# Identification of Pintail Snipe and Swinhoe's Snipe

*Paul J. Leader and Geoff J. Carey*

*ABSTRACT* Differences between Pintail Snipe *Gallinago stenura* and Swinhoe's Snipe *G. megala* have been overstated in past literature. Data gained from birds trapped for ringing in Hong Kong indicate that body weight and wing, tail and bill lengths overlap considerably, making these characters of limited use in separation of the two species. Furthermore, both species share almost identical plumage patterns with no consistent differences. Positive identification relies upon the number of rectrices in the tail, and individual tail-feather shape. Field identification using supposedly established characters has oversimplified the extreme difficulties which observers face. Separation of the two species based on size and structure, even if both are together for direct comparison, is not possible in most cases, unless the diagnostic shape of the outer tail feathers is visible. Vocal differences suggest that the flight calls may be species-specific but further research is required to establish this.

Within the Palearctic region, identification of snipes *Gallinago* is notoriously difficult due to the complexities of their cryptic plumage, variable structure and typically skulking behaviour. When undisturbed, snipes feed regularly in open situations, but a single bird standing in the open often defies specific identification or, more likely, is not studied in detail. Most, however, remain hidden within dense vegetation and observers are usually unaware of their presence until accidentally disturbed. Being cryptically plumaged and invisible to the observer before taking flight, a typical encounter often catches an observer unawares, as one or more birds take flight at close range and disappear rapidly into the distance, either silently or calling occasionally. Under these circumstances, it is important to be aware of the characters which allow specific identification. These include: an appreciation of size, shape and structure, in particular bill length relative to head length; the patterning of the upperwing and extent of the underwing and underpart coloration; and flight calls.

Even by 'snipe standards', however, Pintail Snipe *G. stenura* and Swinhoe's Snipe *G. megala* present an extraordinarily difficult identification challenge. Both species overlap extensively in size and structure, and lack unique plumage characters. On passage and during the winter months, they frequently occur together, making their separation and specific identification important. Furthermore, both species have been reported as vagrants within the Western Palearctic, and Pintail Snipe has strayed as far west as Italy. Future occurrences seem highly likely and European observers should be aware of the potential hurdles and pitfalls faced when dealing with a lone individual.

Although these two species share identical plumages, there is a widely held and generally accepted understanding that their specific identification in flight is possible. This has largely been founded upon perceived minor structural differ-



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ences, which are not only prone to observer bias, but are considered by the authors to have been overstated in the literature. This rather unsatisfactory scenario has, surprisingly, retained its credibility because the structural differences between the largest Swinhoe's Snipes and the smallest Pintail Snipes do indeed appear obvious. This has resulted in the belief that all but the largest and most distinctive individuals must be Pintail Snipe. In turn, this has masked the true status of each species within their overlapping passage and wintering ranges, with Swinhoe's Snipe generally considered scarcer than Pintail Snipe.

Experience gained in Hong Kong, where Pintail, Swinhoe's and Common Snipes *G. gallinago* occur regularly, and frequently together, has demonstrated that their separation is less straightforward than has been supposed. In particular, the extent of overlap in size and structure has been quantified using measurements taken from birds trapped for ringing. In this paper, we review the identification of Pintail Snipe and Swinhoe's Snipe, based primarily on experience gained from trapped birds during the period 1999-2001, and an examination of museum specimens. Both species are compared with the more widespread Common Snipe, especially in terms of structure. Data are presented which illustrate the extreme difficulties that observers face when trying to separate Pintail Snipe and Swinhoe's Snipe in the field.

## *Identification in the field*

An observer confronted with an unfamiliar snipe should have little difficulty in narrowing down the identification to Swinhoe's Snipe/Pintail Snipe. In flight, both of these species can be readily separated from Common Snipe by the lack of a clearly defined white trailing edge to the secondaries; uniform underwings; more rounded wings; a heavier, more compact body; and a quite different call. On the ground, both species show a more bulging supercilium than Common Snipe, together with typically darker upperparts, a bill which is typically shorter and deeper based, and a shorter tail. Nonetheless, Leader (1999) discussed plumage variation within Common Snipe, and showed this to have been understated in the literature.

### *Plumage characters*

During the earlier stages of this study, we had expected to build upon the subtle plumage differences between Pintail and Swinhoe's Snipes described by Carey & Olsson (1995), and possibly even to describe previously unknown plumage characters. After intensive investigation, involving observations of live birds under widely varying field conditions, and detailed examination of plumage characters of birds in the hand, we have been unable to identify a single plumage character which can be used in their separation at any time of the year. In order to check that our findings were not in some way anomalous, we undertook detailed examination of specimens at the Natural History Museum (NHM), Tring, and Academia Sinica, Beijing. This confirmed and reinforced our conclusions. We are, therefore, forced to concede that consistent and reliable plumage differences do not exist between Pintail and Swinhoe's Snipes. One other feature, leg colour, has been tentatively suggested by Higgins & Davies (1996) as a means of separation, with Pintail Snipe tending to show grey-green legs and Swinhoe's Snipe yellower legs. Our experience in Hong Kong shows, however, that there is extensive overlap in this feature also between the two species.

### *Structural differences*

As plumage characters cannot be used reliably to distinguish Pintail Snipe from Swinhoe's Snipe, their separation must rely on differences in structure. These are, however, rather slight and also subject to much overlap. It is important to remember that, as with plumage, no single feature taken in isolation, other than the shape of the outer tail feathers, can be used to separate Pintail and Swinhoe's Snipes. Only when taken *in combination* do these features create an impression which favours one species or the other.

#### *Head shape*

Pintail Snipe tends to have a more rounded head profile and a steeper forehead, whereas on Swinhoe's Snipe, the forehead tends to appear more shallow and sloping, giving that species a more angular head profile. In addition, the eye seems to be set closer to the centre of the head in Pintail Snipe, but further back on many Swinhoe's Snipes. Indeed, occasionally on Swinhoe's Snipe, most of the eye appears to lie in the rear half of the head. There is, however, much variation.

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**111.** Adult Pintail Snipe *Gallinago stenura*, Long Valley, Hong Kong, China, 26th September 2001. Some worn median coverts are visible but some have been replaced and the new feathers appear richer and more contrasting. Note also the heavily worn primaries, which extend to the tips of the tertials but not beyond.

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**112.** Adult Pintail Snipe *Gallinago stenura*, Mai Po Nature Reserve, Hong Kong, China, 21st April 2002. In this recently moulted bird the primaries appear to extend well beyond the longest tertial.

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**113.** Juvenile Pintail Snipe *Gallinago stenura*, Long Valley, Hong Kong, China, 24th September 1999. In this shorter-billed individual, the rounded head is readily apparent. Note also the long tertials that appear to extend to the tip of the longest primary, which is hidden by the undertail-coverts. Note also the narrow whitish fringes to the juvenile scapulars, and compare with the broad golden fringes to the adult scapulars in plates 111 & 112; this is the same for Swinhoe's Snipe *G. megala*.

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**114.** Juvenile Pintail Snipe *Gallinago stenura*, Long Valley, Hong Kong, China, 10th September 2001. Compared with the juvenile Pintail Snipe in plate 113, this individual shows a conspicuously paler head, while the angular appearance to the head and position of the eye, set back behind the centre of the head, are more typically characters associated with Swinhoe's Snipe *G. megala*. Note also that the tip of the longest primary is just visible beyond the longest tertial.

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**115.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 1st October 1999. Compare this bird with the almost identically plumaged juvenile Pintail Snipe *G. stenura* in plate 113.

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**116.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 26th September 2001. Compared with the individual in plate 115, this bird shows duller and less contrasting upperwing-coverts that also appear more abraded. Note also the distinct yellowish tone to the toes.

*Foot projection*

Foot projection beyond the tail tip in flight has been considered an important identification feature, with Swinhoe's Snipe purportedly lacking the obvious toe extension of Pintail Snipe. Under normal field conditions it is often difficult to determine the extent of foot projection on an individual snipe, but observations of released birds of confirmed identity do indicate that this may be a useful feature. This is, however, based only on a small sample of Swinhoe's Snipes and the validity of this feature is best treated as tentative, pending further research. In this context, it is of note that a photograph of Pintail Snipe in flight in Carey & Olsson (1995) has a short toe projection, very similar to that shown in a photograph of Swinhoe's Snipe in the same paper.

*Shape of the outer tail feathers*

An exception to the lack of distinctive structural differences concerns the shape of the outer tail feathers. The outer tail feathers of both species are distinctly narrow when compared with those of Common Snipe. On Pintail Snipe, the outer eight pairs of tail feathers (sometimes six to nine pairs) are all less than 2 mm wide. On Swinhoe's Snipe, only the outermost pair is narrow, varying between 2 and 4 mm in width, 20 mm from the tip. The next one to four pairs are slightly broader, and the rest increasingly so towards the central pair. Pintail Snipe has 24-28 (typically 26) tail feathers, whereas Swinhoe's Snipe has 18-26 (typically 20), and Common Snipe 12-18 (typically 14 in the nominate race, and *G. g. faeroeensis*, and 16 in *G. (g.) delicata*; Tuck 1972). Observing tail structure is, however, extremely difficult under normal field conditions, and requires exceptional views. To complicate matters further, birds trapped in Hong Kong during the autumn have included several adult Pintail Snipes in complete tail moult.

*Leg thickness*

Swinhoe's Snipe tends to have significantly thicker legs than Pintail Snipe, with most Swinhoe's Snipes taking a larger ring size than Pintail Snipes. Some Swinhoe's Snipes do, however, have thinner legs, resembling those of Pintail Snipe, and require the same ring size, making this a 'one-way character'. Despite this overlap, a bird with thicker legs than a Common Snipe is probably Swinhoe's. This feature is extremely difficult to assess in the field.

*Vocalisations*

Carey (1993) stated that differences exist between the normal flight calls of the two species. Pintail Snipe was believed to have a more slurred, throaty and nasal call which sometimes resembles the 'quack' of a duck. The call of Swinhoe's Snipe was described as similar in pitch, though at times rather flat and low. When flushed, Swinhoe's Snipe calls less frequently than Pintail Snipe, and a flushed snipe which is silent is most likely to be the former.

Attempts to make sound recordings of the typical flight calls of birds of known identity, on release after ringing, have been unsuccessful. Nonetheless, vocalisations of flushed Pintail or Swinhoe's Snipes in Hong Kong fall into two distinct types which agree broadly with those described by Carey (1993). The first call type (fig. 1), generally the most frequently heard and

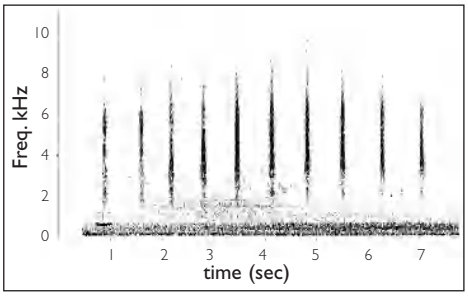


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**Fig. 1.** Vocalisations of presumed Pintail Snipe *Gallinago stenura* recorded in Hong Kong, September 2001. The normal flight call has a greater frequency range than that of presumed Swinhoe's Snipe *G. megala* and, as it is largely above 3 kHz, sounds higher pitched.

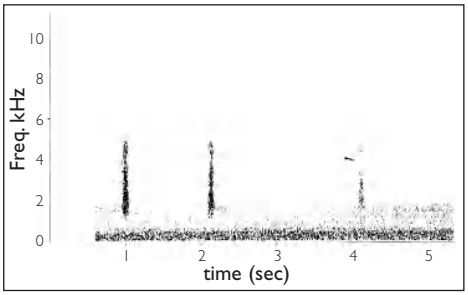


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**Fig. 2.** Vocalisations of presumed Swinhoe's Snipe *Gallinago megala* recorded in Hong Kong, September 2001. The normal flight call has a narrower frequency range than that of presumed Pintail Snipe *G. stenura*, and, with about 50% of the call being below 3 kHz, sounds lower pitched.

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**117.** Adult Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 10th September 2001. Only the outermost pair of rectrices is narrow, with the rest increasing in width towards the central pair. With the rectrices being broader, Swinhoe's Snipe usually appears to show more white in the sides of the tail than Pintail Snipe. Plates 117-122 illustrate the extent of variation found in both tail pattern and shape.

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**118.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 4th September 2000. This juvenile shows paler outer rectrices than the adult. It is uncertain whether this feature applies consistently across all age classes.

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**119.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 4th September 2000.

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**120.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 26th September 2001.

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**121.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 4th September 2000.

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**122.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 4th September 2000.

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**123.** Adult Pintail Snipe *Gallinago stenura*, Long Valley, Hong Kong, China, 26th September 2001. On this adult, the outer seven pairs of rectrices are narrow and pin-like, and provide the only infallible means of separation from Swinhoe's Snipe.

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**124.** Adult Pintail Snipe *Gallinago stenura*, Mai Po Nature Reserve, Hong Kong, China, 21st April 2002.

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**125.** Juvenile Pintail Snipe *Gallinago stenura*, Long Valley, Hong Kong, China, 10th September 2001. On this juvenile, only the outer six pairs of rectrices are characteristically pin-like.

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**126.** Juvenile Common Snipe *Gallinago gallinago*, Long Valley, Hong Kong, China, 1st October 1999. In comparison with Pintail Snipe *G. stenura* and Swinhoe's Snipe *G. megala*, Common Snipe has fewer rectrices, which are characteristically broader with paler and more conspicuous tips.

believed to be given by Pintail Snipe, is higher pitched, more nasal, slightly more urgent and does, indeed, resemble a duck's 'quack'. Occasionally, startled birds will give a short, high-pitched call which lacks nearly all the throatiness and slur of the first call type. The second call type (fig. 2), tentatively attributed to Swinhoe's Snipe, is lower pitched and flatter, with a more throaty quality. This call was heard (though not recorded) from a known Swinhoe's Snipe released after ringing. This second call type is less frequently heard among migrant snipe in Hong Kong, certainly proportionately less so than would be expected by the relative numbers of the two species trapped. If this second call type is attributable exclusively to Swinhoe's Snipe, it would appear that Swinhoe's Snipe calls more reluctantly than Pintail Snipe.

Given the difficulties of field identification, more research is needed to establish whether these two call types are diagnostic. It should be stressed that these calls, although different from the calls of Common Snipe, are sufficiently similar to each other to confuse observers unfamiliar with the calls of Swinhoe's or Pintail Snipes. Even to experienced ears, some poorly heard calls can be confusingly ambiguous.

### *Identification in the hand*

During the period 1999-2001, a total of 68 Pintail Snipes and 19 Swinhoe's Snipes were trapped for ringing in Hong Kong, mostly in September and October. Biometrics from a further 25 Pintail and 14 Swinhoe's trapped in Hong Kong prior to this were also available to us, giving a total sample size of 93 Pintail Snipes and 33 Swinhoe's Snipes. Individuals were identified based upon tail feather structure. Measurements taken from live birds included wing length (maximum chord), bill length (to feath-

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**127.** Adult Pintail Snipe *Gallinago stenura*, Mai Po Nature Reserve, Hong Kong, China, 21st April 2002. There is considerable overlap in the head pattern and shape of Pintail Snipe and Swinhoe's Snipe *G. megala*. Note variation in position of median crown-stripe relative to bill base in plates 127-133.

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**128.** Juvenile Pintail Snipe *Gallinago stenura* Long Valley, Hong Kong, China, 10th September 2001. The range of variation found within juvenile Pintail Snipe is greater than that which occurs between some juvenile Pintail Snipe and some juvenile Swinhoe's Snipe. Compare the appearance of this individual with those illustrated in plates 129 and 130.

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**129.** Juvenile Pintail Snipe *Gallinago stenura*, Long Valley, Hong Kong, China, 4th September 2000. The relative bill length of many birds overlaps widely with that of Swinhoe's Snipe. Compare the appearance of this bird with the Swinhoe's Snipe in plate 133.

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**130.** Juvenile Pintail Snipe *Gallinago stenura*, Long Valley, Hong Kong, China, 4th September 2000. A classic short-billed individual.

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**131.** Adult Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 1st October 1999. In this rather long-billed individual, note the position of the eye in the rear half of the head, behind the crown peak.

Paul J. Leader

**132.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 26th September 2001. This is a shorter-billed individual.

Paul J. Leader

**133.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 24th September 1999. Note a more rounded appearance to the crown and central position of the eye compared with the juvenile Swinhoe's Snipe in plate 132.

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**134.** Juvenile Common Snipe *Gallinago gallinago*, Long Valley, Hong Kong, China, 24th September 1999. The appearance of the head is generally darker and more contrasting than shown by either Pintail Snipe *G. stenura* or Swinhoe's Snipe *G. megala*.

ering), tail length and primary projection beyond the longest tertial, measured to the nearest 0.5 mm. The weight of each bird was measured to the nearest gram.

In addition, we examined specimens at the NHM, Tring, and Academia Sinica, Beijing. Owing to problems associated with shrinkage or poor preparation of specimens, we did not measure skins; our biometric data were, therefore, kept strictly comparable, even though this meant that sample sizes were sometimes small. Furthermore, without weight data, which are not available from specimens, the wing, bill and tail measurements, being one-dimensional, do not necessarily express the bulk of a bird (an important component of 'jizz').

### *Plumage variation*

Carey & Olsson (1995) described the loral stripe of Pintail Snipe as rather narrow, at times almost disappearing in front of the eye. We found this character to be variable, however, with shape, colour and definition overlapping completely with Swinhoe's, and so their description applies equally to Swinhoe's Snipe. Carey & Olsson also found that the median crown-stripe of Pintail Snipe sometimes reaches the bill base, but considered this unusual on Swinhoe's Snipe. In Hong Kong, we again found that this feature varies widely, with the median crown-stripe reaching the bill base on about 30% of Swinhoe's Snipes and 40% of Pintail Snipes.

There is extensive overlap in the pattern of the upperparts, including the scapulars and tertials, and no consistent differences exist in the pattern or colour of the underparts. The juvenile-type scapulars of both species can exhibit a paler and broader fringe to the outer web. On almost all juvenile Pintail Snipes, the outer web of the scapulars is either slightly or clearly paler than the inner web, and only rarely are these feathers concolorous. About two-thirds of Swinhoe's Snipes have an outer web which is slightly or obviously paler than the inner web; the remaining one-third exhibit concolorous fringes. Thus, a greater proportion of juvenile Swinhoe's shows concolorous scapulars compared with juvenile Pintail. This agrees with Shirihai (1988), but the character is not diagnostic, and applies only to juvenile scapulars, not to all ages as Shirihai implies. The width of the fringes is variable in both species, with no consistent differences, *contra* Shirihai, who considered the fringes to be broader in Swinhoe's Snipe. The relative width of the inner and outer webs on both species varies widely, the outer webs being slightly broader on about 50% of birds, much broader on about 25%, and equal to the inner webs on about 25%.

There were no differences in the underwing pattern or the pattern of the underparts of birds trapped in Hong Kong.

Although Swinhoe's Snipe generally shows more white in the tail than Pintail Snipe, suggestions by Shirihai (1988) that this is a good field character do not take into account the variation in tail pattern of Swinhoe's. Pintail Snipe consistently shows white tips and inner webs to the narrow outer rectrices. If present, the pale tips to the central rectrices are buffish, and rarely whitish, unlike the illustration in Hayman *et al.* (1986). In comparison, although Swinhoe's Snipe usually has white tips to the outer rectrices, these may also be rich buff or pale ginger, colours rarely, if ever, shown by

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**135.** Adult Pintail Snipe *Gallinago stenura*, Mai Po Nature Reserve, Hong Kong, China, 21st April 2002. This individual has recently replaced the inner greater coverts, and the median and lesser coverts, which display broad, unworn bright buff fringes. Note the contrast with the paler and older outer greater coverts, primary coverts, primaries, secondaries and alula.

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**136.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 1st October 1999. Compared with the adult Pintail Snipe *G. stenura* in plate 135, the outer wing of this juvenile has not faded to the same extent and contrasts less with the upperwing-coverts. The upperwing pattern and extent of wear and fading of juvenile Pintail Snipe would appear identical to this individual.

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**137.** Juvenile Common Snipe *Gallinago gallinago*, Long Valley, Hong Kong, China, 1st October 1999. Common Snipe always displays broad white tips to the secondaries and darker, less contrasting fringes to the upperwing-coverts.

Pintail Snipe. The central rectrices of Swinhoe's Snipe may also be conspicuously tipped pale, often white, unlike Pintail. Swinhoe's Snipe consistently shows barred or chequered outer rectrices, however. On Pintail, these are typically plain, except for white tips. Patterned (barred or chequered) outer tail feathers are exceptional in Pintail, and while some Swinhoe's occasionally show plain outer tail feathers, and thus appear extremely similar to Pintail, a bird with white tips to the central rectrices and chequered or barred outer rectrices is most probably a Swinhoe's Snipe.

### *Size and structure*

Many authors have discussed differences in size and various structural characters between Pintail Snipe and Swinhoe's Snipe, and the widely held view is that most birds can be separated using a combination of these features. Hayman *et al.* (1986) stated that Pintail Snipe has compared with Swinhoe's, a shorter tail, toes which project further beyond the tail tip in flight and is, on average, slightly smaller and lighter. According to Cramp & Simmons (1983), Swinhoe's can be up to 10% larger, with longer bill, tail, wings and legs, while Wallace (1989) used published measurements to suggest that Swinhoe's Snipe should have a wingspan 5-10% greater than both Common Snipe and Pintail Snipe, and believed that this was noticeable in the field. Carey (1993) and Carey & Olsson (1995) considered that Swinhoe's Snipe appears larger, heavier and more 'barrel-chested' than Pintail Snipe and Common Snipe, usually by 10-20%, and has slightly longer wings. Furthermore, they stated that the bill appears longer than that of Pintail, but is of a similar relative size to that of Common Snipe. Robson (2000) considered Swinhoe's to be slightly

larger than both Pintail and Common Snipe, with a squarer head which peaks behind the eye, a longer bill than Pintail, and a tail which projects further beyond the wings. Higgins & Davies (1996) described Pintail Snipe as being similar in size and shape to Latham's Snipe *G. hardwickii* and Swinhoe's Snipe but suggested some minor structural differences which may be useful in separation from Swinhoe's. They stated that Pintail is slightly smaller, with a proportionately smaller head, shorter wings and a much shorter tail. At rest, the folded primaries are covered by the tertials or project only a few millimetres, and the tail barely projects beyond the primaries, although this may be difficult to see. Viewed in profile, the short tail projection gives Pintail Snipe a truncated rear end and squat appearance, quite different from that of Swinhoe's. Beaman & Madge (1998) described Swinhoe's Snipe as slightly larger and relatively longer billed than Pintail. Most importantly, Swinhoe's is said to lack an obvious toe extension beyond the tail tip and, at rest, the tail projection recalls Common rather than Pintail Snipe.

Based upon birds trapped in Hong Kong, we found that Swinhoe's Snipe is larger than Pintail Snipe on average, although the extent of this has been overstated in the literature. Furthermore, size and structure are extremely variable, with extensive overlap on all standard measurements (table 1). Despite the generally consistent structural differences described by previous authors, our measurements suggest an almost complete overlap (fig. 3). In particular, wing and bill lengths overlap to such an extent that they do not represent consistent structural differences which can be translated into discernible field characters.

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**138.** Adult Pintail Snipe *Gallinago stenura*, Mai Po Nature Reserve, Hong Kong, China, 21st April 2002. There are no consistent differences in the barred patterning to the underwing-coverts and axillaries in Pintail Snipe and Swinhoe's Snipe *G. megala*, which is narrow and of equal width.

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**139.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 1st October 1999. Compare this bird with Pintail Snipe *G. stenura* in plate 138.

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**140.** Juvenile Common Snipe *Gallinago gallinago*, Long Valley, Hong Kong, China, 24th September 1999. The broader white barring on the underwing-coverts and axillaries creates a bolder and more contrasting pattern than that on the underwing of Pintail Snipe *G. stenura* and Swinhoe's Snipe *G. megala*.

**Table 1.** Summary of wing, bill, and tail lengths, and weight of Common Snipe *Gallinago gallinago*, Pintail Snipe *G. stenura* and Swinhoe's Snipe *G. megala* trapped in Hong Kong. Measurements are taken to the nearest 0.5 mm and weights to the nearest gram.

| Species | | Wing | Bill | Tail | Weight |
|---|---|---|---|---|---|
| **Common Snipe** | Range | 131.0-145.0 | 57.0-77.0 | 51.0-62.0 | 71.0-117.0 |
| | Mean | 136.4 | 66.6 | 58.7 | 96.4 |
| | No. | 48 | 47 | 7 | 44 |
| **Pintail Snipe** | Range | 130.0-143.0 | 54.0-70.0 | 43.0-50.0 | 90.0-182.0 |
| | Mean | 136.9 | 62.0 | 46.0 | 117.0 |
| | No. | 91 | 85 | 50 | 84 |
| **Swinhoe's Snipe** | Range | 139.0-150.0 | 59.0-72.0 | 48.0-56.5 | 108.0-181.0 |
| | Mean | 143.4 | 63.6 | 51.8 | 140.8 |
| | No. | 32 | 33 | 22 | 33 |

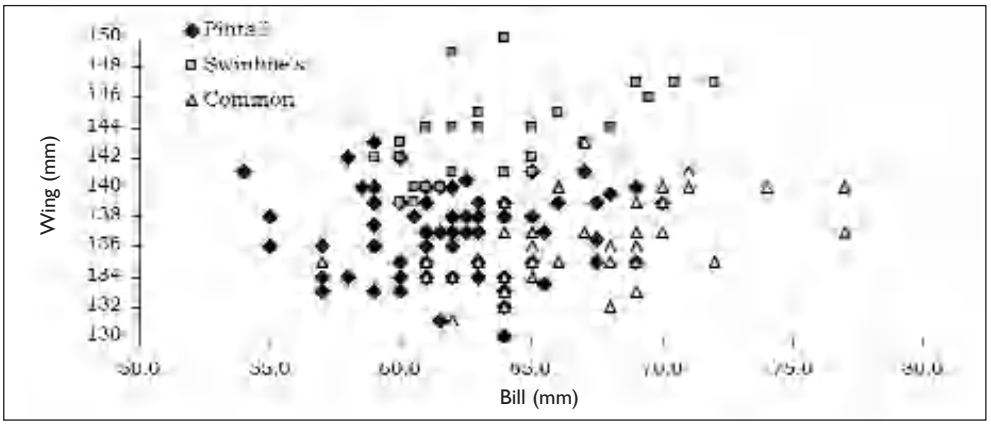


**Fig. 3.** Wing length and bill length of Pintail Snipe *Gallinago stenura*, Swinhoe's Snipe *G. megala* and Common Snipe *G. gallinago* trapped in Hong Kong. Measurements are taken to the nearest 0.5 mm.

There is a greater difference in tail length, with Swinhoe's Snipe having, on average, a tail which is 5.8 mm longer than that of Pintail Snipe. However, in terms of relative structure, this is largely negated by the difference in wing length between the two species, which averages 6.5 mm longer on Swinhoe's. This results in a very similar wing/tail ratio for the two species, averaging 2.98 for Pintail Snipe and 2.80 for Swinhoe's Snipe (table 2 and fig. 4). In terms of making an assessment of structure, these differences are further confused by the considerable variation in weight of the two species. This is especially evident in the sample of Pintail Snipes, with the lightest bird being 50% the weight of the heaviest. Furthermore, although on average Swinhoe's Snipe was 23.8 g heavier than Pintail Snipe, the heaviest Pintail Snipe was 1 g *heavier* than the heaviest Swinhoe's Snipe (table 1 and fig. 5). Accordingly, their separation based on size and structure, even if both are together for direct comparison, is, in all prac-

**Table 2.** Wing/tail and wing/bill ratios of Common Snipe *Gallinago gallinago*, Pintail Snipe *G. stenura* and Swinhoe's Snipe *G. megala* trapped in Hong Kong. Measurements are in mm.

| Species | | Wing/tail | Wing/bill |
|---|---|---|---|
| **Common Snipe** | Range | 2.20-2.60 | 1.78-2.37 |
| | Mean | 2.40 | 2.06 |
| | No. | 7 | 47 |
| **Pintail Snipe** | Range | 2.76-3.23 | 2.00-2.51 |
| | Mean | 2.98 | 2.21 |
| | No. | 84 | 75 |
| **Swinhoe's Snipe** | Range | 2.51-2.98 | 2.04-2.41 |
| | Mean | 2.80 | 2.27 |
| | No. | 22 | 32 |

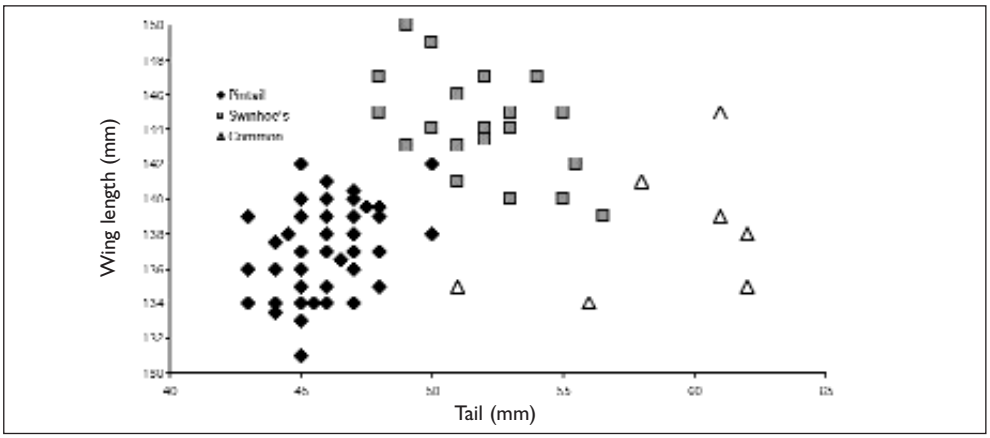


**Fig. 4.** Wing length and tail length measurements of Pintail Snipe *Gallinago stenura*, Swinhoe's Snipe *G. megala* and Common Snipe *G. gallinago* trapped in Hong Kong. Measurements are taken to the nearest 0.5 mm.

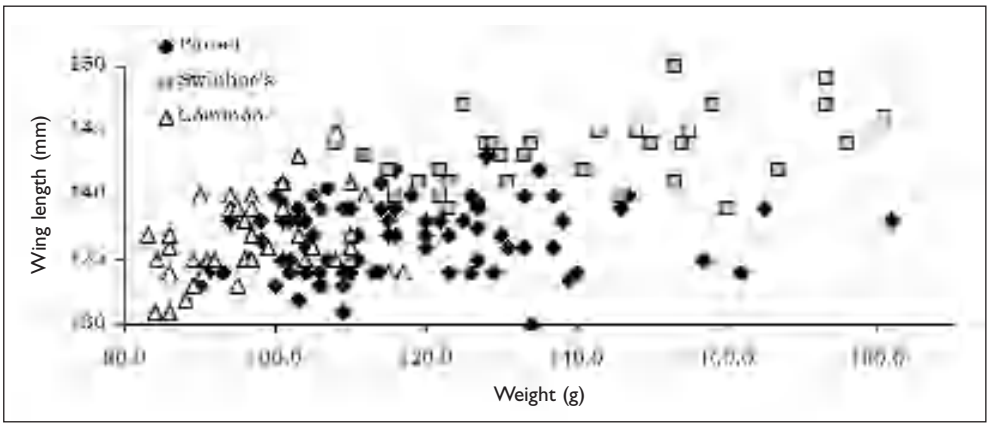


**Fig. 5.** Wing length and weight measurements of Pintail Snipe *Gallinago stenura*, Swinhoe's Snipe *G. megala* and Common Snipe *G. gallinago* trapped in Hong Kong. Measurements are taken to the nearest 0.5 mm and weights to the nearest gram.

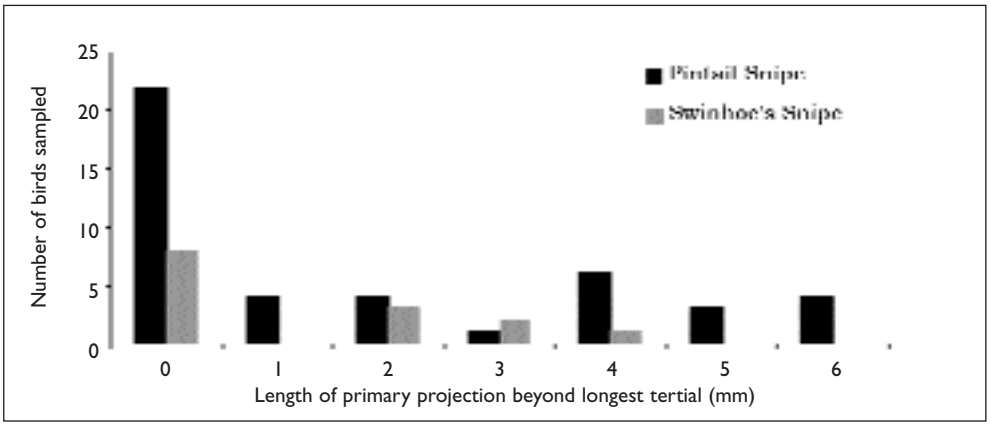


**Fig. 6.** Frequency of primary projection beyond the longest tertial for Pintail Snipe *Gallinago stenura* and Swinhoe's Snipe *G. megala* trapped in Hong Kong.

**Table 3.** Summary of Hong Kong and published biometrics of Common Snipe *Gallinago gallinago*, Pintail Snipe *G. stenura* and Swinhoe's Snipe *G. megala*. Measurements for the Hong Kong data are taken to the nearest 0.5 mm and weights to the nearest gram.

| Species | | Hong Kong data | Published data | Combined |
|---|---|---|---|---|
| Common Snipe | Wing | 131-145 | 123-144 | 123-145 |
| | Bill | 57-77 | 55-75 | 55-77 |
| | Tail | 51-62 | 49-64 | 49-64 |
| | Weight | 71-117 | 84-220 | 71-220 |
| Pintail Snipe | Wing | 130-143 | 125-143 | 125-143 |
| | Bill | 54-70 | 55-72.7 | 54-72.7 |
| | Tail | 43-50 | 40-55 | 40-55 |
| | Weight | 90-182 | 84-170 | 84-182 |
| Swinhoe's Snipe | Wing | 139-150 | 130-151 | 130-151 |
| | Bill | 59-72 | 55.5-74 | 55.5-74 |
| | Tail | 48-56.5 | 46-63 | 46-63 |
| | Weight | 108-181 | 82-150 | 82-181 |

tical cases, not possible in the field, unless the shape of the outer tail feathers is clearly observed.

Published measurements show more variation than we found within the Hong Kong sample (see Appendix 1). As illustrated in table 3, this variation is quite large, in particular the weights of Common Snipe, with the heaviest being almost 40 g heavier than any Pintail or Swinhoe's Snipe. Primary projection beyond the longest tertial has been suggested as a useful structural difference. Hayman *et al.* (1986), and Higgins & Davies (1996) both stated that this is short in Pintail Snipe, and long in Swinhoe's. Data from Hong Kong contradict this, with Pintail Snipe being particularly variable and sometimes exhibiting a longer primary projection than Swinhoe's (fig. 6). About half of all Pintail Snipes and Swinhoe's Snipes show no primary projection.

## Moult

The following data are based upon published accounts (Prater *et al.* 1977; Higgins & Davies 1996; Snow & Perrins 1998), with additional information coming from examination of museum specimens and live birds trapped in Hong Kong.

### *Pintail Snipe*

Adults undergo a post-breeding moult on the breeding grounds (see under 'Distribution' for breeding range), with the inner primaries (at least P10-P8, sometimes up to P3; primaries numbered ascendantly) being replaced prior to migration. Moult is then suspended during migration and completed in non-breeding areas during November-December. Body moult commences after the moult of the inner primaries. There is a partial pre-breeding moult, the timing and extent of which is poorly known.

Of 16 adults trapped in Hong Kong between 6th September and 1st October, eight were in active primary moult. These birds had already fully replaced between five and eight inner primaries; six were still growing the remaining outer primaries, and only two retained old primaries. Such birds thus do not fit the pattern described above. A small number of adults show excessively worn primaries and coverts, and it is possible that these are, in fact, first-summer birds.

The partial post-juvenile moult includes the tail and uppertail-coverts – which are replaced from December to February – and most upperwing-coverts, with most being replaced by mid-winter, although some are retained until spring.

### *Swinhoe's Snipe*

Adult post-breeding moult is similar to that of Pintail Snipe, with the inner primaries moulted on the breeding grounds (see under 'Distribution' for breeding range) in early autumn before migration. Moult is suspended during migration and completed in October-November on the wintering grounds, although in Australia some apparently complete this moult by mid October. Similarly, a bird collected on 13th September on Luzon, Philippines, and held in the NHM had almost completed its moult, with seven fully grown inner primaries and the outer three still in pin. The timing of

body and tail moult is poorly understood. Pre-breeding moult is partial, involving most body feathers, innerwing-coverts and central rectrices, but does not include the remiges or outer rectrices. It commences in February in Australia and was complete in four birds collected in Japan in April. A specimen in the NHM collected in the Malay Archipelago in April shows suspended moult, with the inner eight primaries replaced and the outer two being old; such birds may be in their third calendar-year. Post-juvenile moult is poorly understood, but all the evidence suggests strongly that it is broadly similar to that in Pintail Snipe, with the primaries retained until the first autumn, and some median coverts and tertials being retained until late in the first spring on some individuals.

## *Ageing and sexing*

### *Pintail Snipe*

Females average larger than males (Prater *et al.* 1977), but there is much overlap in biometrics, and sexing in the field is not possible.

#### *Adult*

The lesser and median coverts of adults typically show two dark crossbars and a paler tip, bisected by a dark shaft-streak. Some birds lack the dark shaft-streaks and these are difficult to separate from juveniles. The scapulars have broad golden fringes and are often darker-centred than those of juveniles. Most adults are inseparable from first-winters once the juvenile coverts have been moulted.

#### *Juvenile*

In autumn, juveniles are in fresh plumage, and show no moult or suspended moult of the primaries or secondaries, although some may show a few adult-type lesser and/or median coverts and scapulars in early autumn. Juvenile lesser and

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**141.** Worn adult Pintail Snipe *Gallinago stenura*, Long Valley, Hong Kong, China, 26th September 2001. This worn adult has replaced the inner greater coverts, while a scattering of fresh and more richly coloured replacement median coverts are starting to appear among the older, worn and faded feathers. A similar pattern can occur in Swinhoe's Snipe *G. megala*.

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**142.** Adult Pintail Snipe *Gallinago stenura*, Mai Po Nature Reserve, Hong Kong, China, 21st April 2002. This adult has recently replaced the scapulars, along with the lesser, median and most of the greater coverts, which contrast with the unmoulted and faded coverts.

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**143.** Juvenile Pintail Snipe *Gallinago stenura*, Long Valley, Hong Kong, China, 10th September 2001. Upperwing-coverts appear fresh and warmly washed golden-brown.

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**144.** Worn adult Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 10th September 2001. The contrast between the faded and worn greater and median coverts with their fresher and darker replacements is apparent on this moulting adult.

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**145.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 4th September 2000. In autumn, all juvenile upperwing-coverts are fresh and unmoulted. This individual shows particularly pale fringes to the median coverts.

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**146.** Juvenile Swinhoe's Snipe *Gallinago megala*, Long Valley, Hong Kong, China, 4th September 2000. The extent of median-covert pattern and colour variation differs widely among individuals and overlaps with Pintail Snipe *G. stenura*.

median coverts are obviously pale-fringed, appearing off-white, which gives a scaled appearance. This effect may be reduced on some juveniles, including birds in fresh plumage, which are then difficult to separate from adults. The median coverts usually show a dark shaft-streak, although this does not reach the tip of the feather. The scapulars are very different from those of adults, with narrow whitish or off-white fringes, and often have a browner feather centre.

#### *First-winter*

Following the post-juvenile moult, when the lesser and median coverts are replaced by adult-type coverts, first-winters can only be aged if there are some retained juvenile wing-coverts or scapulars. The contrast between scapulars of different generations can, however, be very distinctive, with the retained juvenile feathers having a rather even off-white fringe which contrasts with new adult-type scapulars that show broad golden fringes and blacker centres.

### *Swinhoe's Snipe*

As with Pintail Snipe, the overlap in size makes it impossible to establish the sex of an individual in the field. Similarly, the features useful for ageing Pintail Snipe also apply to Swinhoe's, except that the pattern of the median coverts does not appear to be particularly reliable. Moult and scapular pattern are, therefore, the best features for ageing Swinhoe's Snipe.

## *Distribution*

Owing to the difficulties of field identification discussed in this paper, data on distribution and movements of both species must be viewed with caution. Some misidentified museum specimens and erroneous field observations may have found their way into the published literature. It is likely that

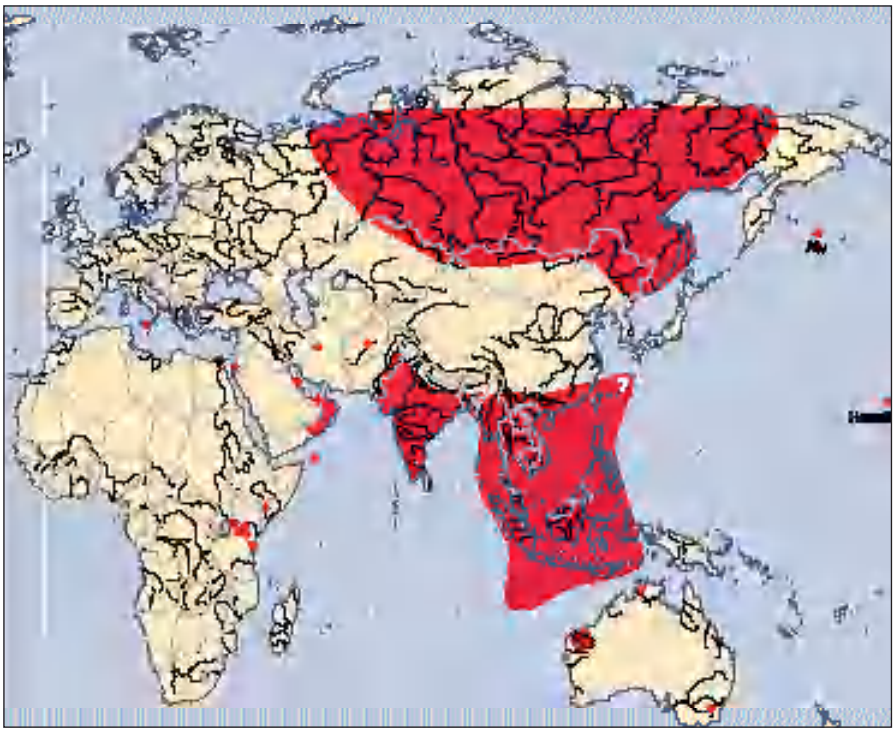

**Fig. 7.** (top) Breeding and wintering ranges of Pintail Snipe *Gallinago stenura*, showing locations of extralimital records.

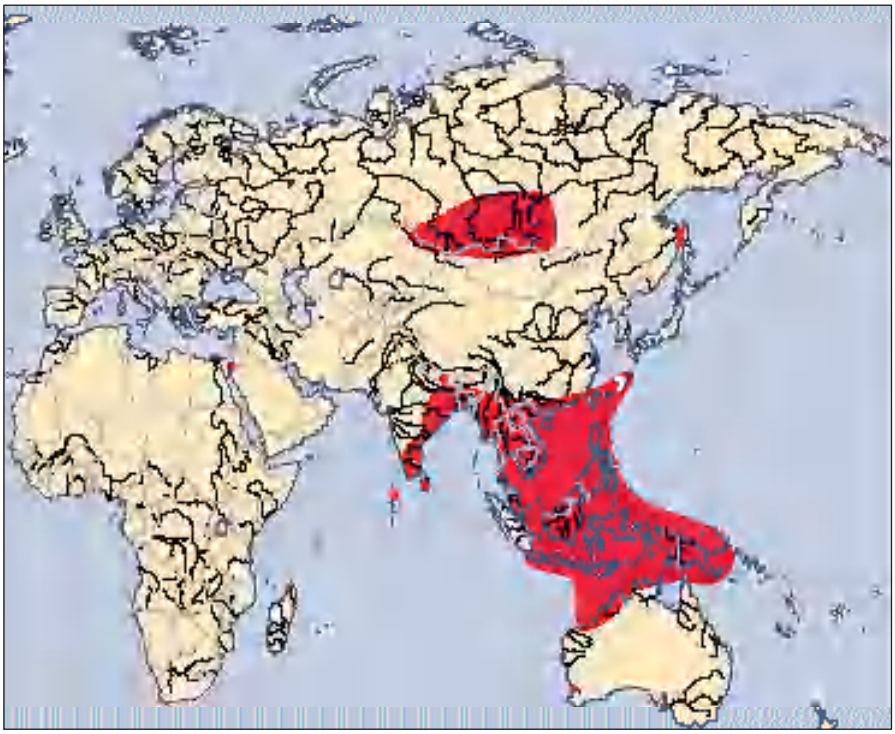

**Fig. 8.** Breeding and wintering ranges of Swinhoe's Snipe *Gallinago megala*, showing locations of extralimital records.

the overall picture presented here (figs 7 & 8) closely matches the true distribution, however, because many records are based upon accurate identification of trapped birds and museum specimens.

### *Pintail Snipe*

#### *Breeding*

As a breeding bird, Pintail Snipe occurs across a wide expanse of arctic and boreal Russia within the Central and Eastern Palearctic, north to approximately 70°N where it reaches the southern edge of the tundra. The western limit lies in the northern part of the Ural Mountains and extends east to western areas of the Chukotsky Peninsula in northeastern Siberia and south through Siberia to Transbaikalia and northern Mongolia (Cramp & Simmons 1983; del Hoyo *et al.* 1996; Higgins & Davies 1996). Zhao (1995) states that breeding occurs in Jilin and Heilongjiang provinces, northeast China.

#### *Wintering*

The regular wintering range extends from Pakistan and Oman (where it is a fairly common passage migrant and winter visitor between early August and early June, usually seen singly or in very small numbers; Eriksen & Sargeant 2000) in the west, south through much of the Indian subcontinent (Hayman *et al.* 1986; Grimmett *et al.* 1998), and east to the coastal provinces of southern China and Taiwan (La Touche 1931-34). To the south, it regularly winters through Indochina and Thailand to Malaysia, the Philippines and Indonesia. Small numbers occasionally reach Australia (Higgins & Davies 1996), though it is probably under-recorded. Occasionally, birds occur to the west of the main wintering range, reaching Saudi Arabia, Bahrain, the United Arab Emirates, and East Africa where it has been reported on several occasions south to Kenya (Urban *et al.* 1986).

#### *Migration*

Pintail Snipe occurs as a regular migrant to inland and coastal freshwater sites across much of central, east, northeast and southeast Asia, although it is scarce or rare as far east as Japan and Korea (Brazil 1991; Higgins & Davies 1996; Ornithological Society of Japan 2000). The main post-breeding exodus from Siberia occurs in August and September (Cramp & Simmons 1983), with passage through China between early August and mid October (La Touche 1931-34; Williams 2000). Numbers progressively peak further south as the season advances, and by mid October many wintering birds are present in southern China, which masks the presence of lingering migrants. By late October, wintering birds reach as far south as Sri Lanka and Singapore. Return movements in equatorial regions may commence in early February, but in peninsular India and southern China northbound passage occurs in March and continues through the first half of April (Cramp & Simmons 1983; Carey *et al.* 2001), with stragglers lingering into May. Migrants through China reach the lower Yangtze valley from mid April onwards and Hebei province in May (La Touche 1931-34).

### *Swinhoe's Snipe*

#### *Breeding*

Swinhoe's Snipe breeds in the high temperate taiga and forest-steppe zones of central Siberia, west to approximately 82°E in the Kulunda steppe and Shegarka River regions, north to 59-60°N on the Tym and Yenisey rivers and east through Transbaikalia to adjacent regions of north Mongolia. The southern limits of the breeding range reach to the Altai Mountains. Cramp & Simmons (1983) note that it has nested in Ussuriland and possibly Sakhalin, east Siberia, but its status here remains obscure.

#### *Wintering*

Within mainland Asia, the wintering range of Swinhoe's Snipe overlaps widely with that of Pintail Snipe, although Swinhoe's shows a more southerly and easterly bias. The core wintering area lies to the east in the Philippines, Greater Sundas and Wallacean region, however, where Swinhoe's Snipe is distinctly more numerous than Pintail Snipe. The western limit of the known wintering range lies in the northeastern part of the Indian subcontinent and southern India (Grimmett *et al.* 1998), well to the east of the western limit of Pintail Snipe. It becomes progressively more numerous to the south and east, through Burma and Thailand and south to Singapore (Hayman *et al.* 1986; Cheng 1987; Wells 1999; Robson 2000), but is outnumbered by Pintail Snipe at a ratio of 200-250:1 in Malaysia (Cramp & Simmons 1983). Across southern China, including Hong Kong, at the northern edge of the regular wintering range, there are very few proven winter records (Carey *et al.* 2001). Some birds reach northern

Melanesia and northern Australia, although there are few definite records of specimens or trapped individuals (Higgins & Davies 1996).

### *Migration*

After the breeding season, Swinhoe's Snipe migrates through eastern Mongolia, China and Taiwan. In Hong Kong, Carey *et al.* (2001) suggested that it was still outnumbered by Pintail Snipe during autumn passage, and, based on birds trapped for this study, Pintail is commoner by a ratio of 3:1 – much higher than that previously estimated from field observations prior to systematic trapping and identification in the hand. Swinhoe's is more numerous than Pintail in Japan, where it is locally common throughout the country (Ornithological Society of Japan 2000), occurring from the second week of August to late November (Brazil 1991). Return passage through Fujian province in southeast China extends from late March to the end of May (La Touche 1931-34), although farther west in Guangdong province and Hong Kong it is not numerous and is outnumbered by Pintail Snipe. Although plentiful in May in Hebei province, northeast China, it is less common on the coast than Pintail Snipe (La Touche 1931-34; Carey *et al.* 2001). In Japan, passage occurs in April and May (Brazil 1991). A bird trapped in the Philippines in October 1969 was found the following August near the western limit of the breeding grounds (McClure 1974).

### *Vagrancy*

Both species have occurred as vagrants within the Western Palearctic. Pintail Snipe, breeding in western Siberia, is a likely vagrant to the region and currently there are three published records: two, one in November 1984 and the other in November 1998, from Israel (Shirihai 1988, 1996; Granit *et al.* 1999) and one in Italy in December 1996 (Corso 1998). Elsewhere, vagrant Pintail Snipe have occurred on Kure Atoll, Hawaiian Islands, in January 1964 (Clapp & Woodward 1968) and on Attu Island, western Aleutians, Alaska, in May 1991 (Gibson & Kessel 1992), both records involving birds identified in the hand.

Swinhoe's Snipe, with its breeding range restricted to central Siberia and with the orientation of autumn migrants being south to southeast, would seem less likely to occur to the west of its known wintering range and within the Western Palearctic, but there are two published records. The first, one collected from the northern Caucasus in December 1898, was not preserved and unfortunately this record cannot be verified (Snow & Perrins 1998). The second, concerning a bird seen but not photographed or trapped, occurred in Israel between 28th February and 4th March 1998 (Shirihai 1999). Based upon our experience, we suggest that the published description does not, in fact, exclude Pintail Snipe. Vagrants have also been reported from Sri Lanka (Henry 1998), the Maldives (Grimmett *et al.* 1998) and Nepal (Madge 1989), although the latter is a sight record and appears insufficiently detailed to exclude Pintail Snipe.

## *Conclusions*

Based on birds trapped for ringing in Hong Kong and an examination of museum specimens, the identification of Pintail Snipe and Swinhoe's Snipe has been oversimplified in the literature, and most individuals are not safely identifiable in the field owing to the overlap in size, structure and plumage. Although birds showing a combination of structural features may be considered to be *probably* either Pintail Snipe or Swinhoe's Snipe, it will generally not be possible to confirm identification unless the shape of the outer tail feathers is seen or the bird is trapped. We urge that, where possible, ringers should record the calls of trapped birds, so that further research into the variation in the calls of these two species can be made.

#### Acknowledgments

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**Appendix 1.** Summary of published measurements of Common Snipe *Gallinago gallinago*, Pintail Snipe *G. stenura* and Swinhoe's Snipe *G. megala*.

| | **Summary** | Beaman and Madge (1998) | Cramp & Simmons (1983) | Hayman *et al.* (1986) | Higgins & Davies (1996) | Prater *et al.* (1977) | Tuck (1972) | Wells (1999) | Granit *et al.* (1999) |
|---|---|---|---|---|---|---|---|---|---|
| **Common Snipe** | | | | | | | | | |
| Wing (mm) | **123-144** | 123-144 | 126-144[1] | 123-144 | - | 127-142 | 128.5 ± 3.89 | 129-139 | |
| Bill (mm) | **55-75** | - | 59-75[1] | 55-75 | - | 55-74 | 66.7 ± 7.53 | 59.9-69.8 | |
| Tail (mm) | **48-64** | - | 49-64[1] | 49-64 | - | - | - | 48-57 | |
| Weight (g) | **84-220**[3] | - | 84-220[2,3] | - | - | - | - | - | |
| **Pintail Snipe** | | | | | | | | | |
| Wing (mm) | **125-143** | 125-143 | 125-143 | 125-143 | 125-143 | 128-142 | 127.3 ± 3.66 | 127-143 | 142.5 |
| Bill (mm) | **55-72.7** | - | 55-70 | 55-70 | 55-70 | 55-69 | 61.4 ± 3.31 | 58-66.9 | 72.7 |
| Tail (mm) | **40-55** | - | 42-55 | 42-55 | 42-55 | - | - | 40-51 | 44 |
| Weight (g) | **84-170** | - | 84-170 | - | 101-170 | - | - | 92.6-123.8 | 126 |
| **Swinhoe's Snipe** | | | | | | | | | |
| Wing (mm) | **130-151** | 137-151 | - | 137-151 | 130-150 | 137-151 | 135.8 ± 4.63 | 137-144 | |
| Bill (mm) | **55.5-74** | - | - | 56-74 | 55.5-73.4 | 56-74 | 63.5 ± 3.83 | 61.1-69.9 | |
| Tail (mm) | **46-63** | - | - | 46-57 | 50-63 | - | - | 47-58 | |
| Weight (g) | **82-150** | - | - | - | 82-150 | - | - | 130.6 | |

[1] Nominate *gallinago*. [2] Nominate *gallinago* and *faeroeensis*. [3] Excludes emaciated birds as light as 42 g.