The Development and Status of
National Specimen Information Infrastructure (NSII) in China

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The project of "The Construction of Platform for the Standard Cleaning, Integration and Sharing with Specimen Resources" (2005-2008) was sponsored by the Ministry of Science and Technology (MOST), China. It is consisted of 6 platforms, including Chinese Virtual Herbarium for plant specimens(http://www.cvh.org.cn), national digital-museum of animal specimens(http://museum.ioz.ac.cn/), integrated specimen platform in the universities(http://mnh.scu.edu.cn/), national infrastructure of mineral rock and fossil resources (http://www.nimrf.net.cn/), specimen platform in the protected area(http://www.papc.cn/), resource-sharing platform of polar samples(http://birds.chinare.org.cn/index/). Currently, there are in total more than 8 million kinds of specimens available from these six platforms (involving about 100 institutes and universities in China).

In the late of 2011, the MOST selected 23 of previous sponsored platforms to sponsor again in next several years and the project of digital specimen platform was among them. After several discussion and workshop, this project is entitled as "National Specimen Information Infrastructure" (NSII), which will integrate the existing 6 platforms into one big platform. It will not only focus on the specimen data, but also other related data, such as catalogue, living photos, literature, distributions and other related thematic databases. These works are strongly based on our previous work. We have built several websites focusing on these themes under the support of Biodiversity Committee of Chinese Academy of Sciences, such as Species 2000 China Node(http://www.sp2000.cn/,about 60,000 species), BHL (Biodiversity Heritage Library) China Node(http://www.bhl-china.org/, more than 10,000 books), EOL(Encyclopedia of Life) China Node(http://www.eolchina.org/), Nature Museum(http://www.nature-museum.net/, 2.4 million photos) and Plant Photo in China(http://www.plantphoto.cn/, more than 1.0 million photos). All of these websites are receiving more than 10,000 users every day. Therefore, the integrated NSII will be an ecosystem-like information infrastructure, which will provide one-stop biodiversity information service in China.

This platform will make fully use of related IT techniques, such as database techniques, network programming, mobile techniques, webGIS techniques, facet-based search engine. Many of them are open source techniques, which will fasten our development speed and limit the bugs. As an SOA-based cyber-infrastructure, this platform will provide functions like data access, data discovery, data processing, visualization, modeling, products, and scientific community. The service evaluation will include the number of data records, access statistics and best practices. It will play a very important role in constructing the biodiversity e-science infrastructure (cyber-infrastructure) in China in the future.

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