

The results of the satellite-tracking of Black-faced Spoonbills in 1998

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INTRODUCTION

The Black-faced Spoonbill *Platalea minor*, endemic to East Asia, is one of the region's rarest and least known species. It is designated as 'Critical' by BirdLife International (Collar *et al.* 1994), as only about 600 individuals have been observed in its wintering grounds (see Appendix 1 of these proceedings) and the known population of breeding birds on the west coast of the Korean Peninsula, the sole known breeding area, is only about 130 individuals (Chong & Pak 1999, these proceedings). More breeding sites are, however, suspected in other areas of the Korean Peninsula, and in North-eastern China and South-eastern Russia and the initial effort to conserve Black-faced Spoonbills calls for locating these breeding sites and their migration routes. Following the successful satellite-tracking of White-naped Cranes *Grus vipio* (Higuchi *et al.* 1994, 1996), and the consequent implementation of conservation plans (Ichida 1994), a decision was made at the Tokyo 'Workshop for the Black-faced Spoonbill Conservation' to attempt to satellite-track Black-faced Spoonbills migrating from Taiwan and Hong Kong. Here we report the results of the tracking survey of 1998.

METHODS

In Hong Kong, spoonbills were captured between February 24 and 27, 1998 by the joint WWF-Hong Kong and Japanese team, in particular, David Melville and Paul Leader (WWF-HK), Kiyooki Ozaki (Yamashina Institute for Ornithology), and Mutsuyuki Ueta (WBSJ)(see Melville *et al.* 1999, these proceedings). Since Black-faced Spoonbills forage in shallow ponds where small fish and crustaceans are easy to catch, we attracted spoonbills by creating a shallow pond in the Mai Po Nature Reserve on Feb. 25. The spoonbills were caught at two of the three capture points by a previously installed rocket net. A PTT was set on one of the five birds captured on Feb. 26, and two more PTTs were put on two birds captured on Feb. 27.

In Taiwan, spoonbills were captured from February 13 to March 10, 1998 by a team from the National Taiwan Normal University led by Prof. Ying Wang. Their movements were tracked by radio telemetry and their nightly feeding sites located at fishponds. However, these feeding sites were not regular at this time of year which made capture more difficult than it would have been earlier in the year. The team placed knot traps so that the spoonbills were trapped when they stepped into them when feeding. Three birds were captured but since one was very inactive it was recaptured and the PTT was removed and put on another bird captured later.

The size of the PTT T-2050, made by the Nippon Telegraph and Telephone Corporation (NTT) and Toyo Communication Equipment Co., Ltd. (TOYOCOM), was 41 (L.) x 33 (W.) x



Fig. 1. Migration route of a Black-faced Spoonbill from Taiwan, 1998.

21 (H.) mm and weighed 25 g including an antenna of 18 cm. PTTs were harnessed to the backs of the spoonbill with Teflon treated ribbons, and the ends were sewn with absorbable surgical sutures (Nagendran *et al.* 1994). The duty cycle of PTT was set to cycle at 6 hours active and 42 hours inactive, with a pulse interval of 70 seconds. The battery life was expected to be six months.

RESULTS AND DISCUSSION

a) Hong Kong

Unfortunately, none of the three PTTs on our captured birds sent signals powerful enough for us to locate them, and so we were unable to track the movements of any of these birds.

b) Taiwan

Of the three birds, only ID 4518 was tracked to show its migration route, which was

from Taiwan to the eastern China Sea coast (29°10'). This individual showed several migratory stopover sites (Fig. 1), most of which were previously unknown. These sites are expected to be resting and wintering sites of Black-faced Spoonbills. Since ID 4518 was a sub-adult bird, it is suggested that the last location of ID 4518 is a staging site for non-breeding birds. We will conduct field surveys to confirm whether the site is used as a staging site or as a summering site by non-breeding spoonbills.

The Black-faced Spoonbills were associated with open habitats and they ignored the PTTs mounted on their backs. Therefore, the problems of this new model PTT are related to technical shortcomings, such as the materials of the antenna, timers, batteries or settings. It is important to improve the PTT system so as to be able to make further efforts in our satellite-tracking project.

CONCLUSION

Even though our results were of limited success, this was the first research to clarify a migration route and possible summering site of the Black-faced Spoonbill.

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