

# **The southern Jiangsu coast is a critical moulting site for Spoon-billed Sandpiper *Calidris pygmaea* and Nordmann's Greenshank *Tringa guttifer***

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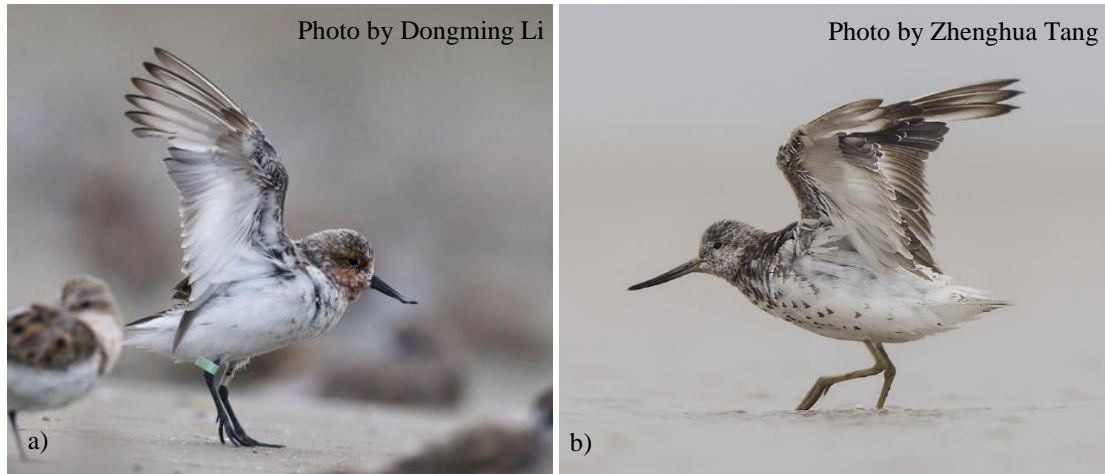


Figure S1. Two examples of the photos taken by citizen photographers, showing moult of the primary feathers of a) Spoon-billed Sandpiper (moult score: 5554400000) on 12 August, 2015 and b) Nordmann's Greenshank (moult score: 5554211000) on 20 August, 2014.

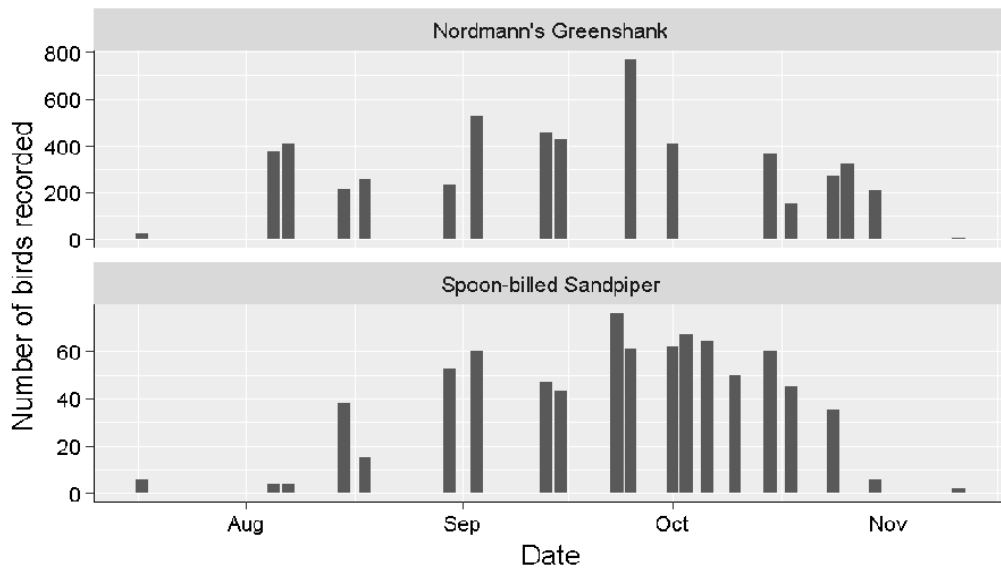


Figure S2. The number of Spoon-billed Sandpipers and Nordmann's Greenshanks recorded from July to November 2015 in southern Jiangsu Province.

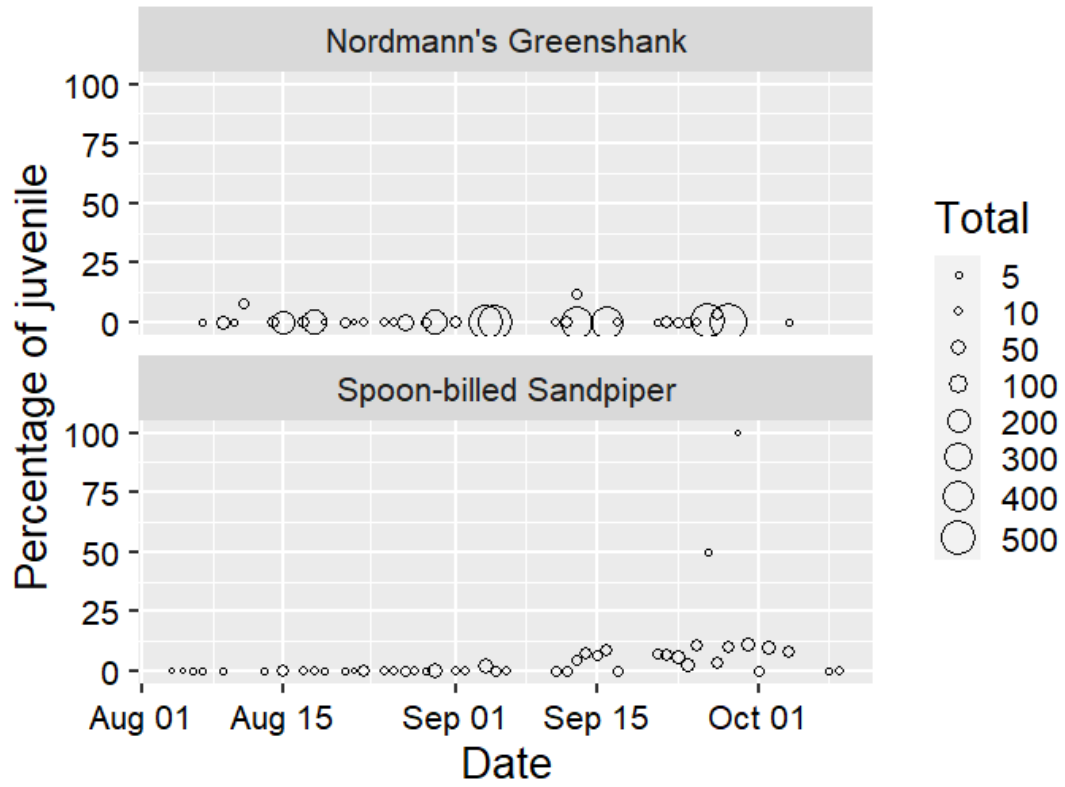


Figure S3. The percentage of juvenile Spoon-billed Sandpipers and Nordmann's Greenshanks recorded from August to October 2015 in southern Jiangsu. The size of the symbol corresponds to the number of birds aged.

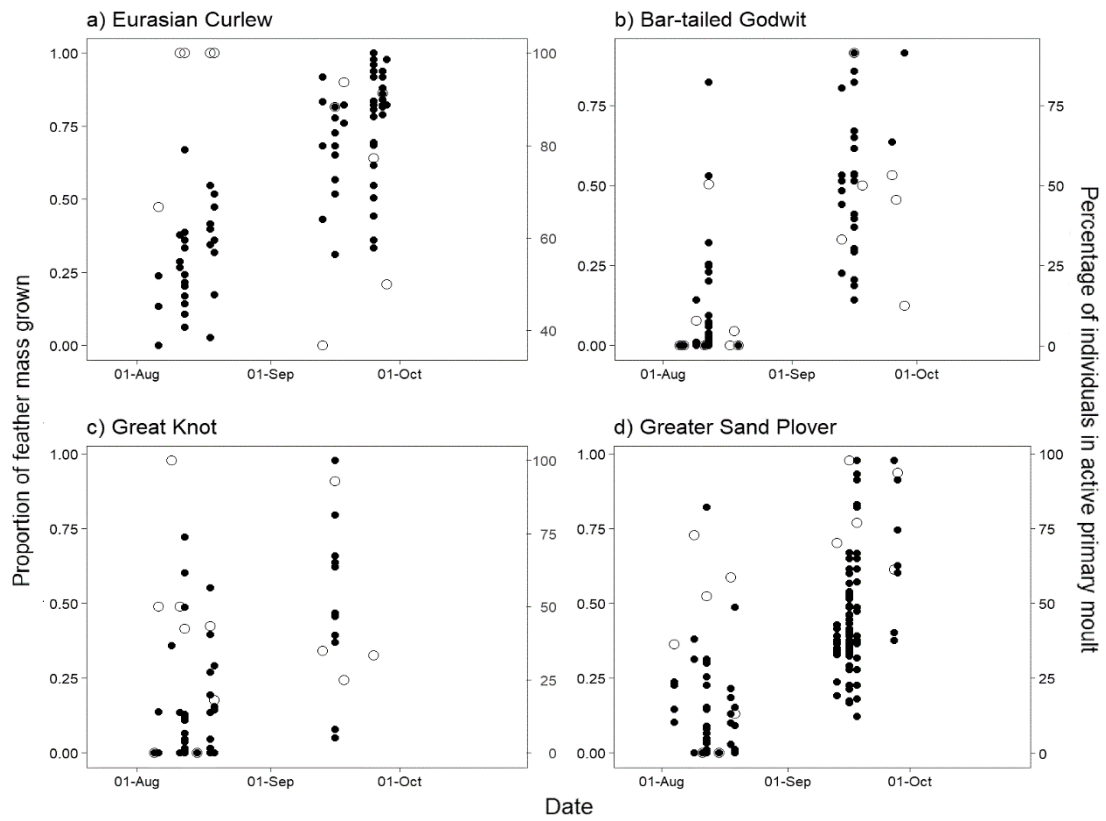


Figure S4. Proportion of feather mass grown (filled circles) and percentage of individuals in active moult (empty circles) for four shorebird species in southern Jiangsu during the autumn migration in 2015. Each filled point represents an individual, and each empty point represents all individual(s) whose moult score has been obtained on a single survey day. We used the relative feather mass of the Whimbrel *Numenius phaeopus*, Bar-tailed Godwit *Limosa lapponica*, Red Knot *Calidris canutus* and Chestnut-banded Plover *Charadrius pallidus* for the Eurasian Curlew, Bar-tailed Godwit, Great Knot and Greater Sand Plover respectively.

Table S1. Percentage of marked juvenile and second calendar-year Spoon-billed Sandpipers resighted at the study sites between 2015-2019, out of all the juvenile and second calendar-year Spoon-billed Sandpipers marked on the Russian breeding grounds in the corresponding years (assuming no mortality after banding).

Year	Percentage of marked juveniles	Percentage of marked second calendar-years
2015	0%	4.44%
2016	0%	7.14%
2017	0%	15.71%
2018	1.92%	6.82%
2019	2.04%	7.27%

Table S2. The mean moult start date ( $\pm$  SE) and mean moult duration ( $\pm$  SE) for four shorebird species during their southward migration in autumn 2015.

Species	Start date	Duration	Type of moult data <sup>1</sup>
Bar-tailed Godwit	August 17 $\pm$ 1.56 days	57.77 $\pm$ 4.46 days	2
Eurasian Curlew	July 28 $\pm$ 5.32 days	65.46 $\pm$ 8.64 days	3
Great Knot	August 16 $\pm$ 2.40 days	56.19 $\pm$ 10.20 days	5
Greater Sand Plover	August 12 $\pm$ 5.40 days	75.62 $\pm$ 11.66 days	3

<sup>1</sup>The type of moult data is determined primarily by the stage(s) of moult of the individuals sampled as defined in Underhill *et al.* (1990). For type 2 moult data, the probability of sampling pre-moult, in-moult and post-moult individuals should be equal. Type 3 requires individuals in moult; type 5 requires that individuals sampled are representative of the part of population pre-moult and in moult.

## References

- Underhill, L. G., Zucchini, W. and Summers, R. W. (1990) A model for avian primary moult data types based on migration strategies and an example using the redshank *Tringa totanus*. *Ibis* 132: 118–123.