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FIELD STUDY

Trapping and ringing Pale-legged Leaf Warbler *Phylloscopus tenellipes*, Muraviovka Park, Amur region, Far East Russia

LÁSZLÓ BOZÓ & WIELAND HEIM

Introduction

The monotypic Pale-legged Leaf Warbler *Phylloscopus tenellipes* (Sangster *et al.* 2015) breeds in south-east Siberia, Manchuria and North Korea (BirdLife International 2015). It breeds only on the mainland, in contrast to the very similar Sakhalin Leaf Warbler *P. borealoides*, which breeds on islands. The Pale-legged Leaf Warbler winters quite widely in South-East Asia (Baker 2010), although specific wintering ranges are unclear due to the difficulty of separating *tenellipes* and *borealoides*—previously regarded as conspecific—in the field. Field identification is possible only on the basis of some minimal morphological differences and the species's songs and calls (Martens 1988, Brazil 2009, Yap *et al.* 2014), although the latter is also compromised in winter because both species are largely silent and call infrequently. For breeding, it prefers closed, dense, moist deciduous and mixed forest and uses the lower parts of the canopy (Martens 1988). It often nests in river valleys, mainly occurring in the upper section of the rivers, and is rarer on the lower and middle sections (Korner-Nievergelt & Leisler 2004). It is also found in forested habitats in winter (Baker 2010).

Study site and methods

The study was carried out as part of the Amur bird project, Muraviovka Park, Far East Russia (Heim & Smirenski 2013). Birds were trapped using mist-nets and ringed on a daily basis during August and September in 2013 and 2014, commencing on 1 August. The nets were placed in a variety of

Plate 1. Pale-legged Leaf Warbler *Phylloscopus tenellipes*, trapped at Muraviovka Park, 4 August 2014.



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Plate 2. Pale-legged Leaf Warbler, dorsal view; trapped at Muraviovka Park, 12 August 2014.

habitats: reedbeds, wet sedge meadows interspersed with willows, raspberry thickets, mixed forest with a rich shrub layer and a coniferous plantation.

Nets were open 24 hours a day and checked every hour. Rings were provided by the Moscow Ringing Centre, and biometric data recorded according to Deutsche Ornithologen-Gesellschaft (2011); for details see Heim *et al.* (2012). We determined age, where possible, following Brazil (2009) and our own experience. Analysis was carried out on 79 individuals and 10 re-traps. We

determined the migration period, the first and last dates of trapped birds, the patterns and the peak of migration. We examined moult, body condition and biometric data. We analysed the time of day when the birds were most active and the habitats they used. Daily field observations were also made.

Results

A total of 79 individuals was ringed during autumn migration in 2013 and 2014, with 9 being retrapped a total of 10 times. The first individuals were caught on 1 August 2013, and on 2 August 2014. In 2013 migration peaked between 14–16 August with 23 birds ringed, whilst in 2014 it peaked between 7–10 August with 17 birds ringed. We also recorded field observations of the species; during autumn migration it is easily distinguished from the other *Phylloscopus* warblers—Yellow-browed *P. inornatus*, Arctic *P. borealis*, Radde’s *P. schwarzi*, Dusky *P. fuscatus* and Two-barred *P. plumbeitarsus*—in the area, by its distinctive calls. For about 30 days from the beginning of August, the species migrated through the park in substantial numbers, mainly in the canopy of the taller trees and bushes.

Seven of the 10 re-trapped birds were caught again within two days of ringing and the others were re-trapped 5, 6 and 12 days after ringing. The birds were most active in the morning: 56% were trapped between 06h00 and 08h00 and only 5 birds were trapped after 18h00. Most birds were caught in mist-nets set between bushes and small trees in low, dense woodland with raspberry bushes; not a single individual was caught in the wetlands, where other leaf warblers are regularly found. Some individuals were caught in a coniferous plantation and in dense, low bushes.

Moult

Age determination was possible only in 32 cases—31 juvenile and 1 adult. Juveniles showed completely fresh plumage, whilst adults were rather worn or actively moulting. Nine individuals were trapped while still in moult and in three cases the age could be determined: two young birds were

moulting only body feathers, while the adult was also moulting primaries, secondaries and tertials. Two of the six individuals of unknown age were moulting single primaries, secondaries and/or tertials in addition to body feathers.

However, despite the small numbers caught, it seems likely that most individuals migrating through the study site in autumn are juveniles—similar results were obtained for other species, trapped in much larger numbers, e.g. Dusky Warblers: 253 juvenile and 28 adult, Thick-billed Warblers *Acrocephalus aedon* 569 juvenile and 51 adult.

Condition

The fat score was determined in accordance with Bairlein (1995). Seven birds were in fat score category 0, 30 in category 1, 31 in 2, 16 in 3 and 5 in category 4. There was no correlation between the date and the condition of the birds in 2013 ($p = -0.13982$, $R^2 = 0.0196$), but in 2014 we found a positive correlation ($p = 0.547922$, $R^2 = 0.3002$). However, it is important to note that individuals with fat score 4 were caught only in the second half of August in both years.

Biometric data

Wing length: 56.0–67.5 mm (n = 76), P8: 42.5–50.5 mm (n = 83), tail: 42.7–48.8 mm (n = 37), weight: 7.4–10.7 g (n = 89), tarsus: 18.5–19.9 mm (n = 6), bill to skull (Bsk): 9.3–11.3 mm (n = 3), bill width (Bwp): 3.6–4.6 mm (n = 6), bill depth (Bp): 2.6–3.3 mm (n = 6).

Discussion

The Pale-legged Leaf Warbler is a common migrant at Muraviovka Park, which lies on the western edge of the species’s breeding range, and in 2013 breeding in the park was proved for the first time (Heim *et al.* in prep.). Much higher numbers migrate through the area on the basis of the field observations than the ringing data show. We did not observe a definite migration peak, but the majority of individuals were trapped between 7 and 16 August (Figure 1). Birds were most active in the early morning (Figure 2).

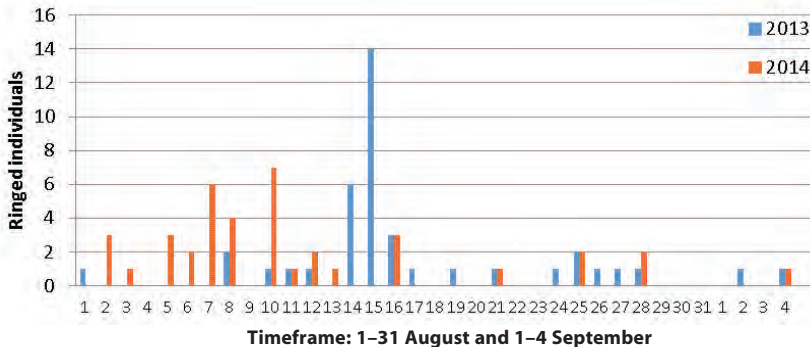


Figure 1. Total number of Pale-legged Leaf Warblers ringed in 2013 (blue) and 2014 (red). Only the individuals ringed on the day are shown (without the retrapped birds).

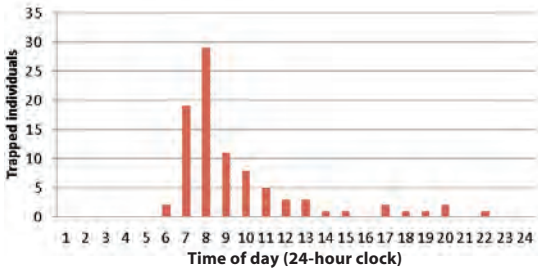


Figure 2. Activity of Pale-legged Leaf Warblers: number of individuals trapped at different times of day (24-hour clock), including the retrapped birds.

Our observations of the habitat where the species was found is in accord with the findings of other authors (Martens 1988, Baker 2010).

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