

Rosvall 2008). Such competition might occasionally result in intraspecific killing. For example, in a New Zealand population of European Starlings *Sturnus vulgaris* females competed with one another intensely for access to nest-boxes. This competition occasionally resulted in one female stabbing the other with their claws, which could result in fatal injuries (Flux & Flux 1992). In a Belgian population of European Starlings with higher nest-box densities (and therefore less competition for nest-sites), females were less likely to fight for access to nest-boxes (Pinxten *et al.* 1989). Female European Starlings respond most aggressively towards other female starlings in the pre-laying phase of the breeding season, when competition is most intense for nest-sites (Sandell & Smith 1996). In the long-term study of Great Tits at Wytham Woods, dead bodies of females have been found early in the breeding season with their heads pecked (A. Gosler *in litt.* 2012). The attack we report here took place in early spring, when Great Tits are starting to breed and searching for suitable nest cavities. Therefore, female–female competition for nest-sites is another possible cause for the fight between the females.

The sustained nature of the attack is interesting as the attacking female continued to attack the prone bird for over 20 minutes. Cases of physical aggression in small passerines (including Great Tits) are normally much shorter than the length of time that we observed this fight (CAB pers. obs.). This is because fighting, whilst sometimes necessary to defend resources or offspring, is costly even for victors. There are direct energetic costs associated with fighting and as well as risks of injury (e.g. Haley 1994). Additionally, individuals may be subject to increased predation risk whilst they are engaged in fighting because they may not be so vigilant for predators and/or more conspicuous (e.g. Jacobsson *et al.* 1995). Finally, there may be opportunity costs in fighting such as lost foraging opportunities (e.g. Neat *et al.* 1998). Therefore, it would seem that this prolonged attack may not have been in the best interest of even the attacking female and might have been induced as a result of the behaviour and posture of the dying victim.

Our observations provide the first evidence of intraspecific killing between female Great Tits. There are some reports of intraspecific adult killing in other species (e.g. Lombardo 1986, Flux & Flux 1992, Anderson 2004). However, most observations are unlikely to be published. Therefore, we would encourage the publication of further observations of intraspecific killing in order to better understand the conditions that lead to escalation of fighting and to the death of one individual.

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## Nesting Fork-tailed Swifts *Apus pacificus* in north-eastern Vietnam

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The breeding distribution of many bird species in Tonkin, northern Vietnam, is still poorly known (Pilgrim *et al.* 2009). That of Fork-tailed Swift *Apus pacificus* is no exception. In the most up-to-date overview of the region's avifauna, Robson (2011) lists this species as resident in West, but not East, Tonkin, which suggests a gap of at least 600 km between breeding sites in north-western Vietnam and those in southern China. Observations reported here show that such a gap does not exist.

On 17 June 2011 a colony of Fork-tailed Swifts was found on a small limestone islet (20°45'N 107°03'E) close to Cat Ba Island in Ha

Long Bay, north-eastern Vietnam. The swifts were nesting in a deep crevice in a vertical rockface rising from the sea, approximately 25 m above the high-tide mark. The nests were not visible, but swifts (up to four at a time) were repeatedly observed entering and leaving the crevice. House Swifts *A. affinis* were nesting on a more exposed rock surface about 30 m from the crevice in larger numbers (at least ten active nests), providing a good opportunity for comparing the birds side-by-side. The Fork-tailed Swifts were larger, with longer, narrower wings, and narrower white rump-bands. Their calls also differed obviously from those of the House Swifts, being

long screeches rather than warbling trills. The swifts were observed in the evening, and then at dawn of the following day, both times in calm overcast weather.

Recently Leader (2011) presented evidence to support the splitting of Fork-tailed Swift into four species. Of these, only *A. (p.) cooki* is known to breed in Indochina, although the breeding range of *A. (p.) kurodae* is not far from north-eastern Vietnam (it includes Guangdong and probably eastern Guangxi, China). Leader stated that *A. (p.) cooki* habitually breeds in limestone caves. However, cave-breeding cannot be used for differentiating between the taxa, because *A. (p.) kurodae* and *A. (p.) pacificus* also sometimes breed in caves, including caves in sea-cliffs (Leader 2011; also pers. obs. in Vityaz Cove, Ussuriland). The plumage of the Ha Long Bay birds seemed almost black with no brown tinge. This feature and the narrow rump-bands suggest that the birds were *A. (p.) cooki*. Green iridescence characteristic of *A. (p.) cooki* was not seen, probably due to lack of direct sunlight.

Ha Long Bay is a World Heritage Site, and parts of it (although not the colony site) are protected in national parks. It is not a particularly popular birding destination. The area receives heavy tourist traffic, but this is focused in popular areas. The bay contains many limestone islands and so more remote parts may

harbour additional nesting sites of Fork-tailed Swift. Assuming the Ha Long Bay birds are *A. (p.) cooki*, the known range of this taxon is extended by 300–400 km to the east, and down to sea-level. It is possible that further studies will find *A. (p.) cooki* to be sympatric with *A. (p.) kurodae* in extreme north-eastern Vietnam or Guangxi.

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## Notes on the 2009 autumn crane migration in Muraviovka zakaznik, Amur oblast, Russian Federation

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### Introduction

Direct visual observations and counts have been a useful tool in understanding population size and dynamics of many conspicuous migratory species (Dingle 1996). In particular, observations or counts that take advantage of geographical features which funnel a large number of migrants into a relatively small area can prove highly valuable. For example, Smith (1980) was able to count over 500,000 migratory raptors as they funnelled through Panama during their migration from North to South America. Throughout the world, these geographical features have been identified by researchers and counts are now conducted annually in many of these locations providing long-term trends with certain migratory species (Dingle 1996).

In the Russian Far East, the large wetland complex of Muraviovka *zakaznik* (Russian game reserve) serves as one of these geographical features where large numbers of White-naped Cranes *Grus vipio* and Hooded Cranes *G. monacha* become concentrated during autumn migration. This 34,000 ha *zakaznik* is surrounded by agricultural fields in the southern portion of Amur oblast in the Russian Federation. Given that the *zakaznik* is located on the Russian/Chinese border, data collected here not only have the potential to provide unique insights into the health, demographics and numbers of cranes during their migration but may also aid in detecting changes in any of these which could result from their transition to new political and cultural hosts. Given that both White-naped and Hooded Cranes are listed as globally Vulnerable with a declining population (BirdLife International 2008), information regarding their population, environmental use and where efforts should be concentrated (both in a political and life-cycle context) will be valuable for the proper management of their populations.

During the northern autumn of 2009, we monitored cranes that utilised Muraviovka *zakaznik* as a stopover site during their migration from their breeding grounds in Russia to their wintering sites further south in China, the Korean peninsula and southern Japan. More specifically, we performed a morning census

throughout the stopover period when the birds departed from their roosts and travelled to their feeding sites. This census allowed us to derive (1) an approximate number of individuals of each of the species migrating through the reserve, (2) the size of flocks departing from their roosts, (3) the time at which they departed from their roosts, and (4) the approximate ratio of juveniles to adults birds. In addition, we were able to view and evaluate injured birds as well as hybrid pairs. Our key observations are presented here.

### Methods

Autumn crane activity was observed on a near-daily basis throughout the months of September and October 2009 within Muraviovka *zakaznik*. From 15 to 24 September 2009 early morning counts were conducted from 06h15 to 09h00. During this period the migratory cranes would leave their roosts within the reserve to begin feeding within the agricultural fields east of the reserve. Counting and monitoring of the cranes was conducted along a north–south farm road that bordered the reserve and the adjacent fields.

To ensure an accurate and complete count, two to four observers were spaced approximately 0.5–1 km apart along the road during the monitoring period. Utility poles were used as markers, so that each observer knew the boundaries in which he/she was to conduct his/her monitoring and to ensure that no crane was double-counted. The cranes were counted only after they passed the transect (road) travelling from west to east. At no time during the counts were cranes observed to cross the transect from east to west.

In addition to counting the cranes, observers noted any birds with apparent injuries and, when the flocks flew close enough, identified juveniles from adults. Each bird within a given flock was counted, and the time noted when each flock passed over the transect (within ten-minute intervals). Temperature data were provided for the dates of our counts by the Amur Oblast Meteorological Station located c.60 km to the west in the city of Blagoveshchensk.