[illegible]

[illegible] 273165

[illegible] 2012 [illegible] 7 [illegible] 12 [illegible] 163 [illegible] 78 [illegible] 65 [illegible] 17 [illegible] 3 [illegible] 141 [illegible] 105 [illegible] 102 [illegible] 95 [illegible] 80 [illegible] 73 [illegible] 2 192 ind/L [illegible] 2.27 mg/L [illegible] Shannon-Wiener [illegible] pH [illegible]

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Zooplankton Community Structure and Its Relationship with Environmental Factors in Nasi Lake

CHEN Lei GAO Dong-Quan SHU Feng-Yue ZHANG Hong-Hai*

Key Laboratory of Wetland Ecology and Environment Conservation of Nansi Lake, College of Life Science, Qufu Normal University, Qufu 273165, *China*

Abstract: Investigations were conducted in July (summer) and December (winter), 2012 to evaluate the characteristics of zooplankton community and its relationship to environmental factors in Nansi Lake (Table 1). Combined with historical data, the temporal and spatial characteristics of zooplankton community were described. 163 zooplankton species, including 78 Rotifera, 65 Protozoa, 17 Cladocera and 3 Copepoda (Table

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* E-mail: zhanghonghai67@126.com

E-mail: leisurechen@163.com

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2), were identified in Nansi Lake. Seasonally, species number of zooplankton in summer (141) was higher than that in winter (105). In term of four lake regions, the majority of zooplankton species were found in the Weishan Lake, followed by Nanyang Lake, while less in Zhaoyang Lake and Dushan Lake (Table 3, Table 4). The average density and biomass of zooplankton species in Nansi Lake were 2 192 ind/L and 2.27 mg/L respectively. Most of the zooplankton species have higher density and biomass in summer than in winter except the Protozoa (Table 5). Diversity of zooplankton community in Nansi Lake was assessed using richness indexes, Shannon-Wiener indexes and evenness indexes. Results indicated that the zooplankton diversity in summer was higher than that in winter in Nansi Lake. Stepwise regression analysis on the density, mass and diversity indexes of zooplankton with the environmental factors indicated that total nitrogen is the significant factor on zooplankton density; total nitrogen and water temperature are most important factors on zooplankton mass, whereas pH and conductivity had the strongest direct effects on zooplankton diversity (Table 6).

Key words: Nansi Lake; Zooplankton; Community diversity

1 б

1.1

1.2 р б

1.2.1

1.2.2