

# First records of Asian Buff-bellied Pipit *Anthus (rubescens) japonicus* in Azerbaijan

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The Asian Buff-bellied Pipit *Anthus (rubescens) japonicus* is a breeding bird in northeastern Asia and winters in southern Asia (Alström & Mild 2003). Within the OSME region it is regularly recorded in Israel (Shirihai 1996). Pedersen & Aspinall (2010) listed 18 records for the United Arab Emirates. It has been observed as a vagrant elsewhere in the Middle East, eg Jordan, Kuwait, Oman, Qatar, Syria (Porter & Aspinall 2010), Iran (Scott & Adhami 2006, Khaleghizadeh *et al* 2011) and Turkey (Atahan & Atahan 2009). The first record for Cyprus was two or three individuals in March 2013 (J Honold pers comm) and the first three individuals for Georgia were recorded in January 2014 (P Adriaens pers comm). The present account describes the first records for Azerbaijan.

## VISUAL DETECTIONS

The first Buff-bellied Pipits in Azerbaijan were observed 1 November 2008 when a group of German ornithologists visited Gizil Agach bay. They observed a flock of pipits close to Narimanabad village. Among the pipits they identified six Asian Buff-bellied Pipits (K Gauger pers comm). Some record photographs were taken which confirmed the identification (Plate 1). On 29 October 2011 a resting individual was watched at a coastal lagoon near the Besh Barmag migration bottleneck (40° 59' N, 49° 13' E) and a few record shots were taken (K Gauger pers comm, Plate 2). Asian Buff-bellied Pipits appear similar to the Water Pipit *Anthus spinoletta coutellii*, which is a common breeder in mountainous



**Plate 1 (left).** An Asian Buff-bellied Pipit *Anthus (rubescens) japonicus* 1 November 2008, Gizil Agach bay, Azerbaijan. © Kai Gauger. It is distinguishable from the similar Meadow A. *pratensis* and Water Pipits *A. spinoletta coutellii* by the pale lore stripe and the distinct dark patch on the throat side. The mantle is poorly streaked and brownish-grey.

**Plate 2 (right).** Second record of Asian Buff-bellied Pipit *Anthus (rubescens) japonicus* in Azerbaijan, Caspian sea coast near Besh Barmag, 29 October 2011. © Kai Gauger. The typical dark patch on the throat side and pale lore are well visible in this photograph and also the whitish wing-bars. Note also the pale legs.



**Plate 3 (top left).** Asian Buff-bellied Pipit *Anthus (rubescens) japonicus* in breeding plumage 2 April 2012, Caspian sea coast near Besh Barmag, Azerbaijan. © Michael Heiss. Note the distinct malar stripe and the strong black streaks on breast and flanks. These strong streaks do not occur in the breeding plumage of any Water Pipit *A. spinoletta* subspecies. Due to the angle the usually pale lore looks dark, but is better visible in Plate 5. Plates 3–5 are of the same individual.

**Plate 4 (top right).** Asian Buff-bellied Pipit *Anthus (rubescens) japonicus* in breeding plumage 2 April 2012, Caspian sea coast near Besh Barmag, Azerbaijan. © Michael Heiss. Note the pale legs, which are usually dark in most Water Pipits. Furthermore, the hue of the buffish underparts are more orange than pinkish as in Water pipit breeding plumage.

**Plate 5 (right).** Asian Buff-bellied Pipit *Anthus (rubescens) japonicus* in breeding plumage 2 April 2012, Caspian sea coast near Besh Barmag, Azerbaijan. © Michael Heiss. Meadow Pipit *A. pratensis* can be ruled out by the greyish crown and only faint streaks on the mantle.



habitats of the Caucasus and commonly seen outside the breeding period there in lowland and coastal regions (Patrikeev 2004, own obs). Asian Buff-bellied Pipits can be easily separated. At distance a peculiar dark patch on the throat side and poorly-streaked brownish-grey mantle is seen. Closer, the pale lore becomes visible (Plates 1 & 2). Another characteristic to consider for the separation of Asian Buff-bellied Pipit from Water Pipit *A. spinoletta coutellii* is the pale legs though the leg colour of *coutellii* can sometimes be pale (Alström & Mild 2003). The call is distinct from that of the Water Pipit (noted for the first record).

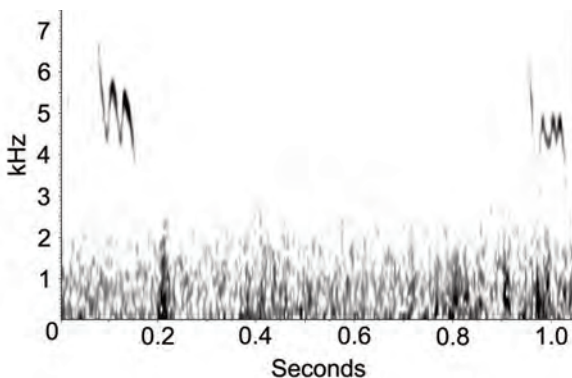
During a bird migration study at the Besh Barmag site in autumn 2011 and spring 2012 (Heiss 2013), I observed a migrating unusual-calling pipit on 17 November 2011. The pipit was not visually identifiable in flight, but the uttered calls were recorded by an automated sound recorder (see below) and later identified as calls of Asian Buff-bellied Pipit (Figure 1, Magnus Robb pers comm). On 12 March 2012 a migrating individual was watched and

identified by its distinct calls with which I was by then familiar. This record was not documented by photos or sound recordings. On 2 April 2012 an Asian Buff-bellied Pipit was observed in breeding plumage resting on the ground (Plates 3–5).

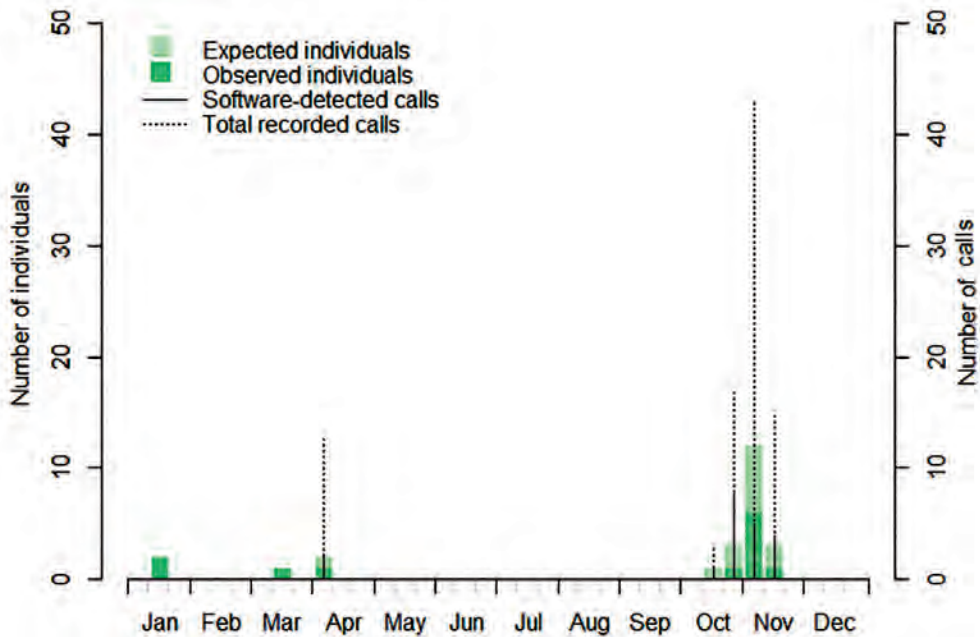
In January 2015 a two-week field trip produced two further records. On 16 January 2015 I observed a calling individual, which was among c80 Meadow *Anthus pratensis* and Water Pipits (*coutellii*) that had arrived for roosting in several small flocks at 'Flamingo lake' in Shirvan national park (39° 40' N, 49° 11' E). Though no photos or sound recordings were obtained the bird uttered the typical flight calls three times therefore securely excluding Meadow and *coutellii* Water Pipits. The second bird was sound recorded at Gizil Agach bay on 18 January 2015 by Lukas Pelikan (recording at [www.xeno-canto.org/212144](http://www.xeno-canto.org/212144)) and the identification confirmed (M Robb pers comm). These seven records, involving 12 individuals, are the only direct observations so far of Asian Buff-bellied Pipit in Azerbaijan.

## AUDITORY DETECTIONS

Further records come from the automated sound recorder, used with an omnidirectional microphone (SM2 Recorder, SMX-NFC Acoustic Night Flight Call Microphone, Wildlife Acoustics Inc), and operated continuously parallel to the visual observations during the autumn 2011/spring 2012 bird migration study (Heiss 2013). That autumn I recorded 1227 h, 2 August–17 November 2011, at the observation point. In the spring, I recorded 1276 h, 1 March–29 May 2012, at the same observation point. In addition, I recorded 2048 h in spring 2012 about 500 m north of the previous observation point, at a coastal lagoon. This second device (SM2 Recorder with a SMX-II microphone, Wildlife Acoustics Inc) recorded in parallel to that at the first observation point and was far away enough to not record the same birds at the same time. However, no Asian Buff-bellied Pipit calls were detected using the second device. The total of 4551 recording hours (c60% day and c40% night recordings) at the first site, was then analysed with the aid of time-saving call recognition software (Songscope version 4.1.3A, Wildlife Acoustics Inc). This recognition software is based on Hidden Markov models that consider spectral and temporal characteristics of the vocalisations, with a certain amount of variability across the training data (Agranat 2007). This training data, which consists of several known Asian Buff-bellied Pipit calls, is necessary to 'teach' the software the vocalisations of interest. Here, I used securely identified Asian Buff-bellied Pipit calls directly from my own sound recordings, especially those calls from the previously mentioned flyby on 17 November 2011. With this training data the software generates a 'recogniser' that automatically scans the recorded sound files to find the desired vocalisations. After the scanning process the software produces a list of possible Asian Buff-bellied Pipits calls. Most of these possible calls were 'false



**Figure 1.** Calls of an Asian Buff-bellied Pipit *Anthus (rubescens) japonicus* 17 November 2011, Caspian sea coast near Besh Barmag, Azerbaijan. © Michael Heiss. These flight calls sound different to those of Water Pipits *A. spinoletta coutellii* but quite similar to some Meadow Pipit *A. pratensis* call-types and can be described as a squeaky, descending 'tsipp', often as a higher and subsequent lower pitched double call.



**Figure 2.** Phenology of all records of Asian Buff-bellied Pipits *Anthus (rubescens) japonicus* in Azerbaijan (this paper). The 'expected individuals' are those which have not been observed visually but detected by the software. One 'expected individual' usually uttered a series of calls during a flyby. As the software was not capable of detecting all calls the call series was manually checked afterwards around the software-detected calls.

positives' *ie* calls of other bird species that sound similar to those of Asian Buff-bellied Pipit or other environmental noise. Therefore, it is necessary to check manually the output of the scanning process to find the true Asian Buff-bellied Pipit calls ('positive positives').

In total, the software analysis and the subsequent manual checking found 20 positive call detections for 9 occasions. Each occasion is regarded as an overflying calling individual. One of the occasions was the observed bird from 17 November 2011 and thus only 8 individuals were overlooked in the field. Furthermore, I checked the recordings before and after each occasion for additional calls, not detected by the software, and I found 42 undetected calls. Those have rather weak signals from distant calling individuals and each occasion consisted mostly of a series of calls from overflying individuals with poorly detectable distant calls and well detectable close calls. For these nine occasions  $41 \pm 9\%$  of the total recorded calls could be found by the software. This low rate suggests that it is highly likely that further undetected calls exist on the recordings. A sample file from 4 November 2011 that was manually analysed by M Robb supports this assumption. He found an additional four occasions of overflying individuals with 29 undetected calls on that day. The software analysis of the sound recordings produced, in addition to the visual observations, 12 records with 20 call detections and an additional 71 undetected calls (including the findings of M Robb), *ie* that 19 records of 24 individuals exist for Azerbaijan in total (Figure 2).

## DISCUSSION

Two further subspecies of Water Pipit need to be taken into consideration: *Anthus spinoletta spinoletta* and *A. s. blakistoni*. These two subspecies have not been recorded in Azerbaijan (Patrikeev 2004), but their breeding range is closer to Azerbaijan than that of Asian

Buff-bellied Pipit (Alström & Mild 2003). Acoustically, calls of *spinoletta* and *blakistoni* sound similar to *coutellii*, but all three Water Pipit subspecies sound different to calls of the Asian Buff-bellied Pipit. Sonograms of these Water Pipit subspecies described in Fijen (2014) and Garner *et al* (2015) show a typical almost M-shape structure with a steep ascending beginning of the call and a steep descending ending of the call. Asian Buff-bellied Pipit calls have a steep descending beginning and a steep descending ending of the call (Figure 1) making this call well distinguishable not only on sonograms but also in the field. Visually, *spinoletta* looks in all plumages similar to *coutellii* and the already mentioned characteristics that separate *coutellii* from Asian Buff-bellied Pipits can also be used to separate *spinoletta* from Asian Buff-bellied Pipit. In breeding plumage *blakistoni* has pale lores and buffish underparts resembling Asian Buff-bellied Pipit, but can be easily separated by a prominent whitish supercilium, absent malar stripe and unstreaked underparts (Alström & Mild 2003). In winter plumage *blakistoni* has no dark patch on the throat side, sparsely streaked underparts and unremarkable brownish wing-bars (Alström & Mild 2003).

The Asian Buff-bellied Pipit is not listed in Patrikeev (2004) and thus these records are regarded as the first for Azerbaijan. It may well have been overlooked in the past. As Azerbaijan is situated directly on the potential migration route from the Siberian breeding grounds (Alström & Mild 2003) to the Israeli wintering grounds (Shirihai 1996) more records are expected in Azerbaijan. Presumably this species should be regarded as a scarce but regular migrant in Azerbaijan. The two winter records of January 2015 suggests regular wintering in Azerbaijan.

#### ACKNOWLEDGEMENTS

Magnus Robb identified the mysterious pipit calls, which initiated an intensive search for more calls. Kai Gauger supplied the photos for Plates 1 and 2 and Lukas Pelikan the sound recording at Gizil Agach bay. Johannes Honold and Peter Adriaens gave information about their findings in Cyprus and Georgia, respectively. Three reviewers made useful comments which improved an earlier draft. The bird migration study at Besh Barmag bottleneck was financially supported by a scholarship from the German academic exchange service (DAAD).

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