in embryology (Cheng 1932); there wasn't much need for ornithologists in China then. Since the Liberation (1949), I've had little correspondence with former schoolmates and teachers at Michigan. Peter Okkelberg, my major professor, passed away some years ago.

RG: Can you tell me something of your travels in the United States and what you did. When you were in Ann Arbor did you know Josselyn Van Tyne or the neurosurgeon Max Peet who collected birds for the university museum? When did you meet Dillon Ripley?

Cheng: It was before Van Tyne's time and I didn't know Peet. I came back to China in September of 1930 and later returned to the United States for two years in the mid-1940s (1945-46) as a visiting professor. Most of my time was spent at the Smithsonian Institution or in New York City at the American Museum of Natural History working on the ornithology collections; but I did visit a number of eastern universities and research institutes. During this period I had the pleasure of meeting Wetmore, Mayr, Vaurie, Deignan, Friedmann, Chapman, Amadon, Delacour, Murphy, and a number of others. I returned to China in late 1946 and haven't been back. I didn't meet Dillon Ripley until he came to Peking in 1975. We had a pleasant visit at the Liaison Office on that occasion.

RG: Are there ornithology graduate programs in the PRC today?

Cheng: Yes. Ornithologists are being trained in Peking at the Institute of Zoology and elsewhere. Zoology undergraduates interested in birds are selected for graduate work. The training period is about three to four years long. Theses must be written but there are no special ornithology degrees.

RG: How many ornithology graduate students and research scholars are there in the PRC?

Cheng: I don't exactly know. In Peking there are perhaps fifteen or so at various stages of training.

RG: Is there a specific center for ornithological studies?

Cheng: No. There are no graduate schools or research centers devoted exclusively to ornithology. Our Institute has more research workers in ornithology than any other place and a larger collection of skins and literature. Practically speaking, it serves as the center for ornithology research in the PRC.

RG: How is your Institute organized?

Cheng: A current table of organization would look something like this:

ZOOLOGY INSTITUTE  
(Director, Deputy Directors)

DIVISION OF VERTEBRATE TAX-  
ONOMY AND FAUNISTICS

Scientist(s)  
Associate Scientist(s)\*  
Research Associate(s)\*  
Research Assistants\*  
Students

RG: Do separate divisions of the Institute have an annual budget and how is it decided? Do scientists have to compete for Institute funds by applying for a grant?

Cheng: Each Institute division makes up an annual budget, part of which is allocated for research. It is not necessary for individual scientists to compete for funds.

\* Research scholars and graduate students depending on level of training.

- RG: Where are the major ornithology libraries?
- Cheng: The scientific library of the Academia Sinica in Peking is one of the largest. All zoology institutes in Peking and elsewhere have ornithology books and journals. But none are exclusively devoted to birds.
- RG: What bird journals do you get?
- Cheng: At this Institute, we receive [at least 20 bird journals and magazines from the U.S., Europe, U.S.S.R., Australia, and Japan.]
- RG: May ornithology students follow their own interests or are problems assigned?
- Cheng: They are free to follow their own interests. Ecology, geographical distribution, developmental questions, life histories and systematics are principal areas of study. There is little behavioral work apart from life history studies. Basically, most research is field research.
- RG: Are PRC ornithologists still working on economic issues such as pest control?
- Cheng: No, no. That was 20 years ago. In the period after the Liberation and after the mass movement against the four "pests," Chairman Mao pointed out that sparrows needed to be studied with respect to the harm they did as well as their benefit to orchards and farms. Ornithologists now have returned to basic problems. There remain local economic issues, but these are minor occupations.
- RG: Is avian material used in laboratory experiments?
- Cheng: Owl eyes are being used for retinal work, and salt glands and endocrines are used in membrane physiology, reproductive biology, and immunology.
- RG: What current lines of ornithological research in the PRC are most promising?
- Cheng: From my point of view the most exciting research is on subspecific systematics of Chinese birds (most of the results obtained earlier are included in my *Checklist*), and also, the protection, further development, and rational use of avian (zoological) resources in the event that ornithology becomes popular.
- RG: Is the *Checklist* estimate of 1166 species in the PRC accurate? Will new species be found?
- Cheng: As far as I can ascertain to the present time I think it is the correct number. I predict that new subspecies will be worked out, but doubt, or rather haven't heard, of any new species. Predictably, there will be records of birds new to China.
- RG: Is the general distribution of PRC birds well known? If not, where are they best and least known?
- Cheng: The best-known areas are the eastern and coastal provinces, e.g. Hopeh, Shantung, Kiangsu, Anhwei, Chekiang, Kiangsi, Fukien, and Kwangtung. Areas where birds are not so well-worked out are Sinkiang and Chinghai on the Tibetan plateau. There are big teams working in these places collecting birds, other vertebrates, and insects. About ten ornithologists are involved. We are currently spending several million dollars a year on these programs. Birds which are collected are sent to the provincial institutes and museums.
- RG: Is any effort in China being made to annually census mainland birds comparable to the breeding bird survey in the U.S. (Earlier I had sent Cheng a description of the Annual Breeding Bird Survey methodology of the U.S. Fish and Wildlife Service.)
- Cheng: No. There is nothing comparable to the U.S. survey. However, biologists in the eastern regions are now organizing to do this.
- RG: Where are the major skin collections in the PRC? Where would a visiting ornithologist go to study specific families or particular species?
- Cheng: There are skin collections in the zoology institutes of a number of provinces and some at natural history museums. If someone wanted to study a particular species, it would be best to visit the collection in the appropriate province. (Cheng did not recognize the primacy of any one collection.)

- RG: Are there any bird field stations in the PRC?
- Cheng: There were, but they were absorbed by the communes and are not operating as such.
- RG: Are there any specific bird sanctuaries in China?
- Cheng: Not exactly. There are a number of general wildlife refuges (e.g. Hsingan Mountains in Heilungkiang Province, and inside the Thai National Autonomous area in Southern Yunnan) including the parks, areas along the Great Wall, and shrines. There is now a bird-island refuge in Chinghai. At this time an area is under consideration for the Japanese Crane (*Grus japonensis*) but I can't say more about it now.
- RG: Are certain birds protected?
- Cheng: Many birds are under protection, especially the cranes and the ibises. Chinese love cranes. Did you know we have eight of the world's fifteen species? We are beginning to raise crane eggs at the Peking Zoo and some of the eggs are being placed in reserves. I don't know the outcome.
- RG: Is there an endangered species list and is it available?
- Cheng: An endangered species list is being drawn up but it is not ready. There is much discussion as to what birds should be on it. The data are incomplete.
- RG: Besides the cranes and ibises, e.g. the Crested Ibis (*Nipponia nippon*), what other species are under protection?
- Cheng: The Mandarin Duck (*Aix galericulata*), Chinese Merganser (*Mergus squamatus*), swans (*Cygnus* spp.), hornbills (*Buceros bicornis*, *Anthrocoeros*), and many pheasants, e.g., the Brown-eared Pheasant (*Crossoptilon mantchuricum*), Fukien Tragopan (*Tragopan caboti*), the Chinese Monal (*Lophophorus lhuysi*), Taiwan Blue Pheasant (*Lophura swinhoei*), White-crowned Long-tailed Pheasant (*Syrnaticus reevesi*), and the Blood Pheasant (*Ithaginis cruentus*). There are also a number of insect-eating birds under protection [such] as swallows, titmice, cuckoos, and others.
- RG: What accounts for the decline of certain species?
- Cheng: Building of factories, extensive use of land for agriculture and pollution are the main causes. Pesticides are *not* (Cheng's emphasis) to blame. There is much interest and work on biological controls in insects such as the use of pheromones. The locust problem in eastern China is now probably over. (Cheng didn't elaborate but in the 1950s he had worked on locust-eaters, specifically a pratincole, *Glareola maldivarus* [Cheng 1955].)
- RG: In the U.S., it has been rumored that songbirds, especially insect-eaters, were being reintroduced in the PRC to repair the effect of a heavy use of pesticides which had drastically reduced their numbers resulting in an increase in insects.
- Cheng: (Cheng was astonished by this rumor. He did not dignify the story with so much as a question about its source. Ever so politely, he regarded it as absurd on a number of grounds. He then pointed out that unlike the West and in particular the United States, the PRC had used only limited amounts of pesticides. He reiterated an intense interest in the PRC for ecological or biological solutions to insect control. In all of this he displayed a firm knowledge of the toxicology of pesticides and the consequences of their use in the U.S. on Peregrines [*Falco peregrinus*] and the Brown Pelican [*Pelecanus occidentalis*]).
- RG: Is bird shooting allowed in the PRC as a sport?
- Cheng: Bird shooting is allowed, but it is controlled by the communes. I wouldn't consider it a sport. Ring-necked Pheasants (*Phasianus colchicus*) and various ducks are the principal game hunted. Sometimes endangered species are taken, but an effort is being made to educate shooters on better identification. It is a problem, however, and other birds are lost.
- RG: Is ornithology being taught at the university level or in lower schools?

- Cheng: Bird subjects are now included in the most recent textbooks, but in the context of scientific morphology, evolution, or ecology. Ornithology as such, is not being taught in the high schools or universities. However, appreciation of birds and the various things they do begins in the lower schools.
- RG: Is bird watching popular in the PRC? Are there any amateur organizations similar to the Audubon Society in the U.S. or the Hong Kong Bird Watching Society?
- Cheng: Bird watching is not so much for pleasure. There are no bird watching organizations in the PRC. In each province, there are zoology societies where individuals with proper training or achievements can meet and also get pamphlets about birds. The trouble is we have only one field guide and it's not in color.
- RG: In your work on the distribution of birds, are there good amateurs scattered about in the PRC who provide you with reliable data?
- Cheng: Yes. There are a limited number of good amateurs who keep excellent records and I often hear from them.
- RG: How many professionally trained ornithologists are there in the PRC today?
- Cheng: Fifty to one hundred, most of them in eastern China.
- RG: Do you have a list of them and where they are?
- Cheng: No. On account of the interference by the "Gang of Four" it is not possible to have a list now. There is a great deal of institute and university reorganization currently going on and some ornithologists will be taking new posts.
- RG: Where do PRC ornithologists publish their work? Are there specific bird journals?
- Cheng: We don't publish any ornithology journal. Some articles appear in *Acta Zoologica Sinica* (*Tung-wu hsueh-pao*), but this journal includes work on other fauna. *Fauna Sinica* (*Tung-wu chih*), *Bulletin of Science* (*K'o-hsueh t'ung'pao*), *Acta Zootaxonomica Sinica* (*Tung-wu fen-lei hsueh-pao*), the *Journal of Zoology* (*Tung-wu-hsueh tsa-chih*), various university natural history journals, special monographs and books are principal sources for ongoing work.
- RG: Would it be of interest to have visits to the PRC by western ornithologists? Would they be welcomed and would such visits be useful?
- Cheng: We would very much welcome opportunities for scientific exchanges which would be of benefit to both our countries.
- RG: If such visits could be arranged, would field trips or collecting of bird specimens be permitted?
- Cheng: In case of field investigation and specimen collecting, the participants of both countries will have to make plans agreeable to both and submitted for approval by the proper authorities in charge.
- RG: If you had an extra three million yuan in your budget for ornithology, how would it be spent?
- Cheng: We would submit such funds to the Academia Sinica for the construction of a modern museum of natural history and the establishment of a grand-scaled ornithological research institute.
- RG: How did you manage during the Cultural Revolution and the "Gang of Four" period? What happened during the years 1966-1976?
- Cheng: China was almost closed between 1966-1970. Some professors were sent to the countryside to work while others were able to continue their work. I was one of them, spending much of my time revising a textbook on vertebrate taxonomy and undertaking some ornithological investigations. Much of the scientific work, however, stopped and the work of various societies stopped. Work on ornithology was slowed down, especially graduate studies. The universities re-opened after the Cultural Revolution (1971), but in the Gang of Four period, there were no examinations. Only students from peasant and workers' families and persons recommended by factories and com-

munes were allowed in. Intellectuals were not trusted and teachers were villified by students. Education, literature, the sciences and technology suffered. With the end of the Gang of Four (Chiang Ch'ing, Chang Ch'un-ch'iao, Yao Wen-yuan, and Wang Hung-wen were arrested in October, 1976), the deep-rooted attitudes that prevailed are now being disinfected. Entrance examinations have been replaced. Everything is being reorganized, and institutes and graduate students are working again. Vigorous and rapid strides are being made.

RG: How is your own work going?

Cheng: I am working on a set of volumes that will be the first comprehensive look at the fauna of the country. Several volumes have been published, my own contribution being included in the recent volumes on Galliformes (Cheng 1978) and on Anseriformes (Cheng 1979). Research and editorial work are my major effort. I am 71; don't I look in fine shape? (He does.) I keep my weight down. My health is excellent.

At 6 PM the China International Travel Service interpreter who accompanied me motioned that it was time to go. Professor Cheng consented to being photographed, presented me with two volumes of his writings and then walked me downstairs to an awaiting taxi in the courtyard. Enroute, he advised that fall was the best time for birds in Peking and told me to look for the famed "Bird of Paradise" tree in the middle of the Pearl River close to Kwangchow (Canton). "The tree is loaded with Black-crowned Night Herons (*Nycticorax nycticorax*) in various stages and quite a number of passerines."

#### ACKNOWLEDGMENTS

It is one thing to be invited to the PRC because of something one knows or does; it is quite another matter to initiate a special interest. Undoubtedly, the establishing of normal diplomatic relations between the PRC and the U.S. on January 1, 1979 will make it easier to arrange for interviews, trips, and scientific

exchanges. Laying plans carefully, formally, and explicitly will probably remain useful ground rules.

I am indebted to several people who made it possible for me to interview Cheng Tso-Hsin. Charles and Frosty Grossman of Portland, Oregon, who are experienced and sensitive visitors to the PRC included me in their June, 1978 Evans F. Carlson Friends of the PRC tour, thus making possible the Cheng interview in the first place. Once in the PRC, with Cheng's invitation in hand, Charles Grossman's experience in the etiquette of translating such requests into action was invaluable. Mr. Chow, a talented veteran of the China International Travel Service, opened a space in a highly structured tour schedule, arranged the visit to the Institute of Zoology, and then provided a taxi and an interpreter (unnecessary as it turned out).

George Watson (at the Smithsonian Institution) introduced me to Cheng's work and suggested that an interview would be very interesting. He directed me to *China's Economic Fauna: Birds* (Cheng 1964), and also to William Thomas, Jr., an exceedingly able amateur ornithologist and head of the economics section of the American Liaison Office in Peking. I wrote to Thomas in the spring of 1978 before my trip and later visited him in Peking prior to the Cheng interview. He was currently revising his checklist of the birds of Peking and surrounding area. He graciously shared his wide experience in the PRC, his checklist, and his appraisal of various scientific and academic issues in the PRC, all of which greatly helped to prepare me for my interview.

Finally, Peter Stettenheim provided at my request a host of sample questions so designed as to make the most of my time with Cheng.

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