Ageing Siberian Accentors

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49. First-winter Siberian Accentor *Prunella montanella*, showing typical juvenile pattern of the inner and central greater coverts; Ottenby, Sweden, October 2016.

Abstract Almost 200 Siberian Accentors *Prunella montanella* were examined in the hand, the majority of these being passage or wintering birds in eastern China in autumn. In autumn, it is possible to age most Siberian Accentors in the hand. Differences in the pattern of juvenile and adult-type greater coverts are the most reliable feature, but supplementary characters involving the tertial pattern, tail feathers and iris colour are also described. If high-quality photographs are available, it should also be possible to use these criteria, with care, to age birds in the field. Owing to individual and subspecies variation, a cautious approach is recommended when sexing Siberian Accentors.

Introduction

The unprecedented influx of Siberian Accentors *Prunella montanella* into western Europe in autumn 2016 (Stoddart 2018) involved many well-documented individuals. In turn, this raised questions about valid ageing and sexing criteria for this species, since the current ornithological literature provides little information on the subject (e.g. Cramp 1988, Svensson 1992). In this paper we present our findings based on the study of 178 individuals trapped at Beidaihe Bird Observatory, in Hebei province, northeast China (fig. 1), in the autumns of 2012 and 2013. Our sample involved 48 adults and 130 first-winter birds, of which 15 and 49 respectively were documented with high-quality photographs. This is supplemented by two individuals trapped in October 2016 at Ottenby Bird Observatory, southeast Sweden, and by close examination of the photographs of more than 100 well-documented individuals

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Fig. 1. Distribution of the Siberian Accentor *Prunella montanella*, modified by the authors from del Hoyo *et al.* (2005; see main text for details). The estimated wintering range is illustrated in blue, while pale and dark brown represent the breeding distribution of *P. m. montanella* and *P. m. badia* respectively. The location of Beidaihe is shown by the red dot.

in the field. In addition, three adult and two 2CY birds were handled at Beidaihe during the spring migration of 2013; unless stated otherwise, however, the data presented here refer solely to birds handled in autumn.

Two morphologically rather similar subspecies of Siberian Accentor are currently recognised: nominate *P. m. montanella* (primarily from the northern Urals east to the River Lena, but locally also farther south in Siberia; fig. 1) and *P. m. badia* (from the River Lena east to Anadyrland and along the coast of the Sea of Okhotsk). In the southern part of the breeding range, nominate *montanella* appears to be restricted to mountain ranges, often occupying habitats close to the tree line (M. H. pers. obs.), hence the patchy distribution presented in fig. 1. The currently known winter distribution includes northeast China and the Korean Peninsula, and there is no indication in the literature of spatial segregation of the two subspecies in winter (Dementev & Gladkov 1968; Cramp 1988).

Beidaihe, where most of the birds handled in this study were trapped, is far from the known breeding range (fig. 1) and to the best of our knowledge there is currently no evidence (for example ring-recoveries) for the geographical origin of birds occurring at Beidaihe. This could potentially affect the applicability of our results to birds observed in Europe, since the groups may consist of birds of different geographical origin. However, after studying the photographs of many well-documented Siberian Accentors in the 2016 influx, we are confident that the ageing criteria described here are also relevant to vagrants in Europe.

Moult

Prior to autumn migration, adults undergo a complete moult while juveniles undergo a partial moult, commonly including the head, body, lesser and median wing-coverts (Cramp 1988). With the exception of one individual, with a single (second-innermost) greater covert of adult type (plate 50), none of the first-winter birds handled at Beidaihe showed any signs of feather replacement among the greater coverts. Hence, the post-juvenile moult seems to be slightly more restricted than in the Dunnock *P. modularis* (Jenni & Winkler 1994; Menzie & Malmhagen 2013; Ottenby Bird Observatory 2015). Note that the innermost greater covert in both age groups has a poorly developed pattern and a weak structure that should not be mistaken for a moult limit. No first-winter

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50. A replaced (second innermost) greater covert on a first-winter Siberian Accentor *Prunella montanella*, distinguished by its colder ground colour and whitish tip together with the triangular-shaped tip of the dark centre. The rather cold grey outer web is found in some (but not all) adult-type greater coverts. The juvenile coverts show a typical pattern, with a dark centre that clearly reaches the feather tip, and with distinct and more yellowish-buff spots either side. (Unless stated otherwise, all photos of birds in the hand are from Beidaihe, China, and taken between mid October and mid November.)

birds had replaced any tertials, but 21% showed two generations of rectrices, having up to seven feathers of adult type.

There is no pre-breeding moult and thus, although this paper focuses on the autumn season, it should be possible to use the same criteria with care during winter and spring, after taking into account the effects of wear and abrasion.

Ageing

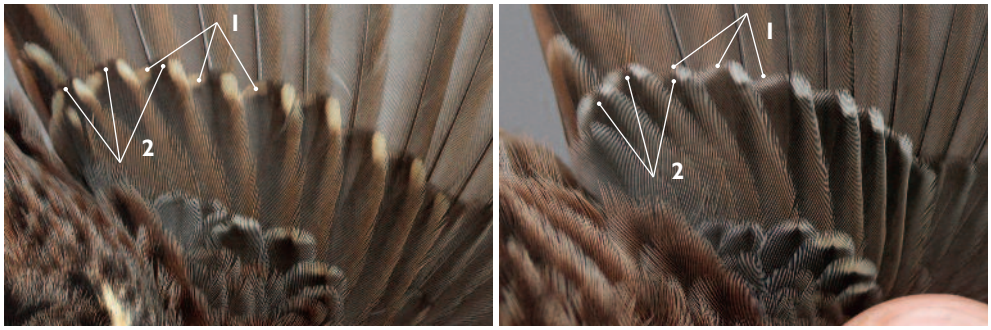
The rather restricted post-juvenile moult results in a moult limit between the post-juvenile median coverts and the juvenile greater coverts. This is frequently difficult to distinguish, however, and the primary focus in terms of ageing should be on the greater coverts, with supporting information in the tertials and rectrices. Iris colour may also be useful to distinguish a proportion of young birds with poorly developed eye colour.

Greater coverts

Relevant differences between the two age groups are found in the structure, shape and

Petro Pynnönen

51. A young Siberian Accentor *Prunella montanella* in active post-juvenile moult; Taimyr, Russia, July 1998. Note the typical juvenile pattern in the greater coverts.



Marcus Danielsson

52. The greater coverts of the Siberian Accentor *Prunella montanella*; juvenile feathers (left) and adult (right). The numbers highlight the two key age-related characters (see main text and figs. 2 & 3).

1. The well-defined spot on the inner web is particularly obvious in GC 5–7 in first-winter birds, while corresponding feathers in adults show a more or less continuous white tip.

2. In GC 7–9 the dark centre clearly reaches the feather tip and often has a concave edge against the pale spots in first-winter birds (left), while in adults the dark centre ends in a more triangular 'tooth' without clearly reaching the feather tip (right).

pattern of the greater coverts. Adult feathers are on average more densely barbed and broader, often with rather square-cut tips, resulting in a somewhat rectangular shape. Juvenile greater coverts have a less densely barbed structure, often appearing slightly frayed at the tip, and are less broad with a more evenly tapering shape. The structure and shape of the feathers provide useful guidance in the hand to an experienced ringer, but are of more limited use for field observers.

Plate 52 shows the differences in pattern between juvenile and adult greater coverts, which are primarily found in the distal parts of the feathers, involving the pale spots at the tip and the dark feather centre. Note that heavy wear may affect these characters, but the few birds handled in Beidaihe during spring migration had surprisingly well-preserved greater coverts.

As in the Dunnock, the greater coverts of the Siberian Accentor vary in pattern within the feather tract. In terms of judging the

Lars Petersson

53. A first-winter Siberian Accentor *Prunella montanella*, showing typical juvenile greater coverts; Öland, Sweden, October 2016. Distinct pale spots at the tip of both webs are clearly separated by a dark centre. In addition, the spots on outer web of the greater coverts are consistently elongated, showing a rounded inner edge. Also note the contrasting tertials, with a dark centre creating a 'channel' to the tip of the inner tertials; and the distinct whitish spot at the tip of the outer web.

shape and colour of pale markings at the feather tip, use the central feathers (GC 5–7, numbered ascendantly, i.e. GC 1 is the outermost) for the most consistent results since the pattern becomes more similar between the age classes at each end of the tract (fig. 2). When comparing differences in the shape of the dark centre, the inner feathers (GC 7–9) show the greatest difference between the age groups (fig. 3). The innermost greater covert (GC 10) is usually least useful in all respects, because of its small size, weak structure and poorly developed pattern.

The pale markings at the tip

Assessment of the pale markings at the tip of the greater coverts is similar to the method used for ageing Dunnocks. Among the birds trapped at Beidaihe, differences between the age classes were generally consistent. The pale markings at the tip of the juvenile greater coverts are generally clearly divided into two separate spots, one on each web. These spots are distinct and quite sharply set off against the black centre and brown edge (plates 52, 57 & 58). The spot on the outer web typically has a rather elongated shape, and the inner border, where it meets the dark centre, is often smoothly rounded (but may occasionally show a more adult-like, right-angled corner; see below). As for Dunnocks, the colour of the spots in fresh feathers is often yellowish-buff, but bleaches to whitish during late autumn. The difference in greater-covert pattern between adult and first-winter Siberian Accentors is generally quite obvious, seemingly more so than in the corresponding age classes of Dunnocks. In most adults, the spot on the inner web is lacking in GC 5–7, instead, there is a fine (though sometimes rather broad) white edge to the tip that joins the spot on the outer web (fig. 2; plates 59 & 60). The spot on the outer web is on average smaller and slightly more diffuse compared with the juvenile one; and is typically whitish, regardless of wear (but may show a buff hue on the innermost and outermost coverts). As for adult Dunnocks, the inner corner of this spot often (in 73% of the birds handled) appears right-angled, creating a more square-looking spot (plates 52, 59 & 60). In Beidaihe, the fine white tips of the adult greater coverts were present on all birds until the end of our observations, in mid November; and the same pattern was well preserved in the few adult spring birds examined.

Ingemar Pettersson

54. Unusually, this first-winter Siberian Accentor *Prunella montanella* (in Bohuslän, Sweden, in October 2016) shows a single post-juvenile greater covert in the central part of the tract (distinguished by its grey edge and shorter length), resulting in a clear contrast with feathers on both sides, which show a typical juvenile pattern. Close up (inset), the more frosty white spot on the outer web has a rather right-angled inner corner resulting in a small and square-shaped white spot, while the dark centre is more pointed, less distinct and barely reaches the feather tip.

The dark centre

Another key difference between the two age groups is the shape of the dark central part of the greater coverts as it reaches the feather tip. In all recorded first-winter birds, the dark centres clearly reached the feather tip of the inner juvenile coverts (GC 7–9; plates 52, 57 & 58, fig. 3). The dark marking is often parallel-edged, or even widens towards the feather tip, reinforcing the distinct separation of the pale spots. Occasionally, the dark centre is more broad-based giving a more trapezoidal pattern. In the adult feathers, the dark centre typically ends in a triangular 'tooth' without clearly reaching the feather tip (plates 52, 59 & 60). The shape of the tooth is usually distinctly different from the pattern seen in first-winter birds but may (in

Mark Andrews

55. A fresh adult (2CY+) Siberian Accentor *Prunella montanella* at Beidaihe, China, in November 2007. This bird shows the typical adult pattern in the greater coverts, with a fine white tip to the inner web that reaches around the feather tip, and a pointed shape to the dark centre (making it rather indistinct at the tip). Note also the greyish edges to the outer web (shown by some, but not all, adults) and the adult pattern in the tertials.

Hannu Huhtinen

56. A fairly typical, slightly worn adult (3CY+) Siberian Accentor *Prunella montanella* in South Korea, in February 2014. Note the adult pattern in the greater coverts.

c. 20% of the adults we recorded) have a more rounded distal angle compared with the typical adult pattern. This could potentially lead to confusion with the least well-marked juvenile feathers if ageing is based on poor views of single feathers.

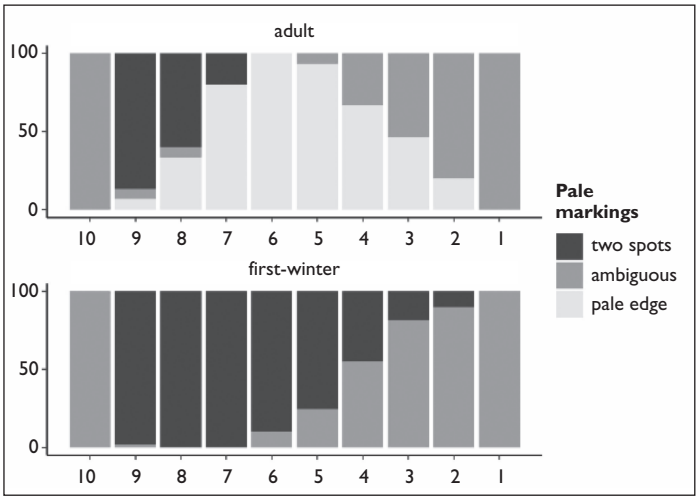


Fig. 2. Distribution of the patterns of pale markings at the tip of the greater coverts of 49 first-winter and 15 adult Siberian Accentors *Prunella montanella* in Beidaihe, in autumn 2012 and 2013. The feathers are numbered ascendantly, i.e. the outermost greater covert is GC 1. In first-winter birds, the predominant pattern is of two distinct pale markings in the inner greater coverts, becoming less well defined in the outer feathers. In adults, similar markings are often present among the inner greater coverts while the characteristic pale-edged pattern is predominant in the central part of the tract (GC 5–7). Ambiguous patterns involve the outer coverts apparently lacking pale coloration in the tip of the inner web, and the ill-defined pattern of the innermost greater covert (GC 10).

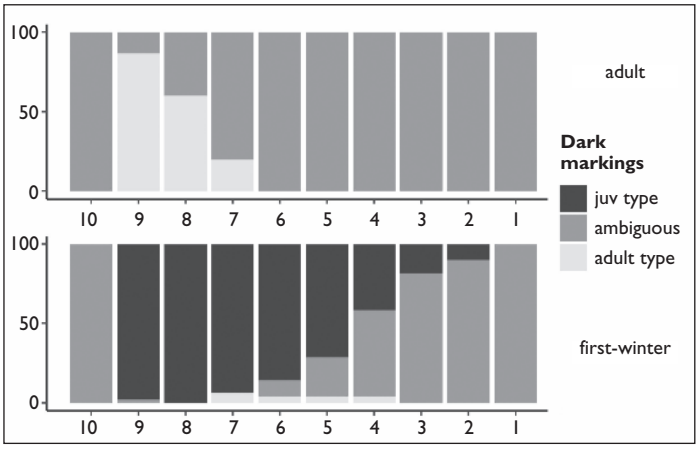


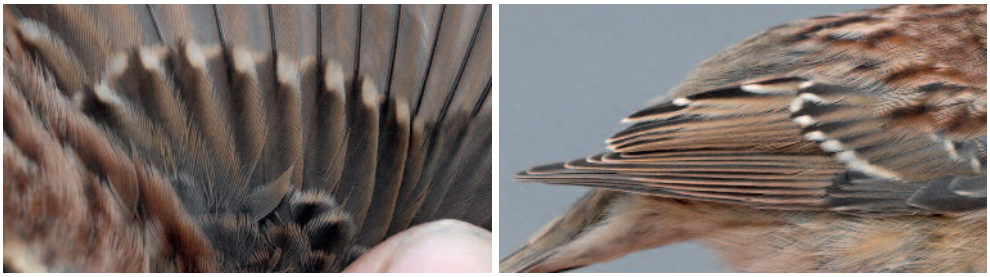
Fig. 3. Distribution of the patterns of dark markings at the tip of the greater coverts (same sample as in fig. 2). First-winter birds generally show two pale spots, one at the tip of each web, separated by a distinct dark centre that clearly reaches the tip of the juvenile feather while, at least in GC 7–9, adults generally show dark central markings ending in a triangular 'tooth' without clearly reaching the feather tip. Other feather-tip patterns than those described above were labelled 'ambiguous'.

The brown edges

In Dunnocks, the width and contrast of the brown edge of the outer web are often useful for ageing (Menzie & Malmhagen 2013; Ottenby Bird Observatory 2015). Our sample suggested that this character is less useful in Siberian Accentors, and we failed to find any consistent differences between the two age groups. As a rule, juvenile greater coverts often show a warmer brown edge (often rusty cinnamon in colour) whereas the edge of adult feathers is generally slightly colder, more earthy brown, with grey intermixed towards the bases in some individuals. However, a few adult and juvenile birds were very similarly coloured and colour may also vary with sex and subspecies (see plates 57–60).

Tertials

The tertials in the two age groups generally differ in pattern, structure and wear. Adult tertials have a more dense structure and show well-kept tips while juvenile tertials are less dense and often rather frayed at the tip. Details to look for include the shape of the distal part of the dark centre; the pattern and degree of contrast in the feather tips; and the pattern of the edge of the outer webs. These characters



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57. An opened and folded wing of a typical first-winter Siberian Accentor *Prunella montanella* with the inner greater coverts showing two large, pale spots separated by a distinct dark centre that clearly reaches the feather tip.

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58. A first-winter Siberian Accentor *Prunella montanella* showing the rather extensive amount of black in the tip of the greater coverts, which reduces the size of the spot on the inner web and makes it more difficult to detect on the folded wing. Note that the dark centre still clearly reaches the feather tip and that the pale spot on the outer web is still large and with a rather elongated lozenge shape compared with the squarer shape of typical adults.

Gabriel Norevik

59. An adult Siberian Accentor *Prunella montanella* showing rather extensive white in the greater coverts with a large spot on the outer web continuing across the tip of the inner web. The dark centre of the inner greater coverts ends in a triangular 'tooth' and does not clearly reach the feather tip.

Gabriel Norevik

60. An adult Siberian Accentor *Prunella montanella* showing limited white (almost lacking on the inner webs of GC 1–6). On the inner feathers, GC 7–9, the dark centre ends in a small, triangular-shaped 'tooth'. Also note the cold white tips and rather square-shaped spot on the outer web. This individual shows an extensively grey panel on the greater coverts of the closed wing; along with plate 59, this illustrates the variation seen among adult birds.

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61. Two first-winter Siberian Accentors *Prunella montanella* (left) and two adults (right), illustrating the variation in tertial pattern within and between age groups. The bird upper left is a typical first-winter, with the dark central marking reaching the feather tip on the innermost tertial, distinct pale spots at the feather tip and strong contrast between the pale feather edge and the dark centre of the outer web. The bird lower left is a rather atypical first-winter, though still showing a diffuse dark channel reaching the tip of the innermost tertial and having a diffuse pale area restricted to the tip of the outer web of the central tertial. The right-hand images illustrate two variants of the adult pattern, lacking both a dark channel reaching the feather tip and a distinct pale spot at the tip. The pale edge fades gradually into chestnut, which in turn merges gradually with the dark feather centre.

are less reliable than the greater-covert patterns described above; they should be regarded as secondary characters, but may provide useful support for ageing, especially in the field.

The dark centre

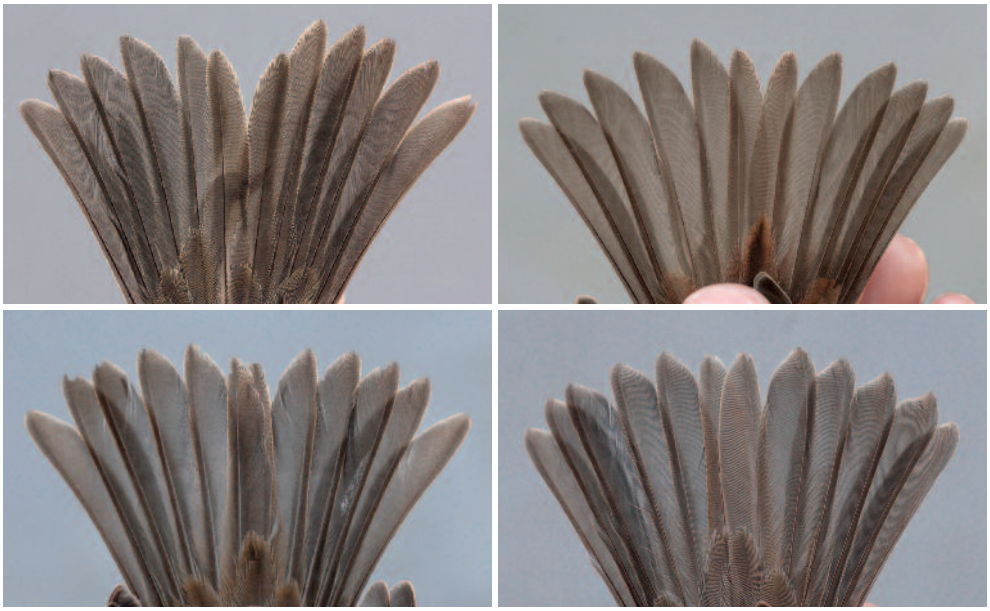
In a pattern recalling that of the greater coverts, juvenile tertials typically show a dark centre clearly reaching the feather tip (plate 61). This was most commonly found on the innermost juvenile tertial (43% of documented first-winter birds). In contrast, the dark central marking ended well before the tip in all adults handled and the pale edge continued uninterrupted around the feather tip.

The pattern at the feather tip

Juvenile tertials often show a rather contrasting pale spot near the tip of the outer web, most pronounced on the central tertial (plate 61, table 1). In 49% of first-winter birds, this spot was large enough to make the dark centre appear to curve around the spot, a pattern not observed in any adults. Many first-winter birds showed a less distinct pale spot, however, and in 8% it was missing (bottom row in table 1). Adult-type tertials generally have a uniform colour along the edge of the outer web towards the tip; a few adults may show an ill-defined pale tip but this does not match the distinct markings of juvenile tertials.

Table 1. The observed distribution of tertial pattern in recorded birds, where the figures represent the percentage of the recorded 'first-winter/adult' birds showing the combination of the two patterns. The rows represent the characteristics of the marking at the tip of the outer web: a contrasting pale spot, an ill-defined pattern and no contrasting pale spot. The columns represent the degree of contrast between the pale edge of the outer web and the darker centre in the distal parts of the central and outermost tertials. See also plate 61.

spot/contrast	high	intermediate	low
distinct spot	72/0	10/0	0/0
ambiguous	8/0	2/0	0/13
no spot	4/7	4/7	0/73



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62. Spread tails of two first-winter Siberian Accentors *Prunella montanella* (left) and two adults (right), illustrating variation in shape and structure. Upper left, a tail with two generations of feathers, where T2–T6 on the right-hand side are juvenile (T6 is the outermost feather), while the remainder are adult. Tail-feather shape varies within both age groups and there is overlap between the two. Texture is generally looser in juvenile feathers and the tips become more bleached and worn in late autumn than adult feathers. The shape of the rectrices in the lower right image is beyond the width seen in any first-winter birds handled.

The pale edge

The warm tones of the outer webs of the tertials, especially the central and outermost feathers, are on average paler in first-winter birds than in adults. Juvenile tertials generally show more contrast between the feather edge and the dark centre in the outer web (columns in table 1). In adults, the pattern is less clear-cut and the pale edges generally turned successively darker towards the centres. Good views are needed to evaluate the sharpness of the transition between dark and pale but, in combination with the shape of the pale spot on the tip of the outer web and the presence of the 'dark channel' in the juvenile tertials, it may be a useful supplementary feature for ageing (table 1).

Tail feathers

As in many other passerines, on average the juvenile rectrices have a looser texture and, in late autumn, have more bleached and worn tips than those of adults (plate 62). Both age categories show variation in the shape of the rectrices, with large overlap between the groups; and thus shape alone is not recommended for

Marcus Danielsson

63. Iris colour of three different autumn Siberian Accentors *Prunella montanella* at Beidaihe. From left to right: first-winter (10th November) showing a dull olive colour; first-winter (11th October) showing a warm chestnut colour; adult (27th October) showing a rich chestnut colour.

ageing. Some 21% of first-winter birds in our sample showed two generations of rectrices, enabling a direct comparison of feather structure between the generations. Note, however, that even within the same feather generation, the central pair may appear slightly different in ground colour (sometimes being apparently browner) compared with the rest of the tail.

Iris colour

All adult birds showed a warm, reddish-brown iris, similar to that of adult Dunnocks. Among the first-winter birds handled from mid October to mid November, iris colour ranged from predominantly dull olive to a warm chestnut colour (as in adults; plate 63); we judged 42% to be inseparable from adults by iris colour alone.

Sex and subspecies

The literature (e.g. Cramp 1988, Svensson 1992) describes only slight sexual plumage dimorphism in the Siberian Accentor with differences between males and females in the dark edges of the crown, the degree of warm colours in the mantle and scapulars, and the boldness of the dark breast markings. However, several of the noted characters also vary according to the subspecies involved: *P. m. badia* differs slightly from nominate *montanella* by showing a darker crown; richer rufous-chestnut in the mantle, scapulars and flank streaks; and deeper ochre-buff in the rump and underparts (Dementev & Gladkov 1968). This leads to complications in determining both sex and subspecies in birds outside the breeding range. Biometric data provide limited support in the separation of the subspecies. The mean wing lengths in *montanella* (70.6 mm, n=20) and *badia* (69.0 mm, n=13) given by Dementev & Gladkov (1968) indicate a marginally longer wing in the former, yet Lars Svensson (*in litt.*) found no such differences in 46 male specimens from collections in Tring, Paris and New York (*montanella* 72.4 mm, n=36; *badia* 72.3 mm, n=10).

Wing-length measurements of nominate *montanella* given in Cramp (1988) indicate a slight difference between males (72–78 mm, mean 74.6, n=13) and females (70–73 mm, mean 71.7, n=8). In an attempt to evaluate the sex-related characters described above, we extracted photographs of birds with wing lengths shorter (69–71 mm, n=10) and longer (76–78 mm, n=8; see fig. 4) than the smallest male and largest female respectively. This represents the smallest 25% and the largest 12% of our study sample. Birds in the long-winged group showed average tendencies towards a darker crown (including the darker edges of the crown as described in the literature; see above). We could not distinguish any consistency in the colour or pattern of mantle and breast with our groups. Other potential sexing characters, which show a relatively large degree of individual variation, are the pattern of ear-coverts/lores, throat and wing-coverts. Even though the general facial pattern tended to be more contrasting in the long-winged group, we found no consistent differences in the listed characters. The pattern of the crown was also noted by Stephen Menzie (*in litt.*) as the most useful sexing character among specimens (18 males and 16 females) held at Tring. Nonetheless, he found

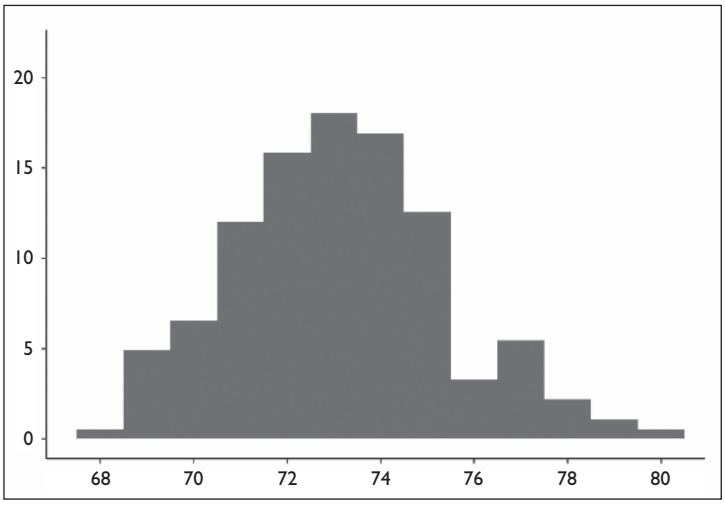

Fig. 4. The distribution (in percentage) of wing lengths (in mm) of 178 Siberian Accentors *Prunella montanella* trapped at Beidaihe in the autumns of 2012 and 2013.

that only three of the 34 birds fell outside the large overlap between the sexes: one male having a jet-black crown with a well-marked rear border, and two females showing the rear crown concolorous with the nape.

In summary, current understanding of the sexing of Siberian Accentors is still limited and based on rather small samples, or on data collected far from the breeding ranges. The sexual dimorphism appears rather slight and may be almost completely obscured by individual and subspecies variation and we therefore recommend a cautious approach when sexing Siberian Accentors of unknown origin. Future work using genetic markers to determine subspecies and sex may shed more light on the subject.

Acknowledgments

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References

Cramp, S. (ed.) 1988. *The Birds of the Western Palearctic*, Vol. 5. OUP, Oxford.

del Hoyo, J., Elliott, A., & Christie, D. A. (eds.) 2005. *Handbook of the Birds of the World. Vol. 10. Cuckoo-shrikes to thrushes*. Lynx Edicions, Barcelona.

Dementev, G. P., & Gladkov, N. A. (eds.) 1968. *Birds of the Soviet Union*. Vol. 6. Israel Program for Scientific Translations, Jerusalem.

Jenni, L., & Winkler, R. 1994. *Moult and Ageing in European Passerines*. Academic Press, London.

Menzie, S., & Malmhagen, B. 2013. Ageing Dunnocks *Prunella modularis* using plumage characteristics. *Ringing & Migration* 28: 57–62.

Ottenby Bird Observatory. 2015. Ringers' DigiGuide, *Prunella modularis*. www.ringersdigiguide.ottenby.se

Stoddart, A. 2018. Siberian Accentors in autumn 2016: occurrences in Europe and the first British records. *Brit. Birds* 111: 69–83.

Svensson, L. 1992. *Identification Guide to European Passerines*. 4th edn. Privately published, Stockholm.

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Letters

Feeding association between Little Egrets and Great Cormorants

I was interested to read the recent article on the behaviour of Great White Egrets *Ardea alba* in Norfolk (Bloomfield & Scampion 2017). I live overlooking the RSPB's Adur reserve in Shoreham-by-Sea, Sussex. In 2017, I observed first one and then two Little Egrets *Egretta garzetta* deliberately flying over to where Great Cormorants *Phalacrocorax carbo* were diving for fish, and then following along beside them catching the fish that the Cormorants had disturbed. This behaviour seems to be very successful, since the Little Egrets appear to catch plenty of fish when the Cormorants are fishing. A short video is available at https://youtu.be/jsxGKvLhPxY

Reference

Bloomfield, A., & Scampion, B. 2017. Some observations of interactions between Great White Egrets, Grey Herons and Cormorants at Holkham, Norfolk, in October 2016. *Brit. Birds* 110: 675–680.

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