

BirdLife Australia Rarities Committee

Unusual Record Report Form

This form is intended to aid observers in the preparation of a submission for a major rarity in Australia. (It is not a mandatory requirement) Please complete all sections ensuring that you attach all relevant information including any digital images (email to tonyp@bigpond.net.au or andrew.silcocks@birdlife.org.au). Submissions to BARC should be submitted electronically wherever possible.

Full Name: Jennifer Spry	Office Use
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Species Name: Common Snipe	Scientific Name: <i>Gallinago gallinago gallinago</i>
Date(s) and time(s) of observation:	2 nd December 2019 at 1347
How long did you watch the bird(s)?	15 minutes
First and last date of occurrence:	As above
Distance to bird:	0 - 20 meters before it flew to new location at 8 meters

Site Location Home Island, Cocos Keeling near gym and playground – map attached GPS: 12° 07' 03.83" S 96° 53' 44.00" E

Habitat (describe habitat in which the bird was seen): Residential area with playground. Mixture of short grass and sand.
Sighting conditions (weather, visibility, light conditions etc.): Calm, very hot, full sun, no wind. Heat haze affected photography

To your knowledge, is the species seen frequently at this site? If accepted this would be a first for Australia
Were other observers present Do any of the other observers disagree with your identification, if so, who? (please give names, addresses and phone numbers)? 15 members of a birding group led by Richard Baxter. As this is a difficult bird to identify it created some discussion during the stay on the island. List of participants below.
How confident are you of your identification? , e.g. 70%, 100%. If not 100%, why not? 100%. As all snipe can be very difficult to identify, it is hard to say how confident others in the group were. Richard Baxter, Darryl Binns and Glen Pacey have all indicated they agree with it being a Common Snipe.
Please confirm that you are willing for BARC to display your images (fully credited with your name) electronically YES. All images are mine unless otherwise attributed.

Other details: e.g. Do you have historical and or anecdotal information/comments relating to the prior occurrence/status of the species within or near this location?

Based on eBird sightings (see map below) the nearest wintering ground for Common Snipe is some 1600 km away in Malaysia and Singapore. It is an expected vagrant to Australia and is included in the latest field guide, The Australian Bird Guide (ABG), but so far not reported or recorded.

NOTE:

The bird is being submitted to BARC as a Common Snipe and I believe it presents a very strong case. I am aware, however, that Swinhoe's Snipe is a regular visitor to the Cocos Keeling Islands. All reference books say that separating snipe species in the field is extremely difficult. With our good photos and help from the new *Australian Bird Guide* I think this bird can be fully identified to species.

Physical Description of Bird - Please describe only what you saw: (1) No. of individuals present (living or dead); (2) age (adult, juvenile, immature) and sex; (3) size and shape; (4) plumage colour and pattern (including any details of moult); (5) colour of bill, eyes and legs/feet; (6) calls; (7) behaviour, movements, flight pattern, and anything else that might help to identify the bird e.g. feeding, interactions with other birds, describe where the bird was – on ground, in canopy, flying etc. Were comparisons made with other species?

Description of bird following below

Please indicate other species with which you think it might be confused and how these were eliminated?

Species it could be confused with are:

Swinhoe's Snipe;

Latham's Snipe;

Pin-tailed Snipe;

Wilson's Snipe

See further comments below

Was the description written from memory?

Description was written from notes taken at the time and from photographs

Were photographs taken? (please include where possible)

Yes, photos are below

What experience have you had with the species in question? (Did you know it was a Rare bird when you first saw it?)

Over 11 trips to Cocos Keeling Island I have had regular experience with Swinhoe's and Pin-tail Snipe but never, knowingly, Common Snipe.

I have experience with Latham's Snipe in Australia and there is one record of this species on Christmas Island, but not submitted to BARC

Name: Jennifer Spry

Email Address: malurus.jenny@gmail.com

Physical Description of the Bird:

After our group of 16 finished lunch we broke up and went searching. I was alone and walked around the concrete water tank when a bird flushed low, fast and straight from where it was sheltered beside the tank to the playground and settled, again sheltering this time in the shade beside a corner post approx 20 metres away. My impression was of a snipe, a bit paler than the Swinhoe's and Pin-tailed Snipe I am used to, and immediately looked with 10 x 40 Zeiss binoculars and saw it was a snipe. I took a series of jpeg photos with a Canon 7D Mk II with a 100 – 400 ii zoom lens. Using a two-way radio I called the group back together and took more photos. With the group watching, the bird flew back approx. 20 metres to near where it first flushed from, landing instead within the buttress roots of a road-side tree before finally flying off over the roof tops (see map page 19). Flight was strong and direct as shown in the field guides (Kennedy et al). The habit of Common Snipe returning to the original place they were flushed from is mentioned in Whistler pp 465 - 466; "... it is always reluctant to leave its chosen spot and often flies ... then if the coast seems clear drops suddenly back into cover near the place where it originally rose." Related to when it left and flew over the house Whistler says; "it mounts into the sky at a great pace", which is what it finally did. This is different to all other snipe I have seen on the islands which, when flushed, fly some hundreds of metres away from observers before dropping back into cover.

The bill and legs were an olive-green colour, as in ABG, and the iris was dark brown. The bird did not call. Neither age nor sex of the bird was ascertained as the literature says this can only be worked out in the hand (Minias et al, page 21).

It should be remembered that we are not considering a pristine bird, but one that has flown a minimum of 1600 km beyond its normal wintering grounds, if it came from Malaysia. This is not an unheard of distance as eBird has records for Common Snipe on Chagos, 1700 km south of India and on the Seychelles, 1700km east from Africa (see map page 19). Looking at photos it can be seen that there is feather damage/moult on the face and some flight feathers are worn. There were no ships at the island so the bird is unlikely to have been ship assisted.

In flight from the tree no foot projection was seen but the feet were hanging away from the body for most of the flight. In the final flight photo of the bird with the roof as a background it can be seen that there is actually toe projection where one toe is seen bisecting the white tip of the tail and other toes can be discerned to the left of the tail.

A bit of repetition but expanded on the above, the field guide *Popular Handbook of Indian Birds* (Whistler 1941) has an excellent written description of the Common Snipe, possibly because it was published before the ready access to good optics. He comments that: "During the noontide siesta the snipe is often very sluggish and unwilling to rise", which was the case of the Cocos bird, but this was probably accentuated by the bird possibly being exhausted. He also says that: "if not minded to go far drops sharply into cover ... near the place where it originally rose." which it did, first behind a post after 20 metres, then after flushing for a second time, it dropped between two buttress roots of a large tree, back to just 8 +/- metres from the tank from which it initially flushed it. It could not get closer to the tank as people were standing there. Whistler also confirms the eye colour as "dark brown" and the swollen bill tip saying: "long and slender, thickening at the end, where it is honeycombed with nerve cells".

On the days following, searches were made by our group, Rohan Clarke, Mike Carter and Geof Christie but the bird could not be relocated.

Similar Species:

Wilson's Snipe, *Gallinago gallinago delicata*

Wilson's Snipe has never been seen on Cocos Island. Wilson's Snipe was accepted as a race of Common Snipe but is now split in some taxonomies (*Gallinago delicata*; Clements & IOC). It is resident in Northern America and vagrant to the United Kingdom. It is similar in appearance to Common Snipe but the white tip to the secondaries is normally 2 mm or less in width while on Common Snipe the white tip is greater than 2.5 mm (Reid, see page 20). The two species are difficult to separate by plumage colour but Common Snipe is said to be a warmer brown than Wilson's (Reid 2008). Range of this species/subspecies makes it unlikely to be found on an island in the eastern Indian Ocean.

Pin-tailed Snipe, *Gallinago megala*

Pin-tailed Snipe is a regular visitor to Cocos Island but in small numbers. Plumage patterns of Pin-tailed and Swinhoe's Snipe make it almost impossible to distinguish between these two species in the field, as stated in published literature ... "We are, therefore, forced to concede that consistent and reliable plumage differences do not exist between Pintail (sic) and Swinhoe's Snipe" (Leader & Carey). In flight Pin-tailed Snipe exhibit extensive foot extension (full foot to ankle) beyond the tip of tail in comparison to Swinhoe's, which has none to some toe showing. This can be difficult to observe at times depending on how the bird is holding its legs but is perhaps the only method of definitive field separation available. The bird in question has some toe projection, in common with Swinhoe's.

Latham's Snipe, *Gallinago hardwickii*

Latham's Snipe has been recorded once on Christmas Island, some 980 km north-east of Cocos Keeling, in 2015. This Christmas Island bird was initially identified as a Common Snipe but following expert inspection of photographs the identification was changed. For this current submission I feel that Latham's, despite being known from Christmas Island, can be ruled out because it does not exhibit a white tip to its secondaries, the tip of the bill does not show any "swelling" and it has a very different plumage pattern on the head.

Swinhoe's Snipe, *Gallinago stenura*

Swinhoe's Snipe is a regular to annual visitor to Cocos Island but in small numbers. With its short toe projection beyond the tail this is possibly the most likely confusion species. One feature in the plumage believed to distinguish between the two species is the more scalloped scapular pattern in Swinhoe's caused by the feather's pale fringes, rather than a more lineal one normally seen in Common Snipe, appearing as a "coarse straight streaking" (Menkhorst et al – ABG, image 9). A second difference is that Swinhoe's Snipe does not have a substantial white tip on its secondaries, although when old and worn the trailing wing edge can appear narrowly white for its full length, including primaries, due to light shining through. Finally, Swinhoe's are not known to show "swelling" at the tip of the bill as can be seen in photos of the Cocos bird in question (image 5 & 6).

The underwing pattern on all the above species, except Wilson's, appears as a dark series of dots and stripes so as to give, in the field in flight, the impression of an overall mottled and somewhat uniform dark pattern in shades of grey and black (image 1 & 16). The bird in this submission shows a much paler underwing than Pin-tailed or Swinhoe's, based on on-line images and my own observations of Pin-tailed and Swinhoe's Snipe during 11 birding trips to the Cocos Islands over 12 years. The Cocos bird also has distinctive pale longitudinal patterning not seen in the wing of the above species. This will be discussed further in the next section.

Please note that all my photos below were shot in jpeg, not RAW so image quality is limited. **In all photos the bird is in shadow** or indirect light except for the first photo, image 2, where the bird is over the roof.

- Presumed Swinhoe's Snipe for comparison with the Cocos bird images in the submission (see also image 16)

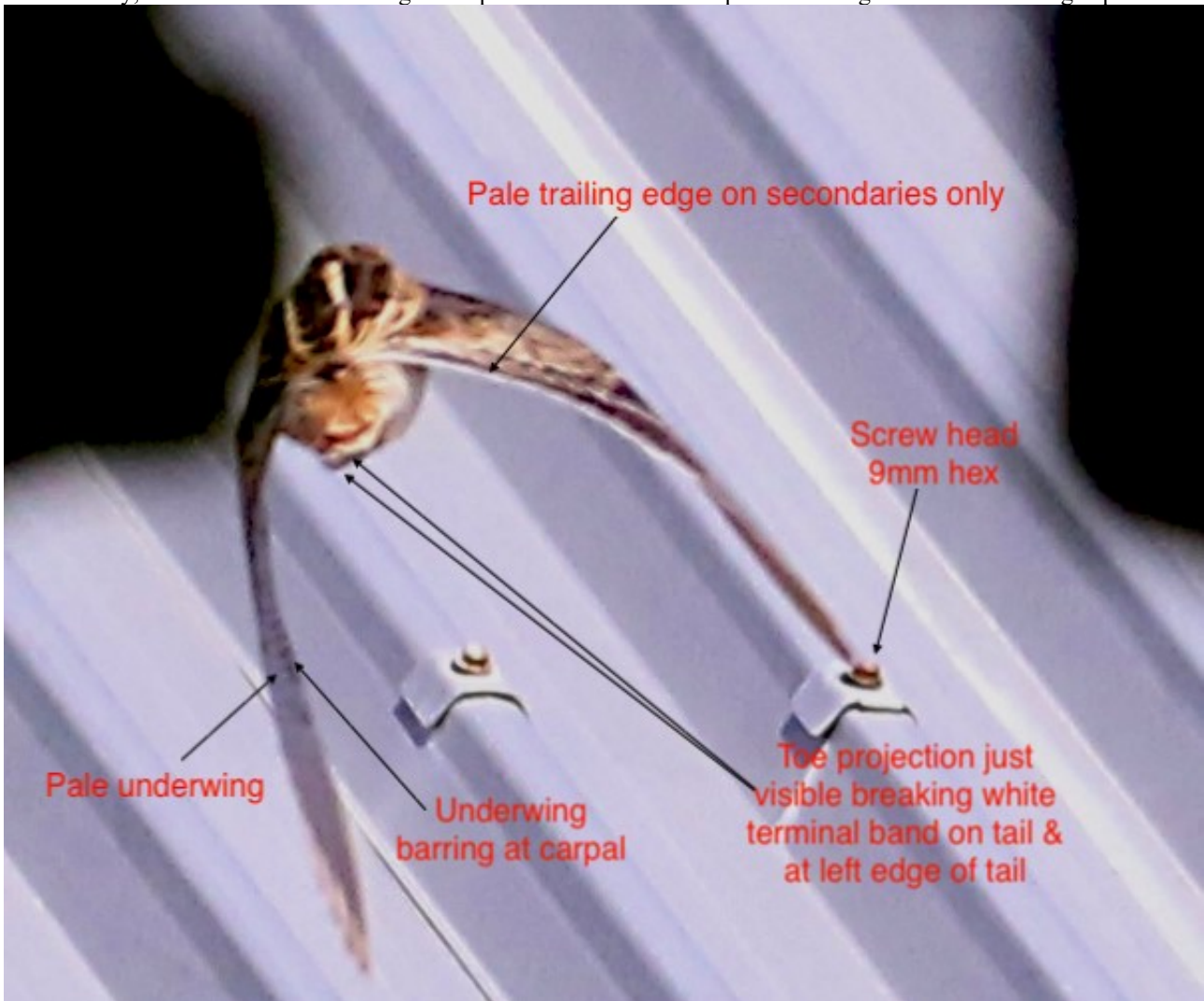


(Image 1) Underwing of presumed Swinhoe's Snipe on Cocos Keeling West Island January 2018. Note the lack of pale longitudinal bands from beyond carpal to flank and also the dark longitudinal band in their stead. Also, the overall uniform, darker, solid-patterned appearance of the wing. The wing shows a narrow, patchy, white trailing edge on both secondaries **and** primaries but this white/pale edge is very different to that on the bird under consideration (see image 2). There is a second Swinhoe's Snipe image on page 14 for further comparison with the Cocos bird. The underwing pattern of Pin-tailed Snipe, the other regular visitor to Cocos, is basically identical.

Discussion of Field Marks and Appearance of Cocos bird

- **White tip on secondaries:**

In contrast to the Swinhoe's Snipe in image 1 the Cocos bird showed a strong white trailing edge to the secondary feathers only, as can be seen in this image. The primaries do not show a pale/white edge and the underwing is pale.



(Image 2)

The hex-heads on the roof screws have a breadth of 9 mm. Based on measuring those in the image at 3mm and extrapolating to the white edge of the wing, 1 mm in the photo, its approximate apparent actual width is 3 mm. As the bird is moving away from the camera at an oblique angle the actual width of the white secondary tips is going to be in the range of 4 – 5 mm if seen more obliquely. This is in line with dimensions given in Reid ... “For *Gallinago (gallinago)* ... 6% fell within the range of 2 – 3 mm ... 37% fell between 3 – 4 mm and 57 % showed more than 4 mm.” Especially as the bird’s flight feathers may be worn, a width of between 2.5 and 4 mm in the Cocos bird is acceptable and diagnostic for Common Snipe. The pale tip is also too symmetrical and restricted to the secondaries to be accounted for by feather wear and or transparency which would extend into the primaries as well.

Again, please note that the pale edge to the wing is, in all following photos, restricted to the secondaries. If it was a result of wear then it would be expected to extend onto the primaries as well.

The two dark patches in the photo are the leaves of a tree that was between me and the bird, not shadows.



(Image 3)

The bird in full shade but blurred. However, it does show the white trailing edge on the secondaries of both wings and gives a better impression of actual white tip width. Based on a mean wing length of 140 mm (ABG) a very rough extrapolation of the photo, which is hard due to blur and the wing not being flat, it can be seen that the white tip is probably in excess of 2.5 mm, the minimum width stated in Reid (see page 11) for Common Snipe. Photo with thanks to Bill Betts.



(Image 4)

In **all** photos of the snipe by the playground corner post the bird was in **full shade**, as can be seen in this image. In all flight photos, except where the bird is over the roof, the bird was in the shade of the large tree it had been sitting under in the profile image (14). In the profile image the bird was out of the direct sunlight, shielded by the buttress root of the tree. For this reason bright lighting has not affected the photos in any way. None of the photos are back-lit.

- **Toe Projection.**



(Image 5)

By marking up the leg with straight lines and the tail with a curved line an approximation of projection can, I believe, be ascertained. It seems to be about the length of the bird's longest toe. This is confirmed in the flight photo of the bird over the roof (image 2) where one toe can be seen bisecting the pale tip of the tail.

The pale tip on the outer secondaries is just visible in this image as is the "swelling" at the tip of the bill. The bill also appears to be "long" in this ventral image.

- **Bill length and Shape**

The bill on the Cocos bird in image 6 below shows a ventral view. The image shows the expected bill of a Common Snipe ie long, slender and with a swollen tip. In Image 14 taken from slightly toward the front of the bird the bill appears to be shorter than expected and the swollen tip is not as evident. Image 6 is taken from behind the bird so bill length will appear lengthened. After considering both images and the chart below, however, I feel the bill meets the criteria for Common Snipe; at least average length and "slightly swollen at tip" (ABG). The "swelling" is also visible in image 5, above, where it has a dark background.

Pin-tailed male	56mm				64mm				
Swinhoe's female		59mm						74mm	
Common female				63mm			Av. 71.0		75mm
Swinhoe's male	56mm					67mm			
Common male			62mm				Av. 68.4	72mm	
Latham's male					64mm			72mm	

Minias gives an average length for male Common Snipe bill in Poland as 68.4 mm and female as 71.03mm (see page 21). Meissner quotes a similar bill mean measurement for male and female ranging from 68.5 to 69.14 mm. If the bill of

the Cocos bird is at the average length quoted in Minias, 68.4 or 71mm, it falls at the top of the range for Swinhoe's male and well within the accepted length for Swinhoe's female, the most likely possible confusion species. Therefore, Common Snipe cannot be ruled out on bill length and shape, especially if the bill on the Cocos bird happens to be average or below average length for a Common Snipe.

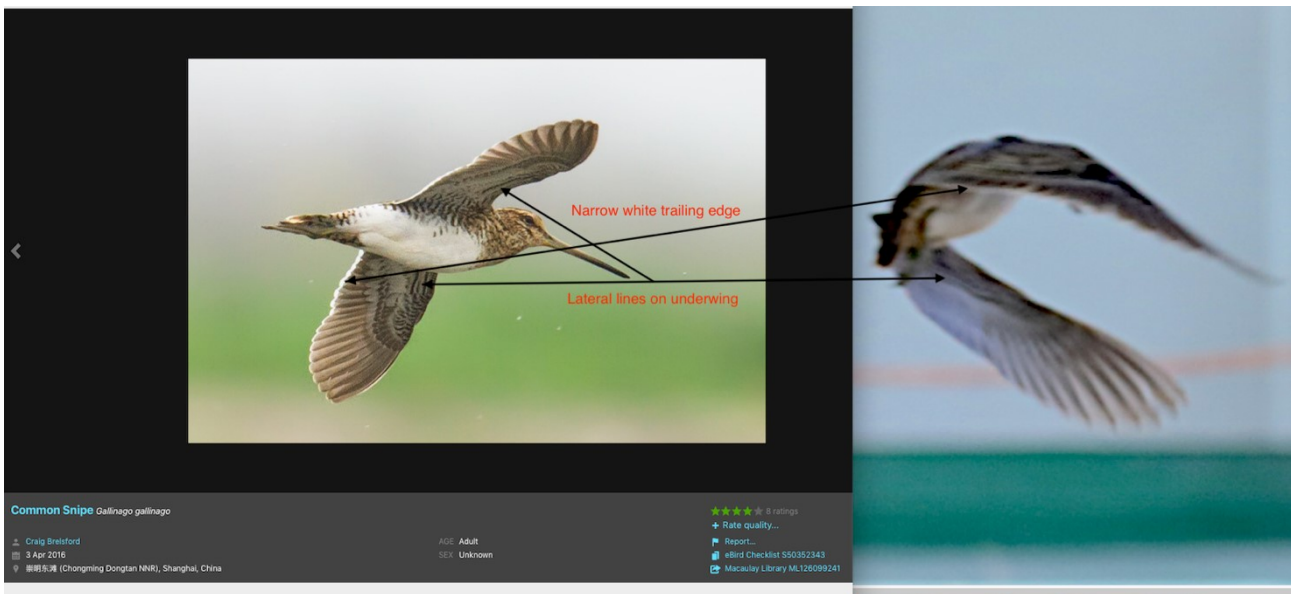


(Image 6)

In this image the inner section of the bill has a blurred edge appearing as semi-transparent “noise” caused by severe cropping of a jpeg image. The outer end suffers from bluing along the lower edge caused by chromatic aberration. White tips to the secondaries shows well in the image.

- **Underwing Pattern and Colour**

The two barred, parallel lines on the axillaries (above, image 6) are mentioned in the Reid paper as follows: “45% of *gallinago* showed dark bars half the width, or less, of the white bars”. This is the case in image 6 above. In image 16 below the lines on the Swinhoe's Snipe in hand appear to be of approximately equal width. Glenister says “... the dark bars on the feathers under the wing (axillaries) are not of equal width”.

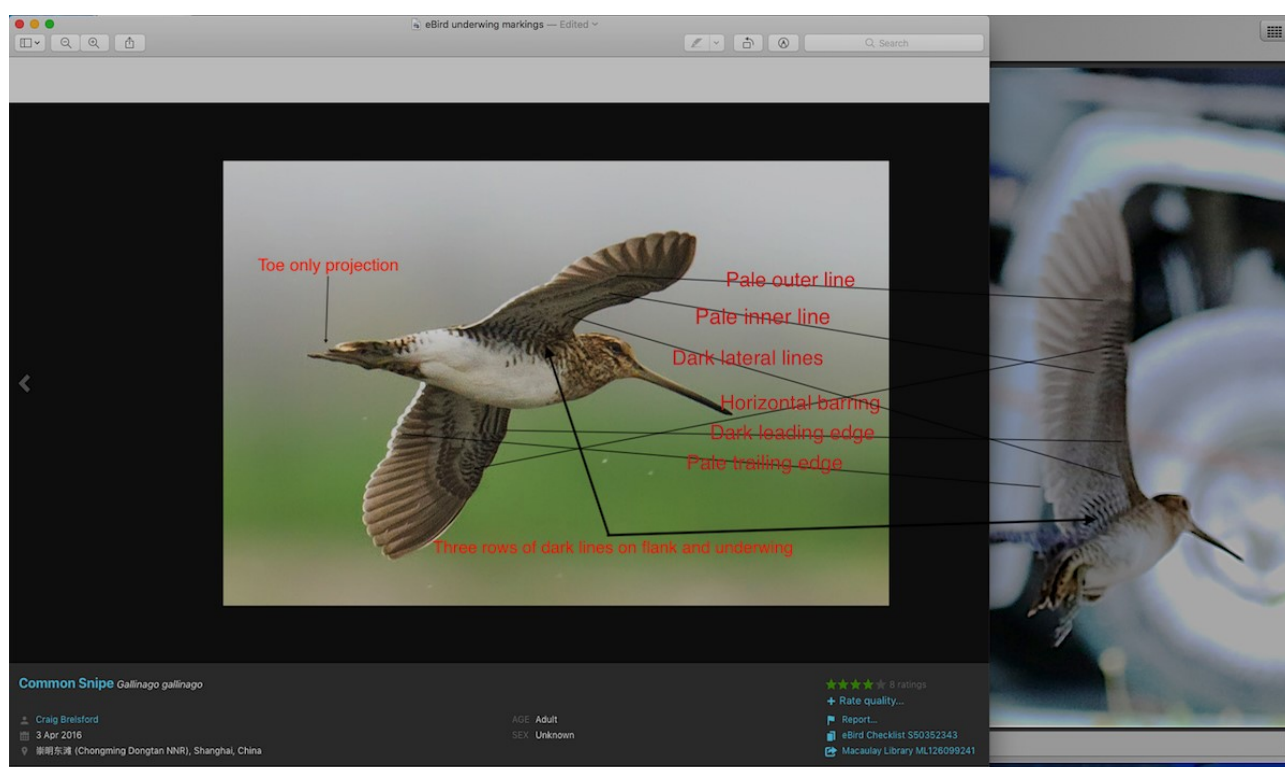


(Image 7)

This image (7) shows the dark longitudinal lines on the underwing of both the eBird image (left) and the Cocos image (right). And, again, the pale secondary tips show well, appearing wider and stronger than the image of the bird against the roof. Note the similarity in underwing pattern of the Cocos bird when compared to the right wing of the eBird image.

Reid mentions in the text for his image 105 (see page 11) that the white tip on the secondaries extends along the inner web of the feather. It may be just light coming between spread feathers but it appears that the white inner web on the secondaries can be seen in the right wing in the photo of the Cocos bird. This maybe just feather spread allowing light through but the dorsal of the right wing is well shaded, not back lit and the wing is not fully extended.

The eBird photo is from the Chongming Dongtan Nature Reserve in Shanghai, China, by Craig Brelsford on 3rd April 2016.



(Image 8)
eBird image on left, Cocos bird, **in shade**, to right.

Image 8 shows the underwing of the Cocos bird in the canopy shade of the tree with buttressed roots where it had been sitting. In this image note the two pale longitudinal lines that extend from beyond the carpal. Also, the pale area behind the dark leading edge of the wing at the “arm pit” where it meets the body, which almost links back to the pale lateral lines above the horizontal barring at the wing base and flank. The underwing coverts appear darker than in many on-line images of Common Snipe but not all.

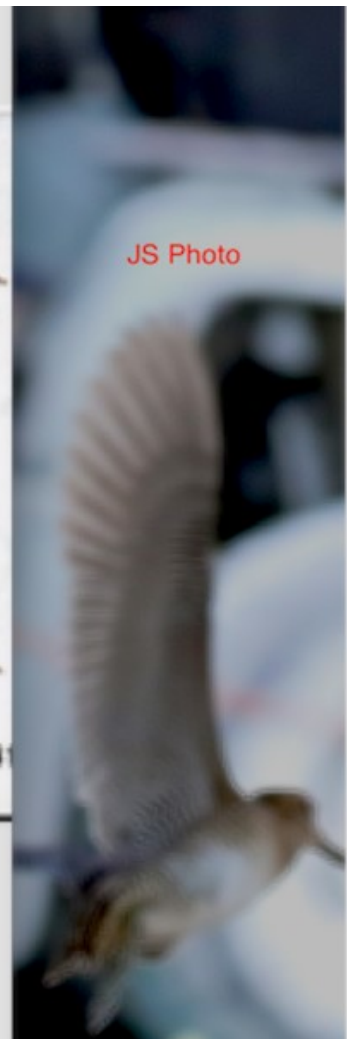
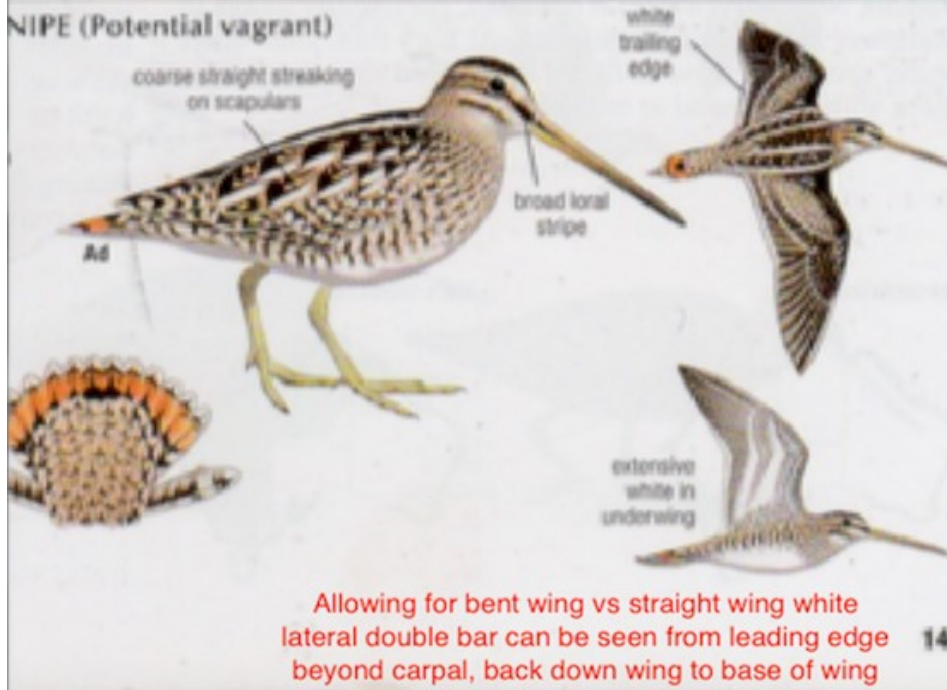
The Cocos bird, when compared to on-line images, Reid and the ABG images, matches well for confirmed Common Snipe images. This is particularly so when it is compared to images shown in Reid of birds collected in eastern Russia, the general area from where the Cocos bird is presumed to have come (see page 11).

I have never seen photos of Swinhoe’s or Pin-tailed Snipe from the Cocos or Christmas Islands that are pale and longitudinally banded white/pale in the underwing, as this Cocos bird is in all underwing photos.

The swelling” at the tip of the bill can be seen in this less cropped version of image 6. White tips to the inner secondaries and the tertials can also be seen.

The eBird photo is from the Chongming Dongtan Nature Reserve in Shanghai, China, by Craig Brelsford on 3rd April 2016.

Australian Bird Guide Snipe illustration P. 141



Allowance also needs to be made for the fact that this is not a pristine "text book illustration" bird but one that has travelled at least 1800 km beyond its nearest normal non-breeding ground in Malaysia

(Image 9)

Composite image with image from ABG page 141 to compare underwing patterns between a field guide and the Cocos bird. Also, see in relation to this image the extract from Reid on page 11. A less cropped, sharper image of the bird (8) shows the same detail for further comparison to the ABG plate.

birds of each taxon of a sample of $G = 200$, $D = 84$; on each of the remaining specimens, depth was estimated visually to the nearest millimetre except for those judged to be close to the overlap zone, which were then measured (Appendix 1).

For *gallinago*, just one bird (from China) showed less than 2 mm of white on the secondary tips: 1.5 mm on one wing and 2.7 mm on the other. Of the remainder, none showed less than 2 mm of white, and only 11 (6%) fell within the range 2–3 mm. For 75 birds (37%) the depth fell between 3 and 4 mm but most birds (114, 57%) showed more than 4 mm of white. There was no apparent difference in separate analyses for European ($n = 100$) and Asian ($n = 100$) *gallinago*. For *delicata*, a majority (72, 86%) showed less than 2 mm of white, while just 11 (13%) were in the overlap zone of 2–3 mm and half of these were barely over the 2 mm mark. Just one *delicata* had white on the secondary tips that slightly exceeded 3 mm.

This feature was also examined in photographs, estimated visually to the nearest 2 mm ($G = 65$, $D = 65$). For *gallinago*, just one bird (1.5%) appeared to show secondary tips less than 2 mm deep, 22 (34%) were in the range 2–4 mm, while two-thirds (42, 65%) showed more than 4 mm of white. For *delicata*, the majority (58, 89%) appeared to show less than 2 mm of white, while the rest (7, 11%) showed 2–4 mm, all of them closer to the lower end of the range.

These data suggest that the depth of the pale tips to the secondaries is a strong character, and

that a reasonable division would be: > 3.5 mm = *gallinago*; < 2 mm (on both wings) = *delicata*. Birds that fall into the overlap zone require significant agreement on other features for a positive identification.



Jessie Barry/Robert Foucett

104. Common Snipe *Gallinago gallinago gallinago*, eastern Russia, 29th July 1992. This individual shows a fairly typical underwing-covert pattern for *gallinago*, but the white on the secondary tips is narrower than average, estimated from this photo to be c. 3 mm deep, and extends along the inner web of each feather tip.



Jessie Barry/Robert Foucett

105. Common Snipe *Gallinago gallinago gallinago*, eastern Russia, 9th July 1992. The narrow white secondary tips on this individual are quite worn. Again, note the white extending along the inner web of each secondary tip. The axillaries are mostly missing, and the underwing-coverts are towards the poorly marked end of the range for *gallinago*, but nonetheless there is slightly more white in the median coverts than found on any *delicata*.



Andy Jones

106. Common Snipe *Gallinago gallinago gallinago*, eastern Russia, 13th June 2003. This individual shows extremely worn secondary tips, which appear narrower than would be the case on a bird in fresh, unworn plumage. In *gallinago*, the extent of wear is greatest from April to early July, after which the adults undergo a complete moult; both adults and juveniles thus show relatively fresh and unworn secondaries in autumn.

The image (above) from the paper by Reid shows three different wings from Common Snipe taken in Russia. As can be seen there is wide variation in patterning and I feel the Cocos bird fits within the variation shown in these images. This page also gives secondary feather white tip details relevant to the Cocos bird. These images, 104 to 106, are important as they are of Asian birds which is where one would assume the Cocos bird originated.

- **Loral Stripe, Cheek Stripe and Rear of Eye to Nape Stripe.**



(Image 10)

Loral Stripe: This image shows a comparatively wide loral stripe from bill to eye in contrast to how the same stripe appears in image 14. A comparatively wide loral stripe is also mentioned in some field guides as a suggested field mark (ABG etc). It can be seen in the following images that this can be deceptive in the field if the white face feathers are not smooth and in place.

Cheek Stripe: These images also show the dark cheek stripe, another field mark suggested in some guides. Again, in image 14 feather damage has altered the way this stripe can be perceived in the field when the bird is seen in profile.

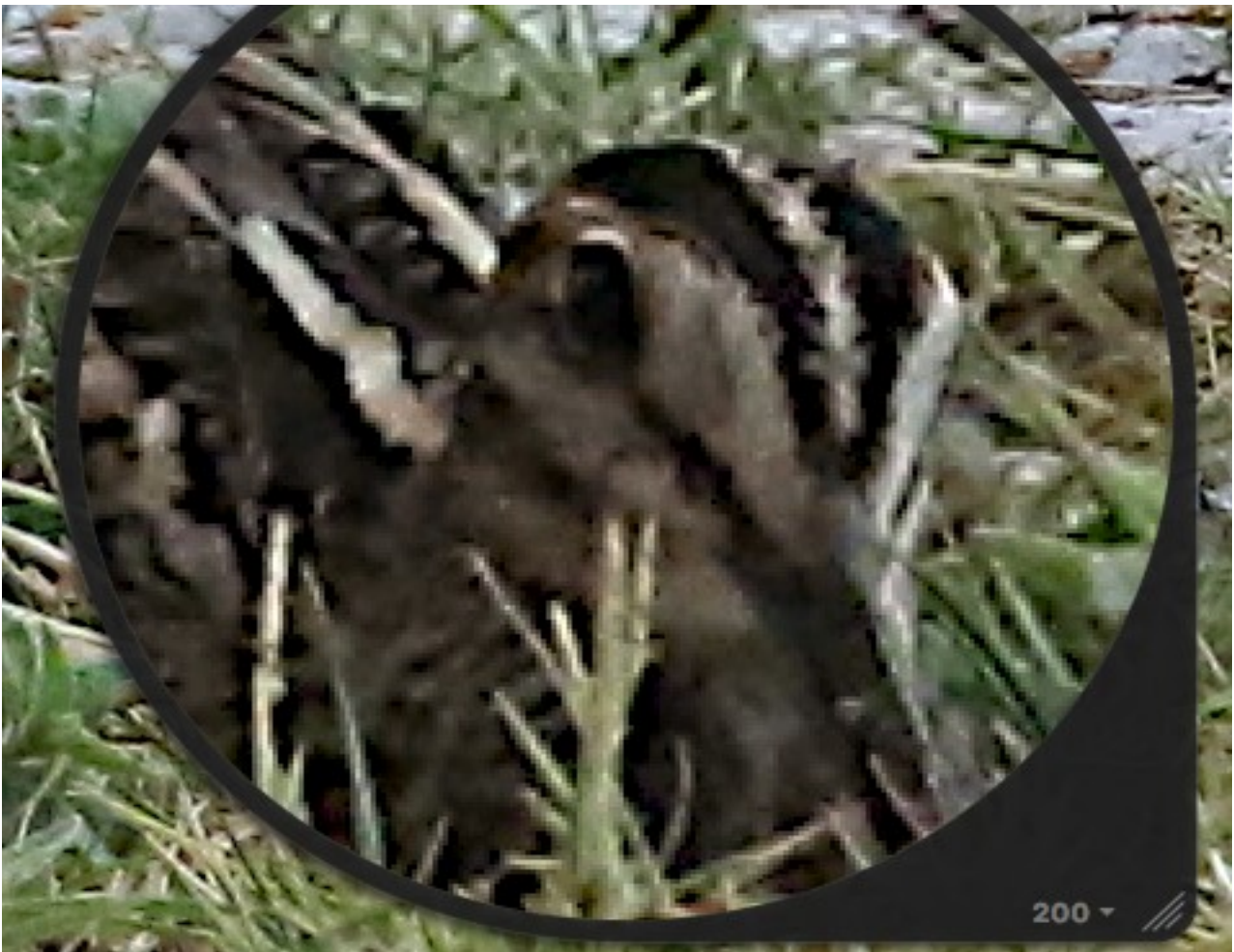
Rear of Eye to Nape Stripe: In image 10 (above) and 11 (below) the dark band behind the eye, below the supercilium, is seen to have a dark upper and lower edge with a paler but still uniform buff-brown infill blending into the colour of the neck (see too image 14). Common Snipe are illustrated in HBW Online, Brazil, Hayman et al, McKinnon et al and ABG and other field guides as having this distinctive pattern. Swinhoe's Snipe is shown in the field guides as having a similar band but it is illustrated with the upper and lower edge being a much less contrasting deep brown and the centre panel as containing dark and light sections, not uniform, continuous, and concolourous with the nape of the neck, as for Common Snipe.

The scapulars, when seen from this angle, form more or less straight lines with their outer edge showing white while the inner edge is a duller cream colour.

In the following three photos one can see how the feather wear and displacement have affected the appearance of the bird. The loral stripe is partially obscured, especially on the lower edge. The edge of the crown stripe is also partially obscured by face feathers. I have added a line in this photo (10) top and bottom of the loral stripe to show its actual width if not obscured by face feathers and its own feather loss. I have also added a curved line to show the lower edge of the crown stripe where it would be if there was no feather loss on the crown or obscuring face feathers intruding into it.



(Image 11)



(Image 12)

In image 12 it can be seen that the supercilium on the right side of the head appears disproportionately wide due to feather displacement blocking out part of the crown stripe when the bird is seen in full profile, as in the following photos. On the left of the head it can be seen that the crown stripe from the top of the eye to the bill is a straight line rather than curved as on the left of the head. With a ruler a straight line can be drawn down the crown stripe from the top of the eye to the top of the bill on the left of the head but this cannot be done on the right, due to feather damage and displacement.



(Image 13)

In this crop from a photo by Glen Pacey the severe feather damage/loss on the face can be seen. This damage gives an inaccurate impression in other photos of (1) the width of the loreal stripe, (2) the strength of the cheek stripe and (3) the width of the supercilium and crown stripe between the eye and the bill. Most of the crown stripe in front of the eye has been either made invisible by face feathers or loss of dark feathers. The black lines give an approximation of where the edge of the crown stripe and loreal stripe should be. Based on these lines loreal stripe and supercilium at beak are approximately the same width (Robson, ABG).

- **Outer Scapulars and Leg Colour**



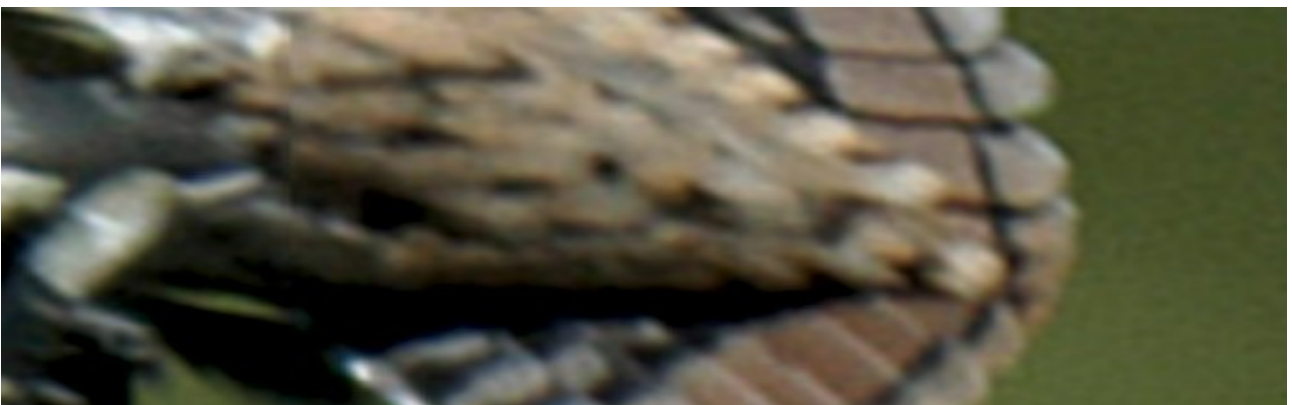
(Image 14)

This photo by Glen Pacy using a Nikon Coolpix P900 camera at about 600mm shows leg colour well. When compared to the images in ABG p 141 and other field guides it is more similar to Common than Swinhoe's but this is a feature that varies between individual birds.

Some feathers are sitting out of place and this affects the line of the pale edge to the scapulars about which ABG page 140 says "*lower scapulars more pointed, with clear white outer edge but no corresponding pale inner edge*" (italics are ABGs). The Cocos bird has white/pale outer edges and darker inner edges on lower scapulars as shown in ABG on page 141. Minias says that: "In Common Snipe colours and patterning of feathers are extremely complex and show high inter-individual variation ...". This needs to be taken into account while looking at feather patterns in image 14 and ABG. See also images 10 & 11.

Image (14) also highlights how the **facial feather damage** makes the bird look, at first impressions, more like a Swinhoe's Snipe than a Common until the bird is seen from a different angle (see images 10, 11 and 12).

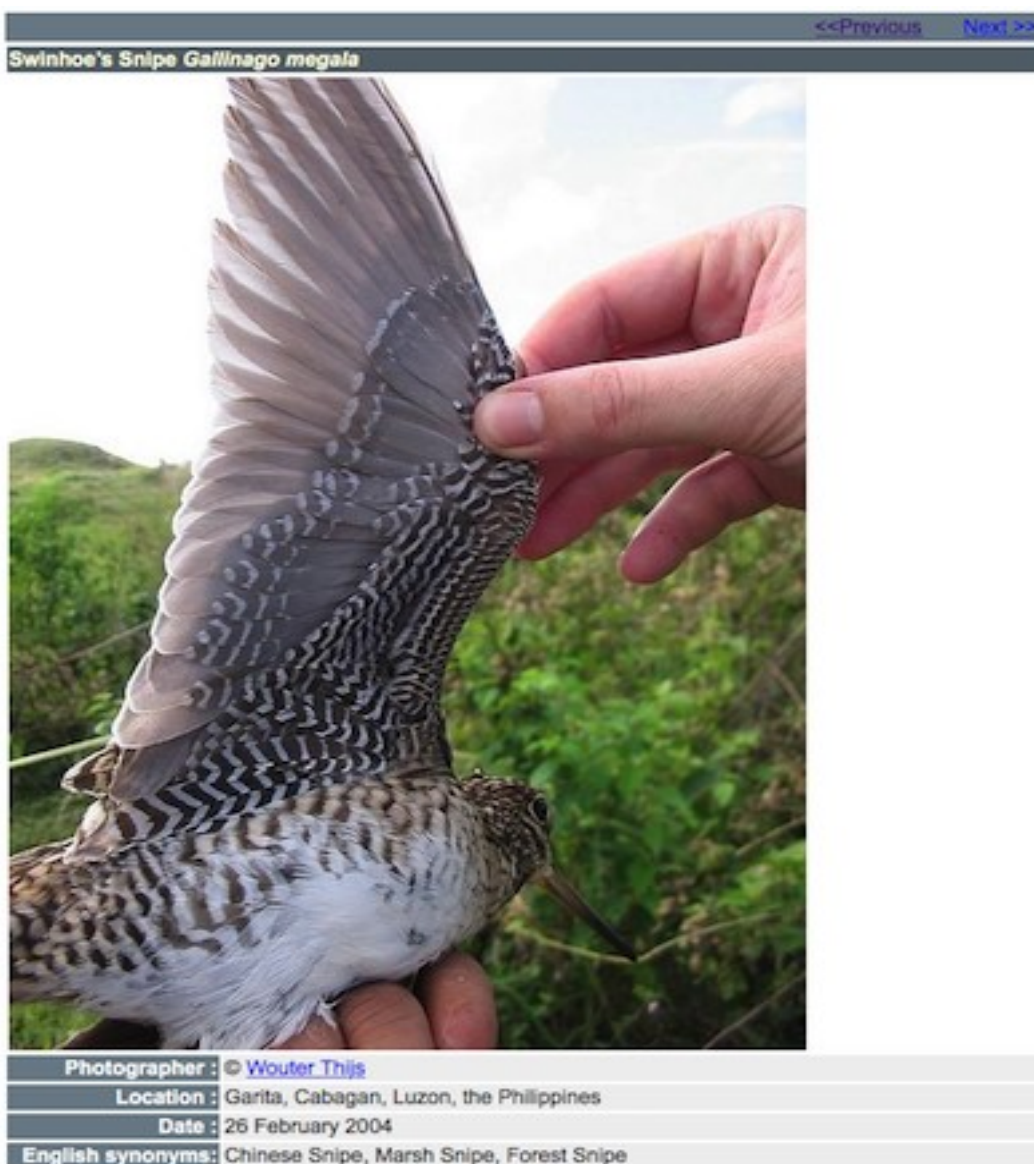
The thickening of the bill in this profile photo (14) can just be seen, ending in an ovoid tip.



(Image 15)

Cropped image from Reid to show the tan tip to central tail feathers of a Common Snipe as seen in image of Cocos bird (image 14). Viney et al, pp 90 – 91, says "In the hand can be identified by mostly rufous tail tip" and illustrate the same. King et al says "Tail tip mostly rufous ...". Robson says "... mostly rufous-chestnut tail-tip".

Swinhoe's Snipe underwing for extra comparison with Cocos bird



(Image 16)

A Swinhoe's Snipe in hand showing the underwing for comparison with underwing photos of the Cocos Island bird. The difference between this bird and the Cocos bird is very obvious when compared to all underwing images in the submission. It is, however, very similar to the image of the presumed Swinhoe's on Cocos on page 4 (image 1). Both images show the dark ends on the primary and secondary greater coverts, not present on the Cocos bird, as well as the lack of pale feathering in the armpit visible on the Cocos bird (image 8). There is a pale tip to each primary and secondary feather in the above Swinhoe's image but it is very narrow.

Both this bird and the Cocos Swinhoe's on page 4 lack the longitudinal pale stripes from beyond the carpal to the base of the wing. All the Reid images, 104 – 106, show Common Snipe having a pale tip to the greater under coverts, as is visible in the pale stripe on the Cocos bird. Finally, the lesser secondary coverts are very dark and patterned whereas the Cocos bird does not show this dark feature.

Above image is from the Oriental Bird Club online image database.

- **Conclusion.**

1/ The white tip to the secondaries on both wings is clearly visible in multiple photos and in varying lighting and its width can be estimated using the 9mm hex-headed roof bolts as being more than 2.5 mm wide, the minimum suggested by Reid as being required for Common Snipe. A white inner web to the secondaries is also possibly visible. A white tip to the tertials shows in some images. Leader and Cary state that Pin-tailed and Swinhoe's Snipe can be: "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 ...".

2/ Toe projection in line with what would be expected for Common Snipe can be seen. Projection is too short for Pin-tailed Snipe.

3/ Bill length is in line with what would be expected for an average Common Snipe and photos show "swelling" at the tip in images 5 & 6.

4/ Loral, cheek, crown and eye to nape stripes match that which is shown in field guides and on-line images. Loral stripe and supercilium are of approximate equal width at base of bill.

5/ The pale underwing as shown on the Cocos photos is more subjective and open to interpretation of the images but it falls within acceptable variation with the images taken from the internet as well as from Reid and ABG. All images for Pin-tailed, Swinhoe's and Latham's Snipe I can find, including all field guides, show an obviously dark under-wing with no large pale/white elements.

6/ Both Glenister and Reid say the bars on the axillaries are not the same width as can be seen in image 6. The same bars on Swinhoe's Snipe are said to be equal, or nearly equal, width as seen in image 16.

7/ The lower scapulars have a "... *clear white outer edge but no corresponding pale inner edge*".

8/ Reid, Viney, Robson and King all comment on and illustrate a rufous tip to the tail and this feature can be seen in image 14.

9/ The behaviour observed meets the behaviour described by Whistler. It is also different to all other snipe I have seen on the islands which, when flushed, fly some hundreds of metres away from observers before dropping back into cover. The flight pattern of the Cocos bird closely resembled that described for the species by both Whistler and Skerrett.

10/ All field guides state the species to be "common" and or "numerous". Common Snipe being found on islands in the Indian Ocean such as Chagos and the Seychelles which are both over 1400 km or more from continental wintering locations for the species, makes the presence of a bird on Cocos Keeling Islands not particularly surprising.

11/ Herklots says: "This form breeds in ... Manchuria and Eastern Siberia and winters from Japan and Eastern China to the Philippines and India". Wintering grounds are now also known to include Sumatra and Java. With an underwing pattern similar to those shown in Reid (see page 11) of birds from eastern Russia this would suggest it was using the East Asian Continental or Oceanic flyway (Germi et al) with other snipe species, Pin-tailed and Swinhoe's, and other south bound migrants to Sumatra and Java, rather than coming from the west and India or Europe.

12/ At the time of our visit to Cocos there was a strong monsoonal weather pattern over the South China Sea and this may also have added to the larger than expected number of vagrant species on Cocos island. With this weather pattern in place combined with forest fires in Sumatra and Java the Common Snipe may well have overflowed with the other birds that were found by the group. During the first 15 days of December 22+ species of Asian visiting/vagrant birds were recorded on the Cocos Keeling Islands. This is possibly the highest number of regular visitor and vagrant species ever recorded on the island in one period.

I believe that the above submission eliminates all snipe species other than Common as being a strong contender for the bird seen on Home Island, Cocos Keeling.

My thanks to Richard Baxter for his comments; to Glen Pacey and Bill Betts for extra photos and Joy Tansey for all her comments and work in proofreading, editing.

Addendum to submission 1100:

The apparent profile depth of the bill, top to bottom, in Image 14 is affected by a small obstruction near the tip. This obstruction is holding the bill slightly open for most of its length thereby making it appear just slightly deeper in the photograph when seen in profile than it would be without the obstruction.

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Location of sighting: The bird flushed from beside the round concrete water tank, flew a short distance south to the playground, then back north-east to the base of a road-side tree, finally flying off over the houses to the east and disappearing. I would surmise it landed beyond the playing field where the habitat is longer rank grass and trees.



eBird map showing reports for Common Snipe in the Indian Ocean area.

List of participants, all of whom saw the bird;

- Richard Baxter; birdingtoursaust@gmail.com
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Extract from Leader & Care

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 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.

Table 3. Measurements of male and female adult Common Snipes caught on migration through Jeziorsko Reservoir, central Poland, between the end of July and mid-September, 2005–2009.

Measurement	Females (n = 15)		Males (n = 45)		t	p
	\bar{x}	SE	\bar{x}	SE		
Wing length (WL) [mm]	135.80	0.66	138.73	0.43	3.49	<0.001
Head length (HL) [mm]	99.59	0.79	97.01	0.47	2.76	0.008
Bill length (BL) [mm]	71.03	0.79	68.41	0.41	3.07	0.003
Naloppi (NL) [mm]	63.71	0.79	61.27	0.42	2.85	0.006
Tarsus length (TL) [mm]	34.06	0.43	33.58	0.15	1.36	0.179
Outermost rectrix length (R7) [mm]	51.60	0.65	55.84	0.49	4.57	<0.001
Distance between tips of rectrix 6 and rectrix 7 (R6–R7) [mm]	0.46	0.39	-0.64	0.24	2.29	0.025

sexually dimorphic trait in adult Common Snipes (Wilk's Lambda = 1.00, $p < 0.001$). As with the previous functions, the length of the outermost rectrix allowed for the correct sexing of 80.0% of birds (80.0% of females and 80.0% males).

DISCUSSION

Sex determination in Common Snipe has been studied by several authors who used birds that had been hunted (Devort *et al.* 1986, Strandgaard 1986, Stronach 1979). Most studies have stressed the importance of two biometric traits: bill length and the length of tail feathers. Some authors have indicated that single measurements are adequate sexing criteria, for example the length of the outermost rectrix was suggested by Devort *et al.* (1986). Others proposed combinations of different external traits. Stronach (1979) suggested using the wing length in combination with the length and the width of the middle and the outermost tail feathers. Green (1991) used the outermost tail feather length and the bill length as sexing criteria, with an efficiency of about 81% of correctly sexed birds. Green (1991) focused on the morphometrics of adult snipes in Britain, so his method might have limited application to birds from continental populations. Another thorough analysis of biometric data was based on hunted specimens of Wilson's Snipe *Gallinago delicata*, a recently established Nearctic species, previously classified as a subspecies of the Common Snipe (McCloskey & Thompson 2000). Discriminant equations allowed the correct sexing of as many as 88% of birds using the following measurements: total length of outermost rectrix, length of the first secondary, length of the fifth and the tenth primaries. Equations developed by McCloskey & Thompson (2000) could not, however, be applied during field studies, because these calculations rely on the measurement of plucked rectrices and primaries. In contrast to some of the quoted papers, we used measurements collected from live birds and examined first-year and adult birds separately. The Common Snipes that migrate through Jeziorsko Reservoir originate from breeding populations across Central and Eastern Europe, as well as Asia (Minias *et al.* 2010). Therefore it seems likely that the equations we have developed can be used for the continental populations of Common Snipe from a wide geographical area.

Our results confirm the high utility of the length of the outermost rectrix in sex determination of Common Snipe. In this species the outer tail feathers play a major role during display flight and are therefore likely to be under strong sexual selection. Although some authors have suggested that both sexes perform drumming flights (Tuck 1972), recent observations have confirmed that this behaviour is confined to males (Green 1991, Rouxel 2000). Sexual selection is the primary factor responsible for the development of different traits in animals (Andersson 1994). In the Common Snipe, the

longer the tail feathers, the louder the sound that can be generated, which allows males to attract females more efficiently. The sound that is produced may also help males to establish and defend breeding territories. Protrusion of the outermost rectrices beyond the edge of the tail, commonly observed in adult males, may further strengthen drumming sound. In contrast, short outermost tail feathers are expected to increase the manoeuvrability of birds (Thomas 1993). In consequence, selective pressures acting on the outermost rectrices of male and female Common Snipes are likely to have opposite directions, which would produce a pronounced sexual dimorphism in this trait. Our results confirm the high efficiency of the combination of both the length of the outermost rectrix and the distance between the tips of the two adjacent outermost rectrices for sexing Common Snipes.

Another trait that contributed significantly to sexing efficiency was bill length, with females having longer bills than males. In many waders females are larger than males (Piersma 1996, van de Kam *et al.* 2004). Larger females can lay larger eggs, which provide more nutrient reserves for the developing embryos. Moreover, large females incubate large eggs more effectively than smaller females (Figuerola 1999). Sexual size-dimorphism may also have adaptive importance after the breeding season. Sexual dimorphism in bill length associated with similar differences in the body size allows the birds to exploit different types of prey and consequently reduces competition between the sexes.

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Addendum to submission 1100:

The apparent profile depth of the bill, top to bottom, in Image 14 is affected by a small obstruction near the tip. This obstruction is holding the bill slightly open for most of its length thereby making it appear just slightly deeper in the photograph when seen in profile than it would be without the obstruction.

