Biodiversity of Bitahai Nature Reserve in Yunnan Province, China

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Abstract. Bitahai Nature Reserve is located in Northwest Yunnan and is the highest elevation and the highest latitude wetland nature reserve in Yunnan Province. Bitahai Nature Reserve is a typical wetland nature reserve in very low latitude and high elevation with large areas of coniferous forest around the alpine till lakes, wetland and water area ecosystem while compared with natural reserves distributed same latitude in the world. The area of the reserve distribution is the key area of Transverse Mountain Region. It was a refuge for plant and wildlife because Transverse Mountains were not covered by ice in the Tertiary. And the area is now regarded as a center of forming new species and preserving ancient species. Species biodiversity is high and the distribution of some endemic animals and plants are limited in Transverse Mountains area. In the nature reserve, there are many first and second grade protected plants and animals listed in Lists of China National Priority Protection Fauna and Flora. All of these are precious materials of genetic diversity. The diversities of the plant community and vegetation contribute to ecosystem diversity. Thus, Bitahai Nature Reserve holds with high conservation value. However, its biodiversity is threatened by different factors and its conservation should be paid great attention.

Background

Bitahai Nature Reserve is located in Shangrila County (named as Zhongdian County before December 2001) and belongs to Diqing Tibetan Autonomous Prefecture in Northwestern Yunnan, China. Bitahai Nature Reserve includes two parts – Napahai and Bitahai–Shuduhu. They were local reserves and separately called Bitahai Nature Reserve and Napahai Nature Reserve when they were built in 1981. And they were promoted as provincial-level natural reserves by Yunnan province government in 1984. Their territories were originally 14,181 and 2400 ha. The business of two reserves always had been controlled uniformly by the Bitahai Nature Reserve. Two reserves are being planned to combine and called Bitahai Nature Reserve to applying National Nature Reserve. Their total land area is enlarged to 33,000 ha. Bitahai–Shuduhu part lies between 27°46′35″–27°57′25″N and 99°54′23″–100°08′59″E, its area is 26,869.2 ha and accounts for 81.2% in the total area; Napahai part locates between 27°47′58″–27°55′00″N and 99°35′43″–99°40′56″, its area is 6201.1 ha and accounts for 18.8% (Figure 1).
When the nature reserve was established in 1981, a preliminary investigation for biological resources had been conducted and a planning for the nature reserve construction had been finished. Henceforth, more survey and investigation for biological resources have been launched in northwest Yunnan by some institutes of Chinese Academy of Sciences, universities and colleges of Yunnan or the other provinces in China. Some publishing monograph or works reported or recorded the biodiversity of this area have been published (Chu 1989; Chu et al. 1989, 1990; Yang 1991; Yang et al. 1995). A comprehensive and systematic integrated investigation (including many subjects, such as insects, freshwater fishes, amphibians and reptiles, birds, mammals, fungi, fern, gymnosperm, angiosperm and so on) for the Hengduan Mountains Region (i.e. the Transverse Mountains Region) was carried out by the teams of comprehensive scientific expedition to the Qinghai-Xizang Plateau, Chinese Academy of Sciences during 1981–1985. The series of the scientific expedition to the Hengduan Mountains of the Qinghai-Xizang Plateau have been published in succession (Chen 1992, 1993, 1998; 

Figure 1. The Location of Bitahai Nature Reserve.