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A new ornithological record, Pechora Pipit *Anthus gustavi* Swinhoe, 1863, from Xinjiang

Peng DING^{1,2}, Ming MA^{1*}, Ying CHEN^{1,2}, Geoff CAREY³, Paul HOLT⁴

¹ Key Laboratory of Biogeography and Bio-resources in Arid Land, Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences, Urumqi 830011, China;

² Graduate University of Chinese Academy of Sciences, Beijing 100049, China;

³ Asia Ecological Consultants Ltd, Hong Kong, China;

⁴ Sunbird, Bedfordshire, SG 19 1DF, UK

Abstract: On 15 September, 2010, a Pechora Pipit *Anthus gustavi* Swinhoe was found in the Hami prefecture (41°13'N and 93°29'E, 1,143 m a.s.l.), Xinjiang, during the period of a comprehensive scientific survey in Lop Nur region. The bird, which was photographed, is a new avian record for Xinjiang. The pipit reproduces in northern Eurasia, mainly in wide meadows and low hills, and can be found in open forests and nearby residential areas in the process of on migration. The species is an insectivore and is a rare migrant or vagrant in Xinjiang. The geographical distribution, character, habitat, ecological habit and subspecies of the Pechora Pipit were discussed in this paper.

Keywords: Pechora Pipit; *Anthus gustavi*; new record; avian; Lop Nur; Xinjiang

On 15 September, 2010, during a comprehensive scientific survey in the Lop Nur region of the Hami prefecture (41°13'N and 93°29'E, 1,143 m a.s.l.), Xinjiang, an unknown bird was observed, photographed more than ten pictures. After carefully analyzing the pictures, and reviewing relevant references (Mullarney *et al.*, 1999; MacKinnon and Phillipps, 2000; Zhao, 2001), we identified the bird being a Pechora Pipit *Anthus gustavi* Swinhoe, 1863 and belonging to the Motacillidae and Passeriformes species. According to the researches of Zheng (2005) and Ma (2011), the species had not been previously reported in Xinjiang. We checked the information of the Bird Watching Record Center in China at the end of May 2011 (China Bird Watching Network website, 2011), and found no report of this species in Xinjiang. Therefore, this was the first record of the species in Xinjiang. The species is classified as one of least concern by the International Union for Conservation of Nature (IUCN), and has been listed in the China Species Red List: Vol. 1 Red List (< 5%) (Wang and Xie, 2004) and ranked on the list of national terrestrial protected wildlife in

China for economic and scientific value (State Forestry Administration, 2000).

1 Morphological characteristics

The size of Pechora Pipit is small to medium with a length of 14–16 cm, and the sexes are identical. The upperparts are tan, with finely but distinctly streaked dark brown marks on the forehead, crown and nape. The supercilium is inconspicuously maple or light yellowish-white. Its cheeks and auriculars are chestnut or dark brown. The prominent white tips to the median and greater covert form two prominent white wing bars. The underparts are grey, and the chest is pale yellow. Its iris is red-brown, while the somewhat heavy bill usually has a pinkish or light brown base. Its tarsus and claws are flesh red (Fig. 1). The species is similar to the Red-throated Pipit *A. cervinus* during the non-breeding season, but differs as follows: short tertials that do not cover the primaries to the tips; two broad whitish mantle stripes on its back; the breast is

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*Corresponding author: Ming MA (E-mail: maming@ms.xjb.ac.cn)

Fig. 1 Pechora Pipit in Lop Nur region of Xinjiang, taken on September 15, 2010. (*Anthus gustavi* Swinhoe, 1863)

quite warm in color; there is flesh red at the base of the bill; and the outer tail feathers are not pure white (Mullarney *et al.*, 1999; MacKinnon and Phillipps, 2000; Zhao, 2001).

2 Geographical distribution

There are two separate populations of Pechora Pipit breeding in North Siberia, Ussuriland, Amurland, and Far East Russia. The species occurs as a migrant in the Commander Islands and probably through most of Eastern China and southern Hong Kong of China. It winters in the Philippines and Indonesia (del Hoyo *et al.*, 2004). The records of the bird in China are held in Heilongjiang, Liaoning, Hebei, Shandong, Jiangxi, Fujian, and Taiwan (Zheng, 2005). The bird breeds at Xingkai Lake and along the Heihe River in Heilongjiang province, while it is a passage migrant in other regions (Zhao, 2001). As a small passerine that largely occurs as a migrant, researchers pay less attention to the species in China.

Pechora Pipit appears to be a rare migrant or vagrant in Xinjiang, though given the location of its breeding and wintering grounds, it is likely that this small bird of unobtrusive habits is simply overlooked. Other possible reasons for its occurrence in Xinjiang include: the migrations of the birds, global climate changes, environmental changes, natural dispersion of the species, etc. (Ma, 2010).

3 Habitat and ecological habit

Pechora Pipit mainly inhabits open forest, meadow and low mountain belt. During the breeding season, the birds are commonly found in the margins of taiga and swampy wetland. They are rarely found in desert areas in the process of migration, except for in desert areas where an oasis or dense riparian vegetation is present. The species often occurs alone, sometimes in pairs, and inhabits on the ground, occasionally perching on trees and bushes. The song of the bird is a short, sharp, clicking ‘dzepp’ with an almost electrical overtone, repeated a few times and is louder than other pipits. The call is reminiscent of Grey Wagtail *Motacilla cinerea*, a short, ‘pwet’. The pipit mainly eats insects, and also feeds on leaves and the flowers of plants.

4 Taxonomy

Two subspecies of *A. gustavi* are currently recognized: *A. g. gustavi* is breeding in northern Eurasia, and *A. g. menzbieri* is reproducing in Xingkai Lake, and Heihe River in Heilongjiang province, and in the eastern Russia, in Amurland and Ussuriland. *A. g. menzbieri* may be a different species (Cramp, 1988; Stepanyan, 1990), because the breeding grounds of the two subspecies are very widely separated, and their morphological characteristics and songs are different.

Field identification of the two subspecies is not easy, but the body color of *A. g. gustavi* tends to be lighter on the upperparts and whiter, and less streaked on the underparts. Based on the distribution of the two subspecies (Zhao, 2001; Zheng, 2005), it appears likely that the bird was *A. g. gustavi* of the Lop Nur region. However, the photographs indicate that the bird was not as light as most of the individuals of the subspecies in autumn.

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Xinjiang Institute of Ecology and Geography established

three new research departments

Xinjiang Institute of Ecology and Geography (XJEG), Chinese Academy of Science (CAS), established three new research departments in 2011. They are Department of Geology Mineralization and Mineral Resources, Department of Environmental Pollution and Process Control, and Department of Central Asian Cooperation and Coordinated Development, respectively. Now, there are a total of eight research departments in XJEG, CAS.

The main research fields of Department of Geology Mineralization and Mineral Resources are: (1) Continental dynamics research; (2) Mineral resources and metallogenic prognosis; (3) Multi-information integration of mineral and geological exploration technique; and (4) Energy geological exploration. The aim of the research department is to promote the research of mineral resources and to develop the economy and society in Xinjiang.

Department of Environmental Pollution and Process Control mainly studies the mechanisms, processes and effects of environmental pollution, and provides technical measures to control and restore environmental pollution in arid areas. The main research fields of the department are: (1) Watershed pollution and environmental risk; (2) Ecotoxicology and the impact of pollutants on human health; (3) Water pollution control technologies of inland rivers; (4) Pollution control and the clean production of energy, mining, and chemical industries; (5) Remediation of contaminated areas and food security; (6) Waste disposal and waste recycling technology.

Department of Central Asian Cooperation and Coordinated Development will combine the scientific research capacity of the universities and institutes in the field of resources and environments from five Central Asian countries, Russia and Mongolia, and carry out the researches on water, soil, climate and biological resources in arid areas. The department will conduct the researches on regional ecological processes, climate change and the ecological response, terrestrial biogeochemical cycling, water resource utilization and management, ecosystem restoration and management, and desertification control and biodiversity conservation. With the researches, the department will build a scientific team which works towards ecological researches in arid areas of Central Asian, and provides scientific basis for the regional ecological security in Central Asia.