

## Is the breeding distribution of Broad-billed Sandpipers *Limicola falcinellus* moving uphill?

*Håller myrsnäppan Limicola falcinellus på att flytta upp på fjällheden?*

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The majority of Swedish Broad-billed Sandpipers *Limicola falcinellus* are breeding on wet mires in the coniferous taiga zone of the northern parts of the country. Historically (19th–20th century), the species was also breeding in similar habitats and on meadows in southern Sweden, but no records from these parts have been reported during the last fifty years (Svensson et al. 1999, SOF 2002). At the other end of the spectrum a few records of breeding pairs have been reported from the low alpine zone of the Swedish mountains, mainly within the birch forest zone, up to 600–700 m a.s.l. (Svensson et al. 1999, SOF 2002). As far as we know, no Swedish breeding records from higher altitudes (>750 m a.s.l.) have been reported until now.

During studies of nest survival of waders breeding on alpine heath in Vindelfjällen NR, close to Ammarnäs (around 66° 00' N, 16° 10' E), southern Lapland, Broad-billed Sandpipers were discovered in 2008 on much higher altitudes than previously recorded in Sweden. No nest was found in that year, but breeding was confirmed in 2009. Here we present the records in these two years, go through older records from the area and evaluate whether the occurrence at higher altitudes is a new phenomena or not. In the Ammarnäs area the altitude of the tree line varies due to local conditions but usually runs between 740 and 780 m.

Within the framework of the LUVRE project, a long-term monitoring project running in the birch forest and montane areas around Ammarnäs since 1963 (see [www.luvre.org](http://www.luvre.org)), a more detailed study of nest survival of waders breeding on the alpine heath, mainly above 800 m a.s.l., was started in 2008. The initial field work within this study consists of spending a large amount of time searching areas suitable for breeding waders for occurrence and nests of these birds. During such work a pair of Broad-billed Sandpipers were seen and photographed by JH and RR at a small mire close to

Aigertstugan, 6 km WSW of Ammarnäs, at about 760 m a.s.l. in early June 2008. The observation site is at about 1 km distance from the upper limit of the birch forest, and to our knowledge this is the first observation of Broad-billed Sandpipers above the tree line in the area.

To our surprise more observations were made in other parts of the area shortly after this initial one. At Björkfjället, 11–15 km NNE of Ammarnäs, at least two pairs were present in 2008. These birds showed territorial behaviour at even higher altitudes, 870 and 920 m a.s.l. respectively, and were observed repeatedly during June. No nests were found but based on the behaviour of the birds, including display flights and courtship behaviour; we find it likely that the birds made serious breeding attempts. Another pair was present and observed under similar circumstances in an area 10 km NNW of Ammarnäs at about 800 m a.s.l. The territories at Björkfjället were situated at 1.5 and 4 km distance from the tree line. The territory NNW of Ammarnäs was at 1 km distance from the tree line. Furthermore, there was also a displaying bird holding a territory 12 km WNW of Ammarnäs, at 870 m a.s.l. Here, no female was observed but it can not be ruled out that there was a pair making a breeding attempt also at this site. All the pairs were found at small (6.5–23.1 ha) and wet mires on alpine heath.

In 2009 Broad-billed sandpipers were again found in more or less the same areas. One pair was found at the mire 12 km NNW of Ammarnäs (800 m a.s.l., 1 km from the tree line). At least three pairs were found at Björkfjället on 910–920 m a.s.l. and 3.7–6.9 km from the tree line. Two nests were found at Björkfjället, the first on 18 June apparently during egg laying and containing two eggs. The clutch was later on completed and four young hatched on 10 July. The other nest was also found during laying, on 23 June, and it contained one egg. This nest was probably abandoned shortly after discovery as it still contained only one cold egg on 28 June and no adult birds were seen in the vicinity of the nest. The mires at Aigertstugan and 12 km WNW of Ammarnäs were checked also in 2009, but no birds were seen despite repeated visits. Instead, Broad-billed Sandpipers were found at a wet mire 14 km WNW of Ammarnäs. This site is situated at 800 m a.s.l. and 1.3 km from the tree line. Here a pair was present, the male displaying, already in early June. Later on a minimum of three pairs (maximum five pairs) were seen. No nests were found, but it is likely that breeding was attempted also at this site. This site was checked also in 2008 but no Broad-billed Sandpiper was seen

then. As in 2008, the birds occurred on small, wet mires (4.2–28.6 ha) on alpine heath.

In summary, Broad-billed Sandpipers were observed on four different mires on alpine heath around Ammarnäs, at altitudes ranging between 760 and 920 m a.s.l. in 2008. Breeding was never confirmed this year but is likely to have occurred on at least two of these, by at least three pairs. Our observations included four pairs and a single male, possibly five pairs. In 2009, Broad-billed sandpipers were again found at four different mires on alpine heath around Ammarnäs. Two of these held Broad-billed Sandpipers also 2008, one did not hold any birds and one was not checked carefully in 2008. At two mires holding pairs in 2008 no birds were seen in 2009. Broad-billed sandpipers were found at 800–920 m a.s.l. in 2009. Breeding was confirmed in 2009 with the finding of two nests on Björkfjället. At least seven, possibly nine pairs were observed in 2009.

There are earlier observations from surveys of different parts of Vindelfjällen NR, but all are from lower altitudes than the ones recorded in 2008–2009. The closest site to Ammarnäs is the larger (13 km<sup>2</sup>) mire Marsivagge, 10 km NW of Ammarnäs, where one displaying bird was recorded during a survey in 1997 (Ehnbom 2005). This mire is situated at 600 m a.s.l., at the upper level of the birch forest zone in a valley between two of the areas where birds were probably breeding at higher altitude in 2008–2009. There are also more anecdotal records of observations and of nests from this site from earlier years. Other sites with records of Broad-billed Sandpipers in Vindelfjällen include Laivavagge, Vindelvagge and mires close to Överst-Juktan, farther west and south of Ammarnäs (Andersson 1999, Ehnbom 2005). All these sites are larger mires at 600–750 m altitude, situated within the birch forest zone.

The LUVRE-project ([www.luvre.org](http://www.luvre.org)) has been running for almost five decades (since 1963) around Ammarnäs with annual bird monitoring activities on the alpine heath. Despite this, no observations of Broad-billed Sandpipers have been made (S. Svensson pers. comm.). Even though the field effort has varied between different periods during this time we find it most unlikely that the occurrence of Broad-billed Sandpipers should have been missed in earlier years. In one of the areas holding birds in the last two years (WNW of Ammarnäs) there have been detailed monitoring by territory mapping of non-passerines going on during 13 of the years between 1984 and 2007 and no Broad-billed sandpipers were observed during these sur-

veys (Svensson 2007, Green & Svensson unpubl. data). Hence, we conclude that the occurrence of Broad-billed Sandpipers on altitudes over 750 m a.s.l. around Ammarnäs is something new that has not occurred before the last few years.

Even if Broad-billed Sandpipers have not been recorded breeding at altitudes exceeding 750 m a.s.l. in Sweden before there are records of this from Norway. The Norwegian distribution range of Broad-billed Sandpipers is divided in two parts, one in the south and one in the north (Bangjord 1994). In the southern parts the average altitude for 21 known breeding sites was 770 m a.s.l. with a range between 500 and 1011 m a.s.l. (Maartmann 1987 in Bangjord 1994). Being more than 700 km south of Vindelfjällen, these altitudes in south-eastern Norway are still within the birch forest zone and the habitat is not the same as the one found at the localities where birds were recorded in 2008–2009 in Vindelfjällen.

Interestingly, the finding of Broad-billed Sandpipers on mires on alpine heath in Vindelfjällen and apparent altitudinal movement upwards coincide with similar findings of a couple of other species in the area during later years around Ammarnäs. Cranes *Grus grus*, Whimbrels *Numenius phaeopus* and Greenshanks *Tringa nebularia* are examples of other species with their main distribution at lower elevations (in the forested parts) that have moved up on the alpine heath in higher numbers during later years (own observations). The obvious question is of course whether these changes are mere coincidences or part of more general changes in the altitudinal patterns of breeding distributions of birds, possibly related to ongoing climate change. It will in any case be interesting to follow the development in coming years.

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## Sammanfattning

Huvuddelen av det svenska häckande beståndet av myrnsnäppor förekommer på blöta myrar i den Norrländska barrskogen. Mindre antal förekommer även på myrar upp i fjällbjörkskogen upp till en höjd av 600–750 m.ö.h. Historiskt sett häckade myrnsnäppor även på våta marker i södra Sverige, men inga sådana fynd har rapporterats de senaste femtio åren. Såvitt vi vet har inga tidigare fynd gjorts av häckande myrnsnäppor uppe på fjällheden, dvs. ovanför trädgränsen, i Sverige.

Här redovisar vi observationer och häckningsfynd av myrnsnäppor på myrar belägna på öppen fjällhed runt Ammarnäs, Vindelfjällens naturreservat, i södra Lappland under 2008 och 2009. Vi diskuterar även helt kort tidigare kända förekomster i Vindelfjällen och huruvida observerade mönster är något nytt eller inte.

I samband med detaljerade studier av boöverlevnad hos vadare som häckar på fjällheden runt Ammarnäs upptäckte, och fotograferade, JH och RR ett myrnsnäppepar på en liten myr invid Aigertstugan, SW om Ammarnäs, på ca 760 m höjd tidigt i juni 2008. Platsen ligger uppe på fjällheden på ett avstånd av ca 1 km från övre gränsen av fjällbjörkskogen. Till vår stora förvåning följdes denna observation av ytterligare observationer senare under månaden. På Björkfjället, NNE om Ammarnäs fanns två par (870 resp. 920 m.ö.h.), NNW om Ammarnäs fanns ett par (800 m.ö.h.) och WNW om Ammarnäs fanns en revirhävande hane (870 m.ö.h.). Inga bon hittades, men av fåglarnas beteende att döma är det mycket troligt att sådana fanns eller att åtminstone häckningsförsök gjordes under 2008.

Följande år (2009) fanns ånyo flera par på Björkfjället, minst tre revir hittades på 909–920 m.ö.h. Två bon hittades varav det ena kläckte ut framgångsrikt (kläckningsdatum 10 juli) och det andra övergavs under äggläggningen. Norr om Ammarnäs fanns ytterligare ett par på samma plats som föregående år (800 m.ö.h.) och WNW om Ammarnäs fanns minst tre, max fem par på en blöt myr (800 m.ö.h.). Inga bon hittades på de två sistnämnda platserna, men det kan inte uteslutas att sådana fanns. På två av lokalerna som höll myrnsnäppor 2008 hittades inga fåglar 2009, trots eftersök. Samtliga

platser där myrnsnäppor hittades 2008–2009 utgjordes av små myrar belägna väl över trädgränsen på öppen fjällhed.

Två år i rad förekom alltså myrnsnäppor i delar av Vindelfjällen där vi inte förväntade oss att de skulle förekomma. Tidigare rapporter om arten från området har visat på en sparsam förekomst på större myrar inom fjällbjörksbältet (på 600–750 m.ö.h.). Inom LUVRE-projektet ([www.luvre.org](http://www.luvre.org)) har det inventerats fåglar i Ammarnäs omgivning, inklusive fjällheden, i snart femtio år (sedan 1963). Inte en enda myrnsnäppa har noterats under denna tid uppe på fjällheden (S. Svensson muntl.). Även om inventeringsaktiviteten varierat mellan åren finner vi det osannolikt att man genomgående skulle ha missat en så pass uppenbar förekomst som den vi noterat 2008–2009. Exempelvis har ett av de områden som under 2008–2009 hyst myrnsnäppor inventerats noga med revirkartering av alla icke-tätningar under 13 av åren mellan 1984 och 2007 utan att någon myrnsnäppa noterats. Vår slutsats blir därmed att detta är något nytt som inte har förekommit förut.

Intressant i sammanhanget är att det mönster som antyds hos myrnsnäppan även återfinns hos ytterligare ett antal arter runt Ammarnäs. Arter vars förekomst vi normalt förknippar med lägre belägna myrar i skogslandet. Trana *Grus grus*, Småspov *Numenius phaeopus* och Gluttsnäppa *Tringa nebularia* är arter som under senare år flyttat upp på eller ökat i antal på fjällheden i Vindelfjällen (egna observationer). Den uppenbara frågan som dyker upp är givetvis om vad vi sett under senare år endast är ett resultat av rena tillfälligheter eller om det på något vis utgör en del av mer generella förändringar i fjällmiljön, möjligen relaterat till pågående klimatförändring? Det kommer hur som helst att bli spännande att följa utvecklingen under kommande år.

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