DIYING HUANG1, ZHIJUN ZHANG2, CHENYANG CAI1,3 & TAIPING GAO4
1State Key Laboratory of Palaeobiology and Stratigraphy, Center for Excellence in Life and Palaeoenvironment, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing 210008, China. Email: dyhuang@nigpas.ac.cn
2The geological Museum of China, Beijing 100034, China. Email: zhjzhgmc@163.com
3School of Earth Sciences, University of Bristol, Life Sciences Building, Tyndall Avenue, Bristol, BS8 1TQ, United Kingdom. Email: cycai@nigpas.ac.cn
4College of Life Sciences, Capital Normal University, Beijing 100048, People’s Republic of China. Email: tpgao@cnu.edu.cn

Professor You-Chong Hong, a famous Chinese palaeoentomologist, was born in Nan’ao County, Shantou City, Guangdong Province on 5 November 1929 and passed away in Beijing on 4 July 2019. In 1953, Prof. Hong graduated from the Beijing College of Geology (China University of Geosciences, Beijing) and was assigned to the Laboratory of Ferrous Metal of the Department of Geology and Minerals of the Ministry of Geology. From 1957 to 1958, he worked in the Department of Stratigraphy and Palaeontology, Institute of Geology and Mineral Resources, Chinese Academy of Geological Sciences. He studied fossil mollusks and later fossil insects in the Soviet Academy of Sciences from 1958 to 1960 (Fig. 1). He returned to the Chinese Academy of Geological Sciences from 1960 to 1963; worked at the Tianjin Institute of Geology and Mineral Resources, Ministry of Geology and Minerals from 1963 to 1984; and worked at the Beijing Museum of Natural History after 1984.

Prof. Hong had been engaged in palaeoentomological study for a long time. He is one of the pioneers of fossil insect research in China and made great contributions to the establishment and development of the Palaeoentomological Science Discipline in China. His main academic contributions can be summarized as follows:

1. Fushun Amber Research
Prof. Hong’s most important contribution to palaeoentomology is the comprehensive study of insects in the Eocene Fushun amber. His research on Fushun amber insects began in the 1970s (Hong et al., 1974). He conducted detailed stratigraphic studies on the Fushun Coal Mine, especially the long-term study of amber insects in the Western Open-pit Coal Mine (Fig. 2). A number of monographs and atlases have been published, making Chinese amber research a place in the world, and making the Eocene Fushun amber one of the world’s important amber-producing areas (Hong, 1981, 2002a, b).

2. Establishment of the Yanliao Entomofauna
In 1983, Prof. Hong established the Yanliao Entomofauna, which is believed to be distributed in the Middle Jurassic in northern China, extending to Central Asia and north to the Soviet Union, and it is equivalent to the distribution of insects in the Haifanggou Formation (Hong, 1983). The Haifanggou insect assemblage and the Jiulongshan insect assemblage were established. He suggested that the insect assemblage of the Yanliao Entomofauna is completely different from that of the Jehol fauna. In the 21st century,
the discovery of exceptional fossils from the Daohugou area, Ningcheng, Inner Mongolia greatly enriched the contents of the Yanliao biota and revived the study of this entomofauna.

3. Comprehensive study of the Jehol Entomofauna

Prof. Hong made an important contribution to the distribution and combination research of the Jehol biota. In particular, the study of insect fossils in the Jiuquan...
Basin of Gansu Province (Hong, 1982) and the Laiyang Basin of Shandong Province (Hong & Wang, 1990) has revealed numerous new species of insect fossils, which have greatly enriched our understanding of the evolution and development of the Jehol biota.

4. Study on fossil insects from the Triassic Tongchuan Formation

Prof. Hong conducted long-term fossil excavation and research work on the Middle Triassic Tongchuan Formation in Shaanxi Province (Fig. 3) and published numerous research papers. In particular, systematic research on Mecoptera was carried out, and the Glosselytrodea insects were discovered for the first time in China (e.g., Hong, 2007). These efforts have laid a solid foundation for future generations.

FIGURE 4. Prof. You-Chong Hong (right) and students collected Carboniferous insects in the Qilian Mountains.

FIGURE 5. Prof. You-Chong Hong collected Cretaceous insects from the Lower Cretaceous Lushangfen Formation, western Beijing.
5. Establishment of evolutionary sequence of entomofaunas in northern China

Prof. Hong’s research team discovered the Late Carboniferous insects in the Qilian Mountains of Ningxia, China, which filled a key gap in the study of Chinese insect fossils (Fig. 4). He studied various insects from the Carboniferous-Permian Taiyuan Formation and the Permian Shanxi Formation in northern China. He discovered and studied numerous insect-bearing fossil localities in the Mesozoic in northern China, such as the Early Cretaceous Lushangfen entomofauna in western Beijing (Fig. 5) and the Early Cretaceous entomofauna in Guyang, Inner Mongolia. Pioneering research was carried out on the Miocene Shanwang Entomofauna in Linqu County, Shandong Province (Hong, 1985). These studies established a framework for the evolutionary sequence of entomofaunas in northern China (Hong, 1998).

6. Mesozoic stratigraphy and other studies

Prof. Hong specialized in Mesozoic stratigraphy and offered unique insights into the division of Mesozoic strata in various parts of northern China. Additionally, research work was conducted on other arthropod fossils, including such as Notostraca and Xiphosurida. He also conducted in-depth explorations on some key scientific questions, such as the origin of bees.

Prof. Hong conducted extensive international collaborations on various projects. He made academic visits to Germany, Japan, Canada and other countries, and introduced China’s palaeontological research to the world (Fig. 6A, B).

Prof. Hong not only laid the foundation for the creation of the palaeontological discipline in China, but also made valuable contributions to the formation of the Chinese palaeontological research team. His graduate students such as Dong Ren, Decheng Peng and Zhijun Zhang also greatly contributed to the development of the palaeontological research in China. The fossil insect team from the Capital Normal University led by Prof. Dong Ren is an active and productive team in the
international palaeoentomological community. Prof. Hong also jointly trained some graduate students and supervised many young scientists and technicians to conduct palaeoentomological research (Fig. 6C), and most are still active at the frontier of palaeoentomological research.

Outside of paleontology, Prof. Hong had been obsessed with the Chinese ink painting since his childhood. While busy with research work, he remained true to his original aspiration, fascinated by his hobbies such as painting, calligraphy and engraving. His landscape paintings are highly artistic and appealing (Fig. 6D).

Prof. Hong was still at the desk while in his 80s, doing research and writing papers. He dedicated his life to China’s palaeoentomological research.

References

Appendix: Bibliography of Prof. You-Chong Hong


Hong, Y.C. (1965) Eocene Dipteron fossils from Fushun coalfield of Liaoning [In Chinese with English abstract].


