

The changing status of the Pallid Harrier in western Europe

Mike Henry



Mike Henry

Juvenile Pallid Harrier, Dorman's Pool, Cleveland, October 2011.

Abstract Since the 1990s the status of the Pallid Harrier *Circus macrourus* in western Europe has changed beyond all recognition. Once an extremely rare vagrant, it now appears increasingly regularly in several countries. Since 2003, a few pairs have bred in Finland in most years, although numbers are influenced by vole population cycles. High numbers of migrating juveniles usually follow good vole years, and the development of a northeast–southwest migration across Europe is discussed. Reports of birds wintering in southern and central Europe are increasingly frequent. A lack of data from the species' core breeding range in European Russia and central Asia is hampering a better understanding of population changes.

Introduction

Prior to the 1990s, the Pallid Harrier *Circus macrourus* was an extreme vagrant and an almost mythical creature for birdwatchers on home turf in western Europe. The closest breeding grounds lay in Romania, Moldova, Ukraine and Belarus, where its foothold was considered tenuous because of land-use changes and the dwindling availability of prey such as susliks *Spermophilus* (Hagemeijer & Blair 1997). Many authorities suggested that the Pallid Harrier was in

decline throughout its range, which extended east to the steppe grasslands of central Asia (e.g. Brown & Amadon 1968, Hagemeijer & Blair 1997, Gensbøl 2006).

At this time, Pallid Harriers were seen regularly during both spring and autumn migration in Israel (Shirihai & Christie 1992; Shirihai 1996) and, for most European birders, Israel provided the best opportunity to see the species within the Western Palearctic, primarily in the Eilat area. In 1985, for example, 113 were recorded in

spring (of which 35 were adult males) and a further 57 in autumn (Shirihai & Christie 1992). A small number of Pallid Harriers also overwintered in Israel, mostly in the northern Negev, and in 1993 a handful summered in the same area. Yet Pallid Harriers were undoubtedly crossing the central Mediterranean too, and had been recorded doing so back in the 1960s (Moreau 1972); this important flyway was seemingly poorly known until Corso (2001) and Corso & Cardelli (2004) published papers reporting the work of LIPU and the counts at the Strait of Messina in particular.

This paper attempts to document and explain changes in the occurrence patterns of Pallid Harriers in western Europe since the 1990s.

Methods

Data for the national summaries presented here were collected from a number of sources. Wherever possible, published data for accepted records have been taken from national rarities reports. For Scandinavia, the annual reports of scarce and rare birds for each country have been important sources: Denmark Fugleåret (*DF*), Norway Fugleårene (*NF*) and Sweden Fågelåret (*SF*). In addition, for Sweden, Fåglar i Skåne (*FiS*) has been used to complement *SF*. This report, covering the southernmost Swedish province of Scania (Skåne), includes the annual totals from Falsterbo. The annual reports of rare birds in Great Britain (in *BB*), the Netherlands (in *Dutch Birding*, *DB*) and Germany (in *Limicola* and the German rarities report *Seltene Vögel in Deutschland*, *SVD*) proved invaluable. Published sources of rarity totals for several other countries are available online, including Belgium, France, Switzerland, Austria and the Czech Republic. In addition, some unvetted summaries for other countries were taken from *Birding World* (*BW*) and various online sources.

Last but not least, I am extremely grateful for the help of various correspondents in Europe who commented on this paper, and who are listed in the acknowledgments.

The influx of 1952

Large numbers of Pallid Harriers appeared in northwest Europe in spring 1952, more so

than during a previous influx in 1933 (Lundevall & Rosenberg 1954; Cramp & Simmons 1982). This resulted in five or six pairs remaining to nest on the Baltic islands of Öland and Gotland in Sweden and three pairs in Germany – one on the North Sea island of Norderney and two in Mecklenburg-Vorpommern (Mebs & Schmidt 2016). After a long period of cold, wet weather in the Baltic, a surge of warm air originating in the Black Sea region reached the Baltic on 29th April (Lundevall & Rosenberg 1954). Pallid Harriers were found in both Sweden and Finland on 29th and over the next few days a total of 15 were seen in Denmark, Sweden and Finland. A cold front bringing fog and rain moved NNW on 1st May and persisted until 4th May, preventing the birds from returning to their normal breeding grounds. The Öland breeders settled down to nest very quickly after this, suggesting that they were already paired when they arrived, and they went on to breed successfully. There were no reported nests in Finland, where the species had bred in 1933. Following that summer's events, a juvenile male was shot near Driffild, Yorkshire, on 2nd October 1952. These breeding attempts proved to be just a one-off event, however, and the Pallid Harrier reverted to being an extreme rarity in Europe.

Changes since 2000

An increase in sightings in Europe became apparent in the early years of the present century, and by 2015 the Pallid Harrier was considered sufficiently regular that details were no longer required by national records committees in, for example, Finland, Sweden, Norway, the Netherlands, Germany and France. This increase has been mostly of passage birds in both spring and autumn, but growing numbers of wintering birds are being reported (with records from England, Ireland, France, Belgium, the Netherlands, Switzerland and Spain). Reports of birds displaying to either Montagu's *C. pygargus* or Hen Harriers *C. cyaneus* have also increased, including in Scotland, England, France, the Netherlands, Germany, Denmark and Sweden, while there was a record of a mixed pair involving Pallid Harrier and Marsh Harrier *C. aeruginosus* at Wesselburen,

Dick Forsman



451. Adult female Pallid Harrier *Circus macrourus*, Finland, September 2013.

Schleswig-Holstein, Germany, in 2017 (*Dutch Birding* 39: 347). Breeding has been confirmed intermittently in Finland from 1993. Initially, breeding attempts were by mixed pairs, typically a male Pallid paired with a female Hen or Montagu's (but a male Montagu's paired with an adult female Pallid on Öland in 1995; Rodebrand 1996). More recently, non-mixed pairs have become increasingly frequent in Finland. More unexpected was the discovery of a pair of Pallid Harriers breeding in the Netherlands in 2017.

The Nordic countries

Finland

Perhaps because it lies geographically closest to the traditional breeding grounds in Russia and central Asia, Finland was the first European country in which an increase in Pallid Harrier records was evident and a breeding attempt was reported. In 1993, a male Pallid paired with a female Montagu's Harrier, producing three hybrid juveniles (Forsman 1995), while in 2003 a pair of Pallid Harriers bred successfully, the first to do so since the one-off breeding attempt in 1933. Subsequently, the breeding population has increased slowly, and in 2005 three pairs nested, along with a mixed Pallid × Hen Harrier pair that fledged four young (Forsman & Erterius 2012). Varying numbers of nesting Pallid Harriers are reported, although 2015

was a particularly good year: a nucleus of four pairs bred in the Oulu region, although some sources suggest 11–14 pairs may have nested (*FiS* 2016: 14; <http://tarsiger.com>). This may have been an exceptional year, due to a plentiful supply of voles; in contrast, just one successful nest was located in 2016, when vole numbers were greatly reduced. The third Finnish breeding bird atlas showed that during the fieldwork period (2006–10) there was just one confirmed breeding attempt (in 2008) plus eight probable and seven possible attempts (Valkama *et al.* 2011). Early indications are that 2018 was another good year: 11 nests were located and over 30 chicks ringed in western Finland; several other sites

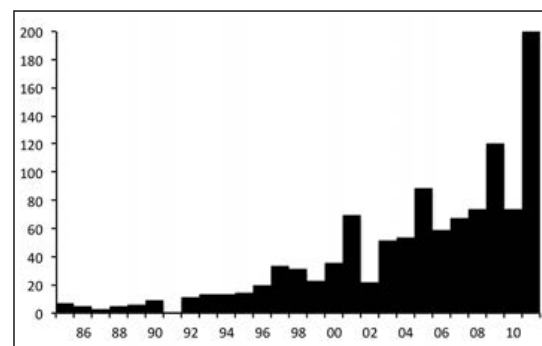


Fig. 1. Pallid Harrier totals in Finland, 1985–2011. Until 1999, Pallid Harrier records were reviewed by the Finnish national rarities committee (Rariteettikomitea BirdLife Suomi); since 2000, the totals are those accepted by local records committees (Roni Väisänen *in litt.*).

were known but the nests were not located (Dick Forsman *in litt.*).

Alongside the breeding attempts, the number of migrants has continued to increase, this being most pronounced from the 1990s onwards. Following good years in 1997 (with 34 accepted records) and 1998 (31), Finland became the first European country to remove Pallid Harrier from the list of national rarities (at the beginning of 2000, at which point the national total stood at 237). Annual totals between 1985 and 2011 are shown in fig. 1. Numbers have continued to increase, with at least 260 reported in spring and 450 in autumn 2015 (<http://tarsiger.com>).

Sweden

Raptor migration at Falsterbo, in southern Sweden, has been monitored systematically since 1973, so the data collected provide a good insight into the changing fortunes of Pallid Harriers in Sweden (fig. 2). In the 1970s, just two Pallid Harriers were recorded at Falsterbo, followed by 11 in the 1980s and ten in the 1990s. Figures for the rest of Sweden over the same period show a steady but unspectacular increase, with an average of approximately two per year in the 1970s, five per year in the 1980s and ten per year in

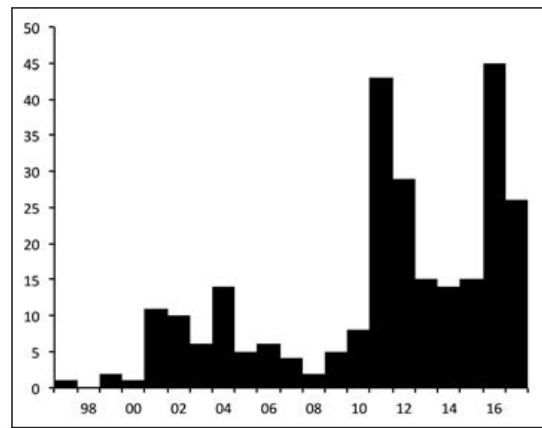


Fig. 2. Pallid Harrier totals at Falsterbo, Sweden, 1997–2017 (data from FiS).

the 1990s. At Falsterbo, the counts have not always reflected the scale of the increase in the rest of Sweden, perhaps because Pallid Harriers migrate across a broad front. A record 43 were counted in 2011 but just 15 were seen in 2015, partly reflecting unfavourable weather conditions. However, record counts were made in 2016, with 43 birds in autumn plus three hybrid Pallid × Hen Harriers.

Since 2000, but especially since 2011, the national totals have increased markedly, with annual means exceeding 30 per year in 2000–10, and more than 200 per year since 2011 (fig. 3). It has become clear that a strong passage of



Mike Henry

452. Birders watching the raptor migration at Falsterbo, Sweden, August 2012.

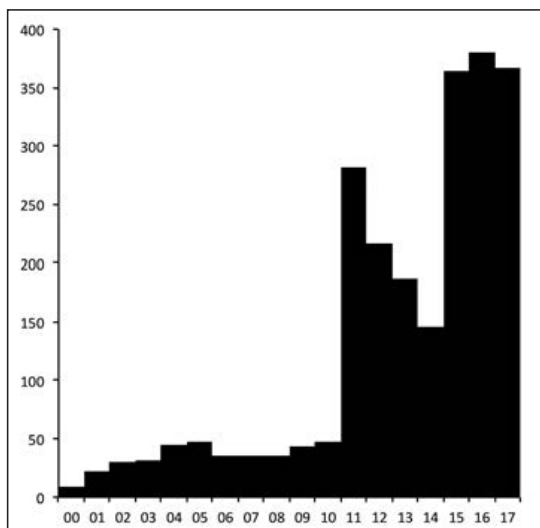


Fig. 3. Records of Pallid Harriers in Sweden, 2000–2017 (data from <https://artportalen.se>).

juveniles in autumn is typically matched by a good spring passage of 2CY birds heading north and east the following year.

In 2015, around a third of the spring records came from the northern provinces, where the timing of their arrival was not markedly different from those passing through Scania in the extreme south; this might suggest that some birds used an overland route via Finland – or simply that, having arrived in southern Sweden via Denmark, the birds move north extremely quickly.

Denmark

Prior to 2000, an average of around four birds per year were recorded in Denmark. Since then occurrences have become increasingly frequent, with the annual mean rising to 24 in 2000–09, then to a remarkable 154 in

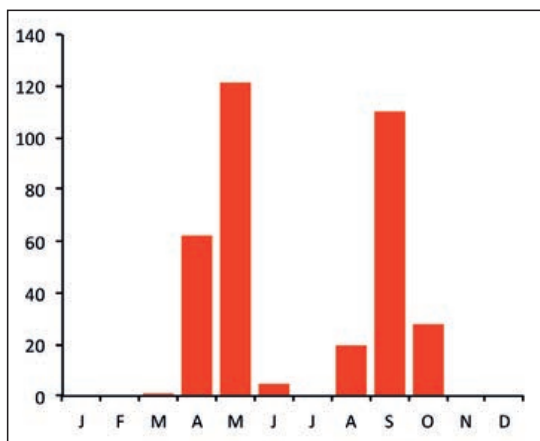


Fig. 4. The monthly distribution of Pallid Harriers in Denmark in the record year of 2016 (356 records; Lange *et al.* 2017).

2010–16, which includes the three best years so far: 2016 (356), 2015 (203) and 2011 (183). A provisional total for 2017 is of 170–190 birds. Pallid Harrier ceased to be treated as a national rarity in Denmark from the beginning of 2006 (www.netfugl.dk/dklist.php?id=species_info&species_id=185).

A typical ‘modern’ year sees the first birds – adult males – appear in early April followed by small numbers of adults throughout the month, even in unfavourable weather conditions. The first adult females appear in mid April and, by late April, 2CY birds are in the majority and dominate the migration in May into early June. Autumn migration is scattered throughout the country, with a slight concentration to the southeast, and a general increase in sightings in western Denmark from around 2009. Migration begins in mid August, with peak numbers of adults normally in late August and early September, followed by juveniles from late August to early October with a peak in the first half of September; juveniles comprised a high proportion of birds in the influx years of 2011, 2015 and 2016, but very few were seen after the poor breeding season in 2017.

Spring migration has been well studied at Skagen, the northernmost tip of Denmark (Christophersen 2017; Malling Olsen 2017). Here, the best years (2016 (95), 2017 (59) and 2012 (44)) invariably follow autumns with a good passage of juveniles. The annual fluctuations at Skagen are partly influenced by weather conditions: raptor migration is poor in cold westerly to northerly winds, whereas there is strong passage in warm southerly and easterly winds, as in late April and the first half of May 2016, which culminated in a northern European record count of ten passing on 8th May (all 2CY birds).

At Skagen, three hybrid Hen × Pallid Harriers have been noted in spring, two in 2013 and one in 2018; these numbers are considerably lower than the number of hybrids recorded at Falsterbo in autumn, perhaps indicating a poorer survival rate of hybrids.

Norway

Norwegian records of Pallid Harriers also show an increase during the last 20 years or so. The species has been recorded annually

The changing status of the Pallid Harrier in western Europe

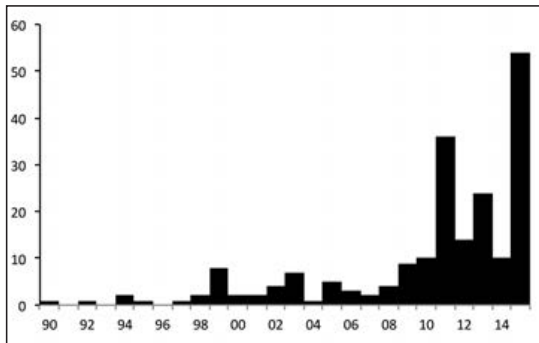


Fig. 5. Accepted records of Pallid Harriers in Norway, 1990–2015 (data from Norwegian Rarities Committee).

since 1997, but 1999, with eight records, was a ‘watershed year’ for Norway. Another landmark year was 2011, when 36 were recorded, and a total of 165 records was reached at the end of 2013, when the species was no longer considered as a national rarity. Numbers have continued to increase, and a new record of 54 individuals was reached in 2015 (Myklebust in prep.; fig. 5). The species has been recorded from all counties but among the best locations are the Jæren wetland system, in Rogaland (southwest Norway), and the Lista peninsula, Vest-Agder (southern Norway); these two counties account for around 50% of all records, while Vestfold (southeast Norway) is the third-best county, with about 10%.

The excellent maps at <http://artsobservasjoner.no> show that some juvenile Pallid Harriers have migrated along the west coast of Norway in most autumns since 2010, with multiple records from Røst (at the southern tip of the Lofoten Islands) south to Utsira (eight records in total, the first in 2002) and Lista in the southwest. Others take a more easterly route, presumably following the Oslofjord before continuing south along the west coast of Sweden, along the Kattegat and south to Falsterbo. Two Finnish-ringed juvenile Pallid Harriers have been identified in Norway: at Bremanger, Sogn og Fjordane, 31st July 2013, and Jæren, Rogaland, 18th–23rd August 2015.

Accessible locations in Arctic Norway, including the Porsanger and Varanger peninsulas, have yielded several reports of Pallid Harriers. More surprisingly, perhaps, several prospecting birds have been reported at inland localities in southern Norway in summer and Gullberg (2017) considered the species a strong contender for the next new breeding species for Norway.

Continental north and west Europe Germany

Prior to 2006, a total of 90 Pallid Harriers had been recorded from Germany, which included the breeding attempts in 1952. A



Dick Forsman

453. Fledgling male Pallid Harrier *Circus macrourus*, Finland, July 2011.

Dick Forsman



454. Adult male Pallid Harrier *Circus macrourus*, Oman, January 2016.

further ten were added in 2006 and similar numbers occurred annually until 2011, when 34 individuals were accepted by the German rarities committee (DAK), many of them autumn juveniles. Doubtless some of these made up the 126 that passed through Denmark that autumn, notably birds on Helgoland and the Baltic island of Fehmarn in October. There was also a remarkable cluster of sightings, of eight different individuals, from the Mainz-Bingen-Alzey area of Rheinland-Pfalz between September and November 2011. This region of deep valleys and vineyards lies on an obvious flyway that takes birds into northwest France and the Saône–Rhône corridor (see below). Stübing & Sacher (2013) noted that the 2011 invasion was reported only in northwest and not eastern Europe, suggesting that the birds originated from Scandinavia.

In 2012, juveniles appeared on Mellum

(eastern Frisian islands) and on Fehmarn in September, demonstrating the importance of migration routes along both sides of the Holstein peninsula. A grand total of 30 were accepted in 2012, 33 in 2013 and 45 in 2014; Pallid Harrier ceased to be treated as a national rarity from 1st January 2015 (fig. 6).

Poland

Up to 2014, there were c. 323 records of c. 348 individuals. The species had been recorded in all regions of the country but most frequently in northern (93 records) and eastern (90) Poland. The best sites were Vistula Spit (41 records) and Hel Peninsula (31) – both on the Baltic coast. The species was a regular migrant in the nineteenth century and at the beginning of the twentieth, with small influxes in some years (including 1890, 1897, 1900, 1901, 1910, 1922 and 1923), but later became rare. Since the

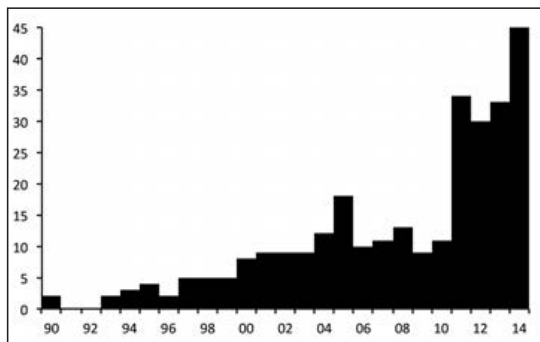


Fig. 6. Accepted records of Pallid Harriers in Germany, 1990–2014 (data from German rarities committee).

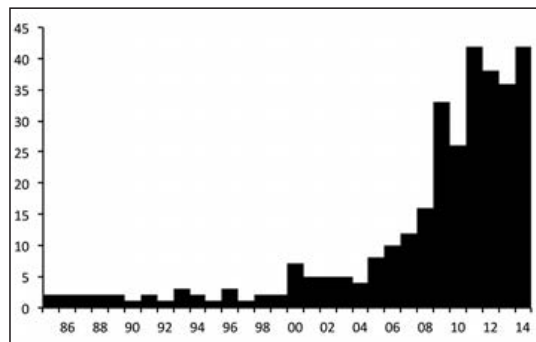


Fig. 7. Accepted records of Pallid Harriers in Poland, 1985–2014 (from Stawarczyk *et al.* 2017).

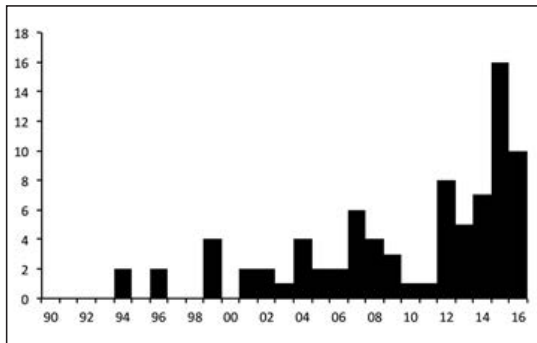


Fig. 8. Accepted records of Pallid Harriers in Estonia, 1990–2016 (Estonian rarities committee; www.eoy.ee/yhing/hk/hk_aktsept.pdf).

1980s, it has been recorded more frequently, and since 2006 there have been double-figure totals every year (fig. 7). In 2014, there were 42 records (matching the total in 2011) and the species was removed from the list of the Polish rarities committee. It has been recorded in all months except February, with peaks in the second half of April and the first half of September; there have also been four winter records. In terms of the records to the end of 2014, 55% of all birds reported in spring were adult or near-adult males and 36% were 2CY individuals. Autumn passage was dominated by males (64%) and juveniles (23%); the low proportion of females indicates that they were overlooked (Stawarczyk *et al.* 2017).

Estonia

The pattern of accepted records from Estonia is broadly similar to that described above from Poland (fig. 8).

The Netherlands

There were no records between 1992 and 1998 but 26 were accepted between 1999 and 2007. A record eight were found in 2009, with most in spring including two in two days at Breskens (*DB* 32: 368–379). Since 2003, Breskens (in Noord Brabant, 12 km from the Belgian border) has accounted for five Dutch records and a further six have been seen at Eemshaven, in Groningen. Both localities are migration bottlenecks where birds following the coast northwards must cross broad estuaries (the Scheldt and Ems respectively); together they accounted for almost a third of the accepted records to 2009.

As in many other European countries,

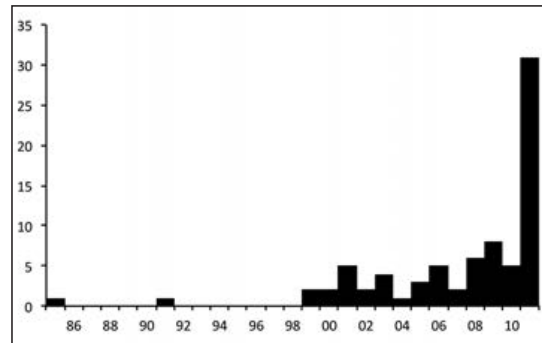


Fig. 9. Accepted records of Pallid Harriers in the Netherlands, 1985–2011 (data from Dutch rarities committee, CDNA).

2011 was the best-ever year for the Netherlands, with 31 accepted records (*DB* 34: 354–355, 35: 361, 36: 374). Of these, eight were in spring, including two adult males, five 2CY and one 3CY bird. The remainder were juveniles between 21st August and 18th October, including one seen on both sides of the Dutch/Belgian border near Antwerp (*DB* 34: 354–355). This brought the national total to 84 records to the end of 2011 (fig. 9), when the species was removed from the list of national rarities.

The *Dutch Birding* website (www.dutchbirding.nl) provides data on post-2011 records and confirms that 20 or more Pallid Harriers were seen annually in the Netherlands between 2012 and 2014. The increase has continued in both spring and autumn, although numbers are weather dependent, with easterly winds bringing the highest totals. In recent years these have included 29 in August–October 2015, followed by 51 in August–October 2016 but ‘only’ 11 in autumn 2017. In April–May 2016, a total of 35–45 were seen, with 63 in the same period in 2017 (Arnoud van den Berg *in litt.*).

From January 2016, a juvenile wintered at De Onlanden, in northern Drenthe, and it returned in the two subsequent winters. There have been several long-stayers since 2016, both in spring/summer (a displaying male near Rotterdam, Zuid-Holland, in April–August 2017) and during part of the winter (e.g. one lingering in autumn 2017 at Almere, Flevoland, until 7th December 2017). In 2014, a summering male was seen displaying to a female Montagu’s Harrier. Then, in 2017, four juvenile Pallid Harriers fledged from a field of winter barley in a

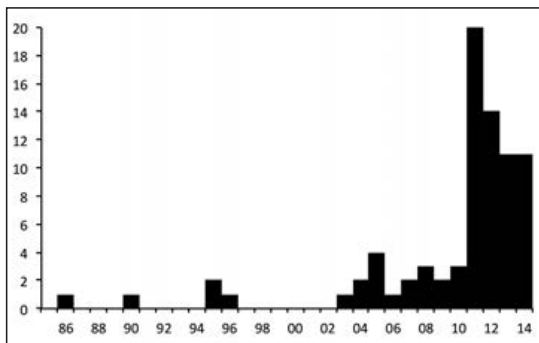


Fig. 10. Accepted records of Pallid Harriers in Belgium, 1985–2014 (data from Belgian Rare Birds Committee).

monitored Montagu's Harrier breeding area near Groningen – the nearest known breeding site in 2017 was at Oulu in northern Finland (www.naturetoday.com/nl/en/nature-reports/message/?msg=23620).

Belgium

Unsurprisingly, a similar pattern to that from the Netherlands is evident in the Belgian records; fig. 10 shows birds accepted by the Belgian Rare Birds Committee (www.belgianrbc.be) to 2014, with the peak year of 2011 (20 records) again evident, followed by double-figure totals in the years 2012–14. In 2012 a hybrid Pallid × Hen Harrier was discovered wintering in Belgium (Réglade *et al.* 2015).

France

Records of Pallid Harrier from France have shown a significant increase, in line with those elsewhere in Europe, and records were no longer assessed by the French national rarities committee (CHN France) from 1st

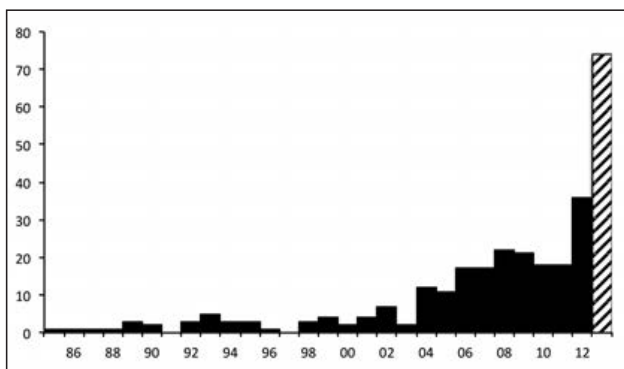


Fig. 11. Accepted records of Pallid Harriers in France, 1985–2012. (Note: this graph shows records accepted by the French rarities committee, CHN, up to and including 2012, but also shows the extraordinary influx of 74 birds in spring 2013 (Dubois *et al.* 2014).)

January 2013 (fig. 11). A record year of 36 accepted individuals in 2012 was followed by an extraordinary spring passage of 74 birds in 2013 (Dubois *et al.* 2014).

Most sightings are from southern France, where spring migrants have become regular along the Mediterranean coast, with a particular concentration in Bouches du Rhône, centred on the Camargue, and south along the Aude coast with its many inlets and étangs. Birds then travel north up the Rhône and Saône rivers into Champagne and the Ardennes. The species is less common along the Atlantic and Channel coasts, but still appears regularly.

Compared with spring, there have been fewer autumn records in France, 85 of 222 records in the period 1981–2012; Liger *et al.* (2008) showed that 22% had occurred in Franche-Comté, 18% in Littoral Méditerranéen and 50% west of Paris. In autumn, birds follow similar routes to those taken in spring, both inland and along the coast. Those migrating inland move along a broad corridor from Franche-Comté to the Camargue. Birds following the Atlantic coastline, including those reaching Ouessant, may have tracked along the Channel coast via Belgium or have arrived from southwest England. Supporting evidence for the latter route comes from a bird first reported at Steart, Somerset, which went on to spend the winter at Charente-Maritime/Vendée in the Bay of Biscay, from November 2014 to February 2015 (Réglade *et al.* 2015).

Since 2006, at least eight birds have wintered in France, of which four were in winter 2014/15 in the period from 21st December to 20th March, although Réglade *et al.* (2015) considered two of these to be early migrants.

Switzerland, Austria, Czech Republic

Alström *et al.* (1991) noted ten previous twentieth-century records of Pallid Harriers from Switzerland but sightings have been annual since 2001 (fig. 12).

In 2011, two lingered into the winter months, including a juvenile male that remained near Fribourg from November 2011 to February 2012 (BW 24: 498; Réglade *et al.* 2015). With the onset of cold weather in February, this individual

The changing status of the Pallid Harrier in western Europe

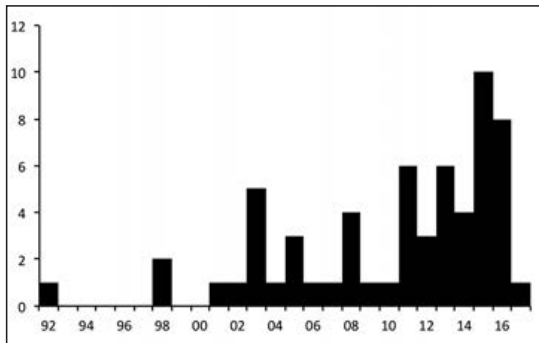


Fig. 12. Accepted records of Pallid Harriers in Switzerland, 1992–2017 (Swiss rarities committee 2018; www.vogelwarte.ch/de/projekte/monitoring/sak/downloads).

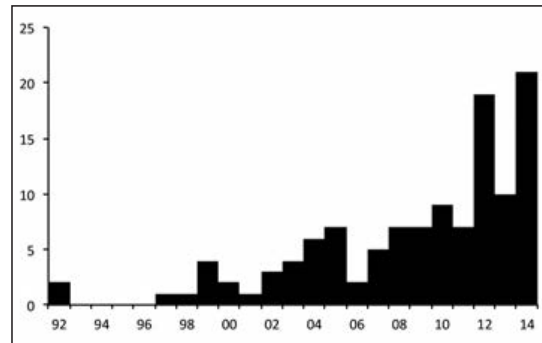


Fig. 13. Accepted records of Pallid Harriers in Austria, 1992–2014 (<http://s1011384-22320.at.webhosting.upc.biz/birdlife-afk.at/berichte-reports>).

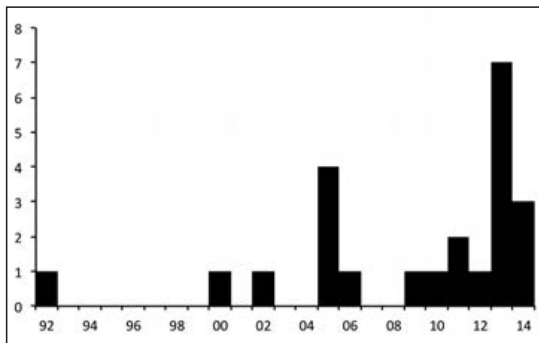


Fig. 14. Accepted records of Pallid Harriers in the Czech Republic, 1992–2014 (<http://fkco.cz/druhypos/cirmac.html>).

moved south to Marseilles, France, where it remained until April.

A broadly similar pattern is shown by the accepted records in both Austria and the Czech Republic (figs. 13 & 14).

Britain and Ireland

The change in status of the Pallid Harrier in Great Britain in recent years is in line with events elsewhere in Europe, although on a smaller scale. Prior to 1993, the species had been recorded on just three occasions (spring males on Fair Isle in April–May 1931 and in Dorset in April 1938 and the juvenile in Yorkshire in October 1952 referred to earlier). Up to and including 2017, the British total stands at 110 birds (Holt *et al.* 2018) with 34 of these coming from Shetland and Fair Isle alone; the latter also boasts the earliest autumn arrival date (12th August 2011). The best year was 2011, with 29 records, equalling the total of all previous records combined, followed by 17 in 2016 (fig. 15).

The proximity of the Northern Isles to



Mark Rayment

455. Juvenile Pallid Harrier *Circus macrourus*, Hertfordshire, October 2018.

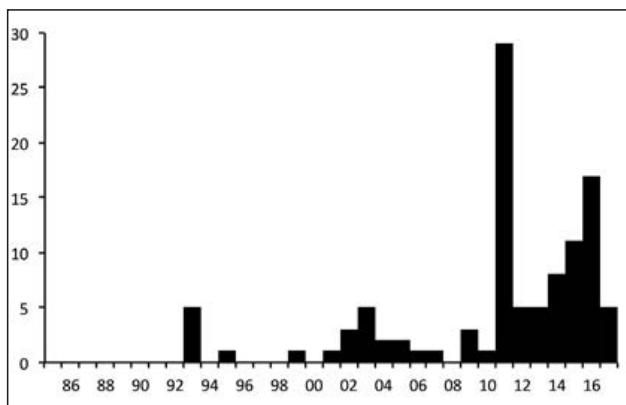


Fig. 15. Accepted records of Pallid Harriers in Britain, 1985–2017 (data from BBRC).

Norway and the coastal route taken by some birds tracking south perhaps explains why so many Pallid Harriers have made landfall in Shetland and Fair Isle. Some of these birds must surely filter south along the east coast of Scotland and England. Others presumably take a more westerly route to southern and southwest England (for example juveniles reaching Scilly in September 2004 and 2005), or Ireland, for which the first record was in April 2011, in Co. Cork (there are now seven accepted Irish records, five of them in 2011 and singles in 2015 and 2017; Hobbs *et al.* 2016; Harry Hussey *in litt.*).

Perhaps surprisingly, given its geographical location on the western periphery of Europe, Scotland has played host to two exceptional Pallid Harrier × Hen Harrier breeding attempts. The first was in 1993, when a 2CY male Pallid displayed to Hen Harriers in Perthshire, while in 1995 a male

Pallid paired with a female Hen Harrier in Orkney; eggs were laid but were predated before hatching (Forrester *et al.* 2007).

It would be another 22 years before the next sky-dancing male Pallid Harrier would grace the skies above Britain: in 2017 an adult male was seen in Bowland, Lancashire, at the same time that another male was displaying to Hen Harriers in the northern Pennines. That birds were breeding in the Netherlands at the same time is surely a reflection of the high numbers migrating through western Europe in the autumns of 2015 and 2016.

Several juveniles have attempted to overwinter in Britain, the first being a bird in north Norfolk from December 2002 to March 2003. Others followed, most recently at sites in north Norfolk from November 2015 to at least January 2016, and in east Yorkshire from November 2016 into 2017.

Iberia Spain

There was a marked surge in Spanish records of Pallid Harriers, mainly along the east coast but especially in Catalonia, in the years after 2000. Catalonia is the region with most records of Pallid Harriers in Spain, followed by the Balearic Islands (de Juana & Garcia 2015; fig. 16). There were 45 accepted records up to 2010, mostly in spring (March and April); at least 24 individuals in 2011 and 16 in 2012; and at least 41 Spanish records

Brydon Thomason



456. Two juvenile female Pallid Harriers on Unst, Shetland, September 2015 (this is a composite image of two different individuals present together on Unst).

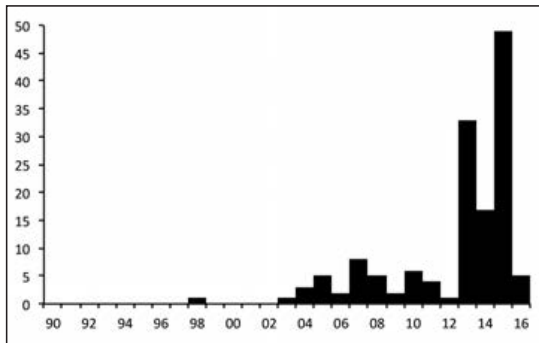


Fig. 16. Records of Pallid Harrier in Catalonia, Spain, 1990–2016 (Comité Avifaunístico de Catalunya).

plus three from Gibraltar in spring 2013, mostly from the east coast, the Balearics and Andalucía (de Juana & Garcia 2015).

The first Pallid Harrier found overwintering in Spain was in Castellón (east coast) in winter 2005/06, and in 2011 up to nine wintering birds were located, including two at La Janda, in Andalucía (de Juana & Garcia 2015; Ollé *et al.* 2015). Ollé *et al.* suggested that the species should no longer be considered a national rarity and that recommendation coincided with another spring influx, with at least 49 birds recorded in Catalonia, many of them adult males (Comité Avifaunístico de Catalunya).

An understanding of the origins of the birds involved and the migration routes they follow is still evolving. In spring, the majority move through eastern Spain and north into France, possibly influenced by the levante, the prevailing easterly wind. Major influxes in spring tend to coincide with persistent low pressure over the Strait of Messina during peak migration time, leading to records throughout Catalonia and also farther west. In the Empordà area (easternmost Catalonia), where Pallid Harriers are seen more regularly than anywhere else in Spain, the species is affected by the tramuntana, a northerly wind that stops the birds from continuing their migration. The harriers congregate in suitable habitat, often lingering for some days and thus increasing the chances of them being found (Marcel Gil-Velasco *in litt.*). As in other parts of southern Europe, the uneven distribution of keen birders may distort apparent distribution patterns.

Portugal

Portugal's first Pallid Harriers were recorded

as recently as October 2011, from the Tagus estuary and Sagres, and a total of eight (five in autumn and three in spring) were reported from the country in 2011 and 2012 (de Juana & Garcia 2015; Ollé *et al.* 2015).

The central Mediterranean

Prior to the 1990s, the only European location where Pallid Harriers were recorded with any regularity was the Strait of Messina, between northeast Sicily and the Italian mainland. A circular migration route between eastern European/central Asian breeding grounds (notably Kazakhstan) and African wintering areas was well known by the 1960s (Moreau 1972). Although most Pallid Harriers winter in the Indian subcontinent, a smaller number take a more westerly route in autumn, crossing the Middle East into North Africa. Some follow the River Nile and Great Rift Valley into East Africa, while small numbers drift farther west, through the Sahel, following swarming Orthoptera (locusts, etc.). After wintering south of the Sahara, they return north in spring, crossing the Mediterranean, perhaps mainly between Cap Bon in Tunisia and Sicily (Corso & Cardelli 2004).

Between 1953 and 1966, no fewer than 189 Pallid Harriers were ringed at Cap Bon, providing solid evidence of regular passage (Moreau 1972). Ringing recoveries show that one bird flew 3,300 km northwest in 24 days, when it was recovered on the Volga River in the Chuvashskaya Respublika, Russia. Other recoveries of birds ringed at Cap Bon came from the Ukraine and Lebanon in subsequent autumns, illustrating the circular nature of their migration route.

The number of Pallid Harriers passing through the Strait of Messina has risen in line with occurrences elsewhere in Europe. From a mean of 6.7 birds per year in the 1980s, they increased to 49 per annum in the 1990s, and to >100 from 1998 to 2001 including an exceptional 132 in 2001. Between 1984 and 2001, a total of 459 individuals was recorded there, and in the last decade 40–116 individuals have been sighted each spring (Corso & Cardelli 2004; Andrea Corso *in litt.*). Corso & Cardelli believed this increase to be real, and not simply the result of better and more systematic counting from 1995 onwards. Spring



457. Juvenile female Pallid Harrier *Circus macrourus*, Finland, September 2014.

records predominate on the Sicilian side of the Strait, with fewer recorded in autumn when migration occurs on a broad front across the Middle East. There are probably more records of wintering Pallid Harriers in Sicily than anywhere else in Europe, and in most years a handful of individuals are reported in winter (A. Corso *in litt.*).

Malta, and the Italian Pelagic Islands (Lampedusa, Linosa and Lampione) also lie on this flyway. Between them they amassed a total of 67 spring migrants between 2006 and 2008. On Lampedusa, 20 were recorded in six autumns between 1997 and 2008 (Corso *et al.* 2013), while in April 2010, 24 migrating Pallid Harriers reached Malta and a further 15 were reported from the Pelagic Islands (*BW* 23: 147). In recent years, up to 10–15 were reported each spring on Lampedusa and Linosa, with fewer in autumn but still regular sightings until the end of November (A. Corso *in litt.*). On Pantelleria, in the Sicilian Channel, up to 30 birds a year were counted regularly in spring from 2004 to 2014, with smaller numbers in autumn (Corso & Gustin 2014; A. Corso *in litt.*).

Satellite tracking

In combination, the accounts above make it clear that the Pallid Harrier is now a regular spring and autumn migrant to many western

European countries, while some overwinter and a few remain to breed. What seems indisputable is that a new northeast–southwest migration flyway has developed. The route taken by ‘Potku’, a breeding female Pallid Harrier fitted with a GPS/GSM transmitter at her nesting site at Utajärvi, near Oulu in Finland, supports this (www.luomus.fi/en/pallid-harriers).

In 2015, southward migration began on 10th August after her three juveniles had fledged. From Oulu she crossed the Gulf of Finland west of St Petersburg, Russia, then continued southwest through the Baltic states into Poland and Germany. She passed close to Berlin on 21st August and lingered for a week at wetlands near Magdeburg before crossing into Belgium. By 10th September she was over Paris (the Bois de Boulogne) and heading south towards the Loire Valley, and from there crossed the Pyrenees somewhere between Bayonne and Pamplona. In Spain, having left Navarra she pursued a course that took her south to Murcia, roosting near Almeria before continuing on to Morocco on 28th September, taking seven hours to cross the Mediterranean. By 4th October she reached Mauritania, where she spent the greater part of the winter.

Signals from the transmitter then became intermittent but she returned to Finland in

2016, crossing the Strait of Gibraltar from Rabat on 29th March, then continuing non-stop over Spain and the Pyrenees for 1,500 km to reach Poitiers in western France on 30th March. From there, the route back to Finland was similar to that followed the previous autumn: non-stop via Paris, Antwerp, northern Germany, Szczecin (Poland), then to Belarus where she lingered for a week before crossing the Gulf of Finland on 28th April. She reached Oulu on 3rd May and continued north beyond the Arctic Circle, where she halted and appears to have made a breeding attempt.

The route taken by Potku is similar to that of German, Dutch and Danish satellite-tagged Montagu's Harriers, for which several years' data have been collected. Other Montagu's Harriers fitted with satellite tags in Poland and the Ukraine have taken a more easterly route, through the Balkans to Greece or Italy, and from there across the Mediterranean to Libya (www.werkgroepgrauwekiekendief.nl).

As mentioned earlier, a Finnish-ringed juvenile Pallid photographed near Stavanger, Norway, on 18th August 2015 was one of nine juveniles ringed in four nests near Oulu that year, including those raised by Potku. On the same day that the juvenile was photographed near Stavanger, Potku's satellite transmitter revealed that she entered Belarus. Clearly, Finland's breeding harriers migrate on a broad front and do not all follow the same routes.

Changes in the breeding range and the impact of prey availability

Despite the great increase in records of migrating and wintering Pallid Harriers across Europe, the only regular breeding attempts have come from northern Finland, with four nests found in 2011 and at least five in 2015, both of those years characterised by high vole densities; and double-figure numbers of nests in 2018 (see above). The species has not nested

in Sweden since 1952, although a juvenile photographed near Stekkenjokk in Swedish Lapland on 25th July 2011 fuelled speculation that it may have been raised nearby. Forsman & Erterius (2012) argued that Pallid Harriers nest in the thinly populated and underwatched parts of northern Finland and that some attempts must go undetected. The fact that Potku spent the summer of 2016 unseen by any observer in northern Finland supports this hypothesis; as does the fact that – unlike Montagu's Harriers – Pallid Harriers nest colonially only occasionally, making monitoring more difficult.

An abundant food supply is essential for successful breeding. Summer 2011 was the best vole season for several decades in Finland, and 2011 proved to be one of the best years for Pallid Harriers in Fennoscandia and elsewhere in Europe as these birds dispersed. The next good vole year, 2015, also produced an outstanding number of juvenile Pallid Harriers throughout Europe.



Dick Forsman

458. Pallid Harrier *Circus macrourus* nest, Finland, May 2016.

Conversely, a poor vole year does not necessarily result in low numbers of harriers. In 2016, with few voles and only one known breeding pair of Pallid Harriers in northern Finland, it was an exceptional year for Pallid Harriers at Falsterbo, with 45 records including 27 juveniles, and the earliest ever, on 17th August (*FiS* 2016: 13–14). Northern Finland seems an unlikely source for all these harriers and presumably some originated farther east.

Limited breeding data exist for Pallid Harriers in northern Russia, but it seems likely that breeding attempts in northern Europe reflect greater changes under way farther east. These may extend all the way to the traditional core breeding range, and are part of larger but undocumented changes occurring there, which include range contraction in the south and west of European Russia, the Caucasus and Ukraine (BirdLife International 2018).

There is some evidence to support this hypothesis. In European Russia, birds are now occupying the taiga forest belt to the north and west of the traditionally preferred steppe grasslands, perhaps in response to loss of their traditional breeding habitat (Galushin *et al.* 2003). Finding an abundant, although cyclical, food supply in the taiga, they respond by

shifting their breeding range to areas where prey availability is greatest, and appear to be spreading to the north and west. Examples include expansion into the Perm region (c. 57°N) and west to the Moscow area in the 1990s, and the species was suspected of breeding in Karelia (adjacent to Finland) in 1995. Even farther north, breeding took place on the southern Yamal Peninsula (c. 67°N) in 1998, over 1,500 km north of its traditional breeding range (Galushin *et al.* 2003). In 2007, six pairs bred in the Moscow region (BirdLife International 2018) and in 2011 a juvenile was photographed in the Murmansk region on the Kola Peninsula (Shutova 2015).

The reason for establishing a new migration route has prompted various suggestions by authors in *Fågelåret* and *Fåglar i Skåne*, ranging from the abandonment of Soviet collective farming after the fall of communism to extensive forest burning in Russia. All these theories are built on the hypothesis that the species' breeding range is extending northwards into the forested boreal and taiga zone of northern Europe. Réglade *et al.* (2015) summarised these arguments and concluded that the northward expansion of the nesting range may be coupled with climate change and global warming, which in turn is affecting prey availability.



Dick Forsman

459. 2CY male Pallid Harrier *Circus macrourus*, Varanger, Norway, May 2017.

Concluding comments

Can we now infer that Pallid Harriers breed annually in northern Europe? Certainly it is true that birds now migrate through north-west and western Europe every year. The summers of 2011 and 2015 were good vole years and in those years Pallid Harriers bred successfully in northern Europe, as described above. Yet while 2016 was a poor vole year in northern Europe, it still proved to be a good year for Pallid Harriers in autumn, suggesting that these birds originated from European Russia and they have adopted a migration route that takes them through western Europe. What is indisputable is that the status of the Pallid Harrier in western Europe has changed beyond all recognition in the last two decades.

Why that is so remains unclear but gaps in our knowledge are linked to lack of observers, geography and the nature of the species; only exceptionally does it nest colonially, unlike the Montagu's Harrier, and its propensity for breeding attempts well beyond its core range makes monitoring difficult and unpredictable.

The Pallid Harrier was previously thought to be undergoing a steep population decline in Europe. This assessment appears to be changing but BirdLife International continues to treat the species as Near Threatened (and the European trend as 'unknown'), following a moderately rapid decline in its core breeding range, and this will presumably continue as a precautionary measure until better data and trends are available from across the core of the breeding range in central Asia (BirdLife International 2018). A 13-year study in Kazakhstan revealed that Pallid Harrier numbers and reproductive success vary cyclically, peaking every six years in response to vole densities (Terraube *et al.* 2012). Vole cycles are asynchronous between regions, and it is likely that the breeding distribution of Pallid Harriers also changes between years. What remains unclear is whether the apparent increase in Europe is sufficient to compensate for losses in southern Russia and central Asia.

Acknowledgments

My thanks go to Roger Karlsson (Ljungby) for help in obtaining some Swedish texts, to Thomas Sacher for a copy of his paper with Stefan Stübing, and to Birgitta for the privilege of being able to study Pallid Harriers annually on Öland, in Västergötland and at Falsterbo. In addition, I am most grateful to the following for their

comments on the situation in particular countries or key areas: Arnoud van den Berg (Netherlands), Andrea Corso (Italy), Jochen Dierschke and Christopher König (Germany), Marc Duquet and Pierre Yésou (France), Aron Edman (Sweden), Dick Forsman and Roni Väisänen (Finland), Marcel Gil-Velasco (Spain), Harry Hussey (Ireland), Łukasz Ławicki and Tadeusz Stawarczyk (Poland), Klaus Malling Olsen (Denmark), Geir Mobakken (Norway) and Lars Samuelson (Falsterbo, Sweden).

References

- Alström, P., Colston, P., & Lewington, I. 1991. *A Field Guide to the Rare Birds of Britain & Europe*. HarperCollins, London.
- BirdLife International. 2018. Species factsheet: *Circus macrourus*. (Downloaded from www.birdlife.org on 17th February 2018.)
- Brown, L., & Amadon, D. 1968. *Eagles, Hawks and Falcons of the World*. Wellfleet Press, New Jersey.
- Christoffersen, H. 2017. *Nordjyllands Fugle 2016*. Rapport nr. 53 fra Nordjyllands Fugle. Foreningen Nordjyllands Fugle.
- Corso, A. 2001. Raptor migration across the Strait of Messina, southern Italy. *Brit. Birds* 94: 196–202.
- & Cardelli, C. 2004. The migration of Pallid Harrier across the central Mediterranean with particular reference to the Strait of Messina. *Brit. Birds* 97: 238–246.
- & Gustin, M. 2014. Raptor migration at Pantelleria Island (Trapani, Sicily): results of 'Progetto Rapaci migratori-LIPU' 2004–2011. In: Tinarelli, R., Andreotti, A., Baccetti, N., Melega, L., Roscelli, F., Serra, L., & Zenatello, M. (eds.), *Atti XVI Conv. Ital. Orn., Scritti, Studi Ric. Stor. Nat.*, pp. 84–86. Repubblica San Marino.
- , Janni, O., Larsson, H., Viganò, M., Maniscalco, L., Maiorano, I., & Gustin, M. 2013. Raptor migration at the Pelagie Islands. *Brit. Birds* 106: 167–170.
- Cramp, S., & Simmons, K. E. L. 1982. *Handbook of the Birds of Europe, the Middle East and North Africa*. Vol. 2. OUP, Oxford.
- de Juana, E., & Garcia, E. 2015. *The Birds of the Iberian Peninsula*. Bloomsbury, London.
- Dubois, P. J., Duquet, M., Le Maréchal, P., Oliosio, G., & Yésou, P. 2014. Notes d'ornithologie française. Deuxième mise à jour du nouvel inventaire des oiseaux de France. *Ornithos* 21: 169–213.
- Forrester, R., Andrews, I., McInerney, C. J., Murray, R., McGowan, R. Y., Zonfrillo, B., Betts, M. W., Jardine, D. C., & Grundy, D. 2007. *The Birds of Scotland*. SOC, Aberlady.
- Forsman, D. 1995. Male Pallid Harrier and female Montagu's Harrier raising hybrid young in Finland in 1993. *Dutch Birding* 17(3): 102–106.
- & Erterius, D. 2012. Pallid Harriers in northwest Europe and the identification of presumed Pallid Harrier x Hen Harrier hybrids. *Birding World* 25: 68–75.
- Galushin, V., Clarke, R., & Davygora, A. 2003. *International Action Plan for the Pallid Harrier*. BirdLife International, Strasbourg.
- Gensbøl, B. 2006. *Rovfåglar i Europa*. 4th revised edn. Prisma, Stockholm.
- Gullberg, A. 2017. Steppenhauk – vår neste nye hekkeart? [Pallid Harrier – our next new breeding species?] *Vår Fuglefauna* 40: 121–127.
- Hagemeyer, W. J. M., & Blair, M. J. 1997. *The EBCC Atlas of European Breeding Birds*. Poyser, London.
- Hobbs, J., & the Irish Rare Birds Committee. 2016. Irish

Henry

- Rare Bird Report 2015. *Irish Birds* 10: 391–428.
- Holt, C., & the Rarities Committee. 2018. Report on rare birds in Great Britain in 2017. *Brit. Birds* 111: 557–627.
- Lange, P., Christophersen, H., & Christensen, J. S. 2017. Fugle i Danmark 2016. Årsrapport over observationer – meddelelse nr. 43 fra Rapportgruppen. In: Lange, P., Blichfeldt, M., & Øgaard, L., *Fugleåret 2016*, pp. 25–115. Dansk Ornitologisk Forening.
- Liger, A., Issa, N., & Barnagaud, J.Y. 2008. Le busard pale *Circus macrourus* en France: statut récent et éléments d'identification. *Ornithos* 15: 90–127.
- Lundevall, C. F., & Rosenberg, E. 1954. Some aspects of the behaviour and breeding biology of the Pallid Harrier (*Circus macrourus*). *Proc. Int. Orn. Congress* 11: 599–603.
- Malling Olsen, K. 2017. Steppenhøg – rekordår for en ekspanderende art: *Nordjyllands Fugle* 2016: 8–9.
- Mebs, T., & Schmidt, D. 2016. *Die Greifvögel Europas, Nordafrikas und Vorderasiens Biologie Kennzeichen Bestände*. NABU/Kosmos.
- Moreau, R. 1972. *The Palaearctic-African Bird Migration Systems*. Academic Press, London & New York.
- Myklebust, M. (ed.) In prep. *Fugleåret 2015*. BirdLife Norway.
- Ollé, A., Trabelon, F., & Bertran, M. 2015. A review of occurrences of the Pallid Harrier *Circus macrourus* in the Western Mediterranean: a new migrant and wintering species. *Revista Catalana d'Ornitologia* 31: 7–14.
- Réglade, M. A., Auvinen, A-P, Bouzin, M., & Terraube, J. 2015. Les stationnements hivernaux du Busard pâle *Circus macrourus* en France (2006–2015). *Ornithos* 22(6): 312–325.
- Rodebrand, S. 1996. Ängshöken *Circus pygargus* på Öland. *Calidris* 25: 99–116.
- Shirihai, H. 1996. *The Birds of Israel*. Academic Press, London.
- & Christie, D. A. 1992. Raptor migration at Eilat. *Brit. Birds* 85: 141–186.
- Shutova, E. V. 2015. First observation of the Pallid Harrier *Circus macrourus* in Murmansk province. *Russ. J. Ornithol.* 24: 900–901.
- Stawarczyk, T., Cofta, T., Kajzer, Z., Lontkowski, J., & Sikora, A. 2017. *Rare Birds of Poland*. Sosnowiec. (In Polish with English summary.)
- Stübing, S., & Sacher, T. 2013. Bemerkenswertes Auftreten der Steppenweihe *Circus macrourus* in Mittel- und Westeuropa in den Jahren 2011 und 2012. *Seltene Vögel in Deutschland* 2011/12: 48–55.
- Terraube, J., Arroyo, B. E., Bragin, A., Bragin, E., & Mougeot, F. 2012. Ecological factors influencing the breeding distribution and success of a nomadic, specialist predator. *Biodiversity & Conservation* 21: 1835–1852.
- Valkama, J., Vepsäläinen, V., & Lehtikoinen, A. 2011. *The Third Finnish Breeding Bird Atlas*. Finnish Museum of Natural History and Ministry of Environment. <http://atlas3.lintuatlas.fi/english> (Accessed 18th February 2018.)

Mike Henry, 15 Bedford Place, Newcastle on Tyne NE5 1BL; e-mail harrierman@outlook.com



Mike Henry is a retired history teacher, but in his spare time has studied Hen Harriers in Northumberland since the 1970s, encouraged by Donald Watson whose Poyser monograph (1977) changed his life. He now spends the summer in Sweden, mostly at Hornborga, but with annual visits to Öland and Falsterbo, where he has a special interest in Marsh and Montagu's Harriers, and raptor migration.



Mike Henry

Male Pallid Harrier, Sweden, August 2002.