

## INTERNET SHELL TRADE, A NEW THREAT TO MALACODIVERSITY

*By Guoyi Zhang & Min Wu*

Shells were not a bulk business target in China's economic tradition. However, this situation has changed recently. Has such shell trading affected the malacodiversity of the places where these shells come from? Is there any real-time or potential negative influence of this business practice on mollusc conservation? The story of Mr. Jing He, the largest Chinese shell trader, shows different facets of the relationship between shell exploration and conservation and sheds light on consideration of the above questions.

In 2004, He began to sell shells and shell-related goods in Shanghai. As a so-called independent researcher in conchology ([guokr.com/i/0935377258/](http://guokr.com/i/0935377258/)), through a private museum and internet business website ([ganvana.com](http://ganvana.com)), he expands the business in shells. His publications, namely the books "Families of Mollusks" and "The Freshwater Bivalves of China", and the journal "Shell Discoveries" make his public image more close to a serious malacologist, although they made trouble for malacology. Despite dressing himself up as a conchology researcher and despite his infectious enthusiasm for popularisation of conchology, He targets nothing but selling shells.

Biodiversity pursuits need a scientific and operative species concept (Hong, 2016). His rude attitude towards the International Code of Zoological Nomenclature (ICZN) is exemplified in his 2018 public statement that "even now, ICZN is not the law that we must obey". He has described and published new species, most of which have been synonymized or proven to be misidentifications (e.g. in freshwater molluscs: Bogatov & Prozorova, 2017; in terrestrial molluscs: Páll-Gergely *et al.*, 2017; Zhang, 2019). Moreover, the types of such new species are kept privately (Fang, Y.F. pers. comm.; Qian, Z.X. pers. comm) rather than being deposited in qualified institutions as recommended by ICZN (1999). The purpose of such publication seems only to name the species after the collectors who usually supply the shells for free and are inspired by such action to collect more (Lu, L. pers. comm.; Wang, K. pers. comm.). The staffs of some Chinese public museums, including Zhejiang Natural Museum, Beijing Natural Museum and Tianjin Natural Museum, cooperated on these publications. These staff, most not expert in malacology, even knew neither what such papers dealt with nor the material involved (Zeng, Z., pers. comm.). This official connection means, to the public, that this manipulation will undoubtedly make his commercial life have a halo of popular science. In addition, taking group photos with well-known museum curators of malacology has provided another false impression to the public. And he co-operated with a variety of organisations of natural science popularisation and some national institutions, including Shanghai Zoo, Tsinghua University, Key Laboratory of Tropical Marine Bio-resources and Ecology (Chinese Academy of Sciences), which unintentionally helped him to package himself as a conchologist who loves popular science and nobody can say it is not a big advertisement for his shell business.

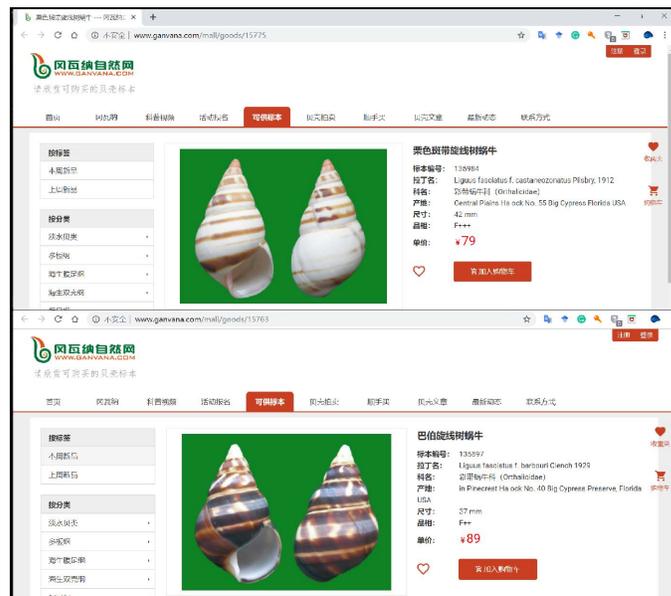


**Fig. 1.** At the shell auction of the “Interesting Museum”. Ji, Xiaohua (Ji, Shisan), CEO of Guokr, one of the hugely influential popular science websites of China, bidding for a shell.

All these and some popular science websites (e.g. [www.guokr.com](http://www.guokr.com)) made He an outstanding star in the field of popular science. His fans in the popular internet social network Weibo reached 4,582,000 as of 30 November 2019. Daily page views via this network reach more than 100,000. Videos of his popular science activities received many hits, e.g. 96 videos on Bilibili with a top hit rate of 76,000, the videos on Weibo with 30,000 to 359,000 hits. Meanwhile, offline shell shows also attract numerous visitors. For example, at the shell auction of the “Interesting Museum” hosted by [www.guokr.com](http://www.guokr.com) (Fig. 1), 65,000 ads were released and visitors over two days reached 28,957. He’s fans can be classified into three groups. The first is the consumer. The second is both the consumer and the shell provider. The third is the shell provider. Many shell providers are collectors from undeveloped areas where even low-priced business makes collection activities rational.

The growing page views, increasing number of fans, and shell shows result in a prosperous business depending on injury to malacodiversity. As shown by the website, there were 35,289 shell items available for sale in He’s shopfront as of 19 July 2019. Every week about 250 new items were added. Sales of shells have been assessed as stable at around 13,000 per year. The shells are not only obtained from the collectors mentioned above, but also from international shell trades through which shells from Australia, Europe, the Philippines, Thailand, the United States, Vietnam, etc. are obtained. We are suspicious of the source of many shell items sold by He, e.g. the famous *Liguus* spp. are from two natural reserves in Florida (Fig. 2).

About 42 species (19 %) that are now for sale in He’s online shell store are listed in the categories Endangered (EN) and Critically Endangered (CR) on the China Species Red List (CSRL) (Wang & Xie, 2004, 2005). Because CSRL covers only a portion of the mollusk species of China, i.e. 221 species of gastropod snails, based on the species recorded in the published “Fauna Sinica” series that include approximately 1,800 valid species (Dong, 1988, 2002; Mang, 1997; Wang, 1997, 2002; Chen & Zhang, 1999, 2004; Xu, 1999; Zhuang,



**Fig. 2.** *Liguus fasciatus* for sale at [www.ganvana.com](http://www.ganvana.com).

2001; Zhang, 2016; Wu, 2018), we estimate the Chinese species for sale in He’s online store “Ganvana Nature” are more than 340 species, the number of which might be slightly reduced because of his misidentifications. Considering that Chinese shell specimens in this store number 3,971, about 11.3 % of his total stock, we estimate about 2,600 species worldwide are threatened by this business.

Although cooperating with the institutions involved in natural preservation, He says with certainty that his shell collection activities will not do harm to malacodiversity (May 28, 2010, web article). Deliberately minimizing the impact of artificial collection to dispel any further doubts the consumers might have, he usually overemphasizes that damage to habitats is the only way in which molluscs become extinct. The truth is, as for instance like the Cuban land snail *Polymita picta*, many species are becoming seriously endangered by human collection/recreational activities.

Here we just provide an example of how e-business attracts a rapidly growing number of fans who in return influence or will potentially impact biodiversity enormously. In this case, both the traders and the purchaser are wandering in the grey zone where the biodiversity-friendly world is challenged by the commercial interests and rawness of greed that is often overlooked by the professionals, institutions and lawmaking bodies.

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Guoyi Zhang, College of Life Sciences, Shandong Normal University, Jinan 250014, China; School of Life Sciences, Nanjing University, Nanjing 210023, China. starsareintherose@gmail.com  
Min Wu, School of Life Sciences, Nanjing University, Nanjing 210023, China. minwu1969@aliyun.com.