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Voor taxonomie, volgorde en naamgeving van vogels in Dutch Birding worden de volgende overzichten aangehouden: *Dutch Birding-vogelnamen* door A B van den Berg (2008, Amsterdam; online update 2020, www.dutchavifauna.nl/wpvogelnamen) (taxonomie en wetenschappelijke, Nederlandse en Engelse namen van West-Palearctische vogels); en *IOC world bird list 10.2* door F Gill, D Donsker & P Rasmussen (2020, www.worldbirdnames.org) (taxonomie en wetenschappelijke, Engelse en Nederlandse namen van overige vogels in de wereld; Nederlandse namen door P Vercruijsse en A J van Loon).

Voor (de voorbereiding van) bijzondere publicaties op het gebied van determinatie en/of taxonomie kan het Dutch Birding-fonds aan auteurs een financiële bijdrage leveren (zie Dutch Birding 24: 125, 2001, en www.dutchbirding.nl onder 'Tijdschrift').

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Identification of Azores Gull

Peter Adriaens, Peter Alfrey, Chris Gibbins & Daniel López-Velasco

Yellow-legged Gull *Larus michahellis* is a familiar species in many European countries. However, the identification, taxonomy and distribution of its various subspecies have received comparatively little attention and a number of important issues still remain clouded in considerable uncertainty. Recent authoritative literature on gulls does not agree on the number of subspecies: Howell & Dunn (2007) recognize nominate *L m michahellis* and the Atlantic subspecies *L m atlantis* (hereafter *atlantis*) but Olsen & Larsson (2004) and Olsen (2018) include a third one, *L m lusitanius* (hereafter *lusitanius*) from north-western Iberia. There are particular problems and uncertainties associated with *lusitanius,* a taxon that we will consider in some detail here. The taxon has been poorly described, and is not recognised by many authors (eg, Howell & Dunn 2007, Dickinson & Remsen 2013, Gill et al 2020). Moreover, there does not seem to be agreement on the precise breeding ranges of the different subspecies, with authors variously restricting *atlantis* to only the Azores (Dubois 2001, Yésou 2002, Olsen 2018), to all of the Macaronesian islands (Dwight 1922, 1925, Cramp & Simmons 1983, Grant 1986, Garner & Quinn 1997, Jonsson 1998, AERC TAC 2003, Olsen & Larsson 2004, Howell & Dunn 2007), to the Macaronesian islands and coastal north-western Africa (Collinson et al 2008) or all of these locations with the coasts of north-western Spain and Portugal sometimes included (Stegman 1934, de Knijff et al 2001, Liebers et al 2001, Sternkopf et al 2010). Most recently, Stoddart & McInerny (2017) highlighted uncertainties over the distribution and taxonomic status of *atlantis* in their review of records of this taxon in Britain.

This paper focuses on the identification of *atlantis,* to which we refer as 'Azores Gull'. Other authors have sometimes referred to this taxon as Atlantic Gull, Atlantic Yellow-legged Gull or Azorean Yellow-legged Gull (eg, Stoddart & McInerny 2017; www.dutchavifauna.nl/wpvogelnamen). In order to treat its identification in a comprehensive way, we needed to make sense of Mediterranean *michahellis*, birds on other Macaronesian islands, as well as the gulls that occur in Portugal and north-western Spain. Looking at this regional variation caused us to also assess vocalisations, and the results of these analyses led us to reconsider the taxonomy of Yellow-legged Gulls. As well as dealing with the identification of *atlantis*, we therefore offer some views on taxonomic relations between the various populations we have analysed. However, we stress that we are field ornithologists rather than taxonomists and are mainly interested in how distinctive a certain taxon is in the field or, in other words, whether we can determine the geographic origin of an individual bird with any degree of certainty. To our eyes, it is mainly the birds from the Azores that look sufficiently different from nominate *michahellis* to be identifiable away from their breeding range and this is our focus. The specific aims of this paper are: ***1*** to present solid identification criteria for vagrant Azores Gull; and ***2*** to use these criteria, voice and genetics to comment on taxonomic relations between the various Yellow-legged Gull taxa and on the vagrancy of Azores Gull.

Material and methods

Sample data

The authors have extensive field experience with Yellow-legged Gulls, from the Azores east to the Black Sea coast of Georgia. Daniel López-Velasco lives on the Cantabrian coast in Asturias, Spain, and is thoroughly familiar with the local Yellow-legged Gulls. This paper is based on many trips to the Azores, including a specific one in February 2015 to study and photograph Azores Gulls, several trips to Portugal (Porto, Peniche and Algarve coast) and Morocco, and eastwards to Turkey and Georgia. We also checked skins of adult birds from the Azores, the Canary Islands, Madeira and Iberia in the Natural History Museum at Tring, England, and we received data from Andres Bermejo, Pim Edelaar and Bert Saveyn who examined skins in Estación Biológica de Doñana at Sevilla, Spain, and Museo Nacional de Ciencias Naturales at Madrid, Spain. In addition, we received and collected numerous photographs from the Atlantic and Iberian breeding range taken throughout the year, including many from the Canary Islands, Madeira and the Gibraltar area.

Photographs and our field observations were used to distill features for each age type that offer most help with the identification of out-of-range birds. For all immature age classes this was done

qualitatively, and accordingly, in the text that follows, we simply describe these features. Many of the birds that we looked at were not ringed, so the usual caveats about classifying immature birds into the correct age class apply (see also Arizaga et al 2019). However, it goes without saying that we have taken utmost care when assigning birds to a certain age type. Because adult plumage traits are more amenable to quantitative analysis, we adopted a different approach for this age class, scoring the primary pattern of a large sample and assessing the frequency of different primary patterns in the various populations. This is detailed in the following section. We also include scores for the upperpart grey tones of adult birds based on a Kodak grey scale applied to museum skins.

For practical reasons, we use the classification in cycles (first-cycle, second-cycle and so on) to age birds, rather than the classic system of first-winter, first-summer, second-winter and so on (cf Dutch Birding 1985), because the cycle classification fits the complex moult cycles of gulls better (cf Howell et al 2003, Howell 2010, Adriaens & Gibbins 2016).

Scoring system for adult birds

Using high quality photographs, we examined the wing-tip pattern of a total of 959 adult Yellow-legged Gulls from the Macaronesian islands, Iberia, Morocco, Croatia, Greece, Israel and Turkey. Sample sizes for each region are presented in table 1, and sample locations are shown in figure 1. Birds showing signs or remnants of immaturity were excluded from the samples (except those with a few thin dark streaks on primary coverts, which can be shown by very old gulls; cf Muusse et al 2011). All birds examined were photographed during the breeding season, except for a number of birds from the Macaronesian Islands (see table 1). Since the latter populations are isolated and largely sedentary (see section 'Movements and vagrancy'), we felt that Macaronesian birds photographed at any time of the year could safely be included in the sample.

Specifically, we looked at the following features that we deemed most useful for identification: ***1*** the length of the pale tongue (= wedge) on the underside of the outermost primary (p10) compared with the length of the feather (from tip to primary coverts); ***2*** the presence and extent of a white mirror on p9; ***3*** the length of the black pattern on the outer web of p8 (again compared with the length of the feather); and ***4*** the presence and extent of a black pattern on p3-4. The categories for each of these criteria are presented and illustrated in table 5; for topography of a gull wing, see Olsen & Larsson 2004 (p 21). We also systematically noted the presence of thin dark streaks on the primary coverts, but these turned out to be irrelevant for identification purposes.

Analysis of calls

We examined the display calls ('long calls') of adult Yellow-legged Gulls from 126 recordings.

FIGURE 1 Sample locations of adult Yellow-legged Gulls *Larus michahellis* used for scoring of primary patterns. Green = proportion of birds from the breeding season; blue = proportion of non-breeding birds. The size of each pie chart reflects sample size (see table 1). Azores unsp. = Azores unspecified (no exact location given).

TABLE 1 Summary of all locations and sample sizes (n) for adult Yellow-legged Gulls *Larus michahellis* included in analysis of wing-tip patterns. * = non-breeding birds.

location	n	location	n
Azores, Corvo	1+4*	Gibraltar	10
Azores, Faial	3+1*	Ceuta	22
Azores, Flores	3*	***subtotal Gibraltar***	***32***
Azores, Graciosa	1+1*	**Madeira**	**30+59* (=89)**
Azores, Pico	12+1*	**Morocco (Casablanca - Agadir)**	**33**
Azores, Santa Maria	3	**Portugal (Peniche)**	**103**
Azores, São Miguel	12+21*	Spain, Galicia	28
Azores, Terceira	5+108*	Spain, País Vasco	89
Azores, unspecified	25*	***subtotal northern and north-western Spain***	***117***
subtotal Azores	***37 + 164* (=201)***	Spain, Andalucía	31
Canary Islands, El Hierro	2*	Spain, Catalunya	113
Canary Islands, Fuerteventura	4+11*	***subtotal michahellis Spain***	***144***
Canary Islands, Gran Canaria	1+10*	Croatia	55
Canary Islands, La Gomera	1	Greece	22
Canary Islands, La Palma	3+5*	Israel	30
Canary Islands, Lanzarote	19+32*	Turkey	20
Canary Islands, Tenerife	2+20*	***subtotal 'eastern michahellis'***	**127**
Canary Islands, unspecified	3*		
subtotal Canary Islands	***30 + 83* (=113)***	TOTAL	959

The number of recordings that we obtained from each region is shown in table 2. Some recordings were made by us (Azores, February 2015) but most were either sent to us or were obtained from the Xeno-Canto website (www.xeno-canto.org). Long calls of immature birds were excluded from the analysis. Research on calls of Yellow-legged Gulls was published by Teyssèdre (1983, 1984). She compared recordings of the calls of 30 Yellow-legged Gulls from a breeding colony in País Vasco (Basque country), northern Spain, with 30 from Camargue, Bouches-du-Rhône, France, and eight from Ile d'Oléron, Charente-Maritime, France. In order to obtain results that could be compared with her work, we adopted the same analytical methods. Thus, we looked at the following elements of the long call on sonagrams: ***1*** maximum frequency of the fundamental (FFm), ie, the lowest harmonic (lowest layer) of each call note on the sonagram; ***2*** maximum frequency of the dominant harmonic (DFm), ie, the most visible, boldest harmonic; ***3*** number of harmonics (nH) visible in the sonagram (for each call note); and ***4*** prominence/visibility of fifth harmonic (H5) in the sonagram (categorized as 0 = weak/absent, 1 = intermediate, 2 = strong/bold). Harmonics are layers of sound that show up in a sonagram one above the other; they are also called overtones. The more nasal a call note, the more harmonics it will show in a sonagram. We added one more feature to the analysis: ***5*** distance between the harmonics (Dist), which was not examined by Teyssèdre (1983, 1984). This was analysed by measuring the distance between DFm and the first harmonic above it, although generally the distance between all harmonics is roughly the same. Because the number of harmonics visible in the sonogram tends to vary with distance to the bird, only good quality record-

FIGURE 2 Long call of adult Azores Gull *Larus michahellis atlantis*, Terceira, Azores, 18 February 2015 *(Peter Adriaens)*. Example of sonagram analysis.

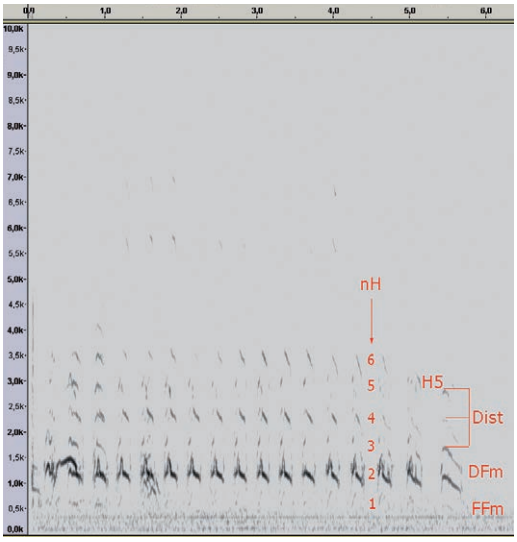

TABLE 2 Locations and numbers of recordings (n) of display calls of adult Yellow-legged Gulls *Larus michahellis* analysed for this paper.

location	**n**	**location**	**n**
eastern Spain	2	La Palma	1
south-eastern France	7	Fuerteventura	5
Bulgaria	2	Lanzarote	3
Switzerland	2	Lobos	3
Italy	2	***subtotal Canary Islands***	***12***
subtotal michahellis	***15***	**Madeira**	**8**
Galicia	19	**Morocco**	**3**
País Vasco	2	Berlengas	7
Asturias	1	Peniche	7
subtotal northern and north-western Spain	***22***	Sagres	6
Terceira	7	Lisboa	3
São Miguel	1	***subtotal Portugal***	***23***
Santa Maria	5	**Cádiz, near Gibraltar**	**11**
Flores	19		
subtotal Azores	***32***	TOTAL	126

TABLE 3 Kodak grey scale values of upperparts of adult Yellow-legged Gulls *Larus michahellis*; skins examined mainly at Natural History Museum (Tring, England), Estación Biológica de Doñana (Sevilla, Spain) and Museo Nacional de Ciencias Naturales (Madrid, Spain); * subadult bird.

location	**sample size**	**Kodak grey scale value**	**sources**
Azores	>15	7-9	own data; Olsen & Larsson 2004
Canary Islands	7	7-8	own data; Andres Bermejo unpublished data; Pim Edelaar & Bert Saveyn unpublished data
Madeira	2	8-9	own data
Western Sahara, Morocco	1*	7	Pim Edelaar & Bert Saveyn unpublished data
Portugal	?	6.5-8	Olsen & Larsson 2004
Galicia (north-western Spain)	15	5.5-7	own data; Andres Bermejo unpublished data; Pim Edelaar & Bert Saveyn unpublished data
Asturias (north-western Spain)	3	6.5-7.5	own data
Cantabria (northern Spain)	1	5	Andres Bermejo unpublished data
País Vasco (northern Spain)	1*	5	Pim Edelaar & Bert Saveyn unpublished data
western Mediterranean (nominate *michahellis*)	25	5-7	own data; Andres Bermejo unpublished data; Pim Edelaar & Bert Saveyn unpublished data

ings were used that were taken at close distance. An example of the analysis is shown in figure 2. The results are discussed in the section on 'Voice'.

Regional variation

Adults

In this section we first provide details of the nature and extent of variation found across the geographic range occupied by Yellow-legged Gulls. This assessment is then used in the second section as the platform from which to approach the identification of vagrant adult Azores Gulls.

Regional variation throughout Iberia and Atlantic

Most books and many websites only depict nominate *michahellis*, which has a relatively homogeneous appearance throughout its extensive breeding range. It should be noted, however, that small differences exist in primary pattern between western and eastern adults of this taxon. There are, for example, differences in the pattern of p10, with nearly 17% of a sample of 121 adults from Istanbul, Turkey, having a wholly white tip (ie, birds lacked any black terminal marks on this primary) compared with only 1% of 99 birds from Catalunya, Spain. Eastern birds also tend to have longer

TABLE 4 Measurements (in mm) of adult Yellow-legged Gulls *Larus michahellis* from various locations (sexes combined). Given are mean and range.

location	sample size	wing length	tarsus length	bill depth at gonys	sources
western Mediterranean	388	451.4 (410-485)	68 (58-80)	18.4 (16-20.5)	Andres Bermejo unpublished data; Isenmann 1973, Cramp & Simmons 1983, Carrera et al 1987, Bosch 1995
País Vasco, Spain	252	425.7 (399-471)	64.5 (55.5-80.5)	19 (14-24)	Mínguez & Ganuza 1995, Arizaga et al 2008, Galarza et al 2008
Asturias, Spain	12	428.3 (407-446)	62.9 (58.9-68.4)	17.1 (15.2-20.1)	Andres Bermejo unpublished data
Galicia/Portugal	111	420.5 (337-454)	63.4 (55-75.4)	18.1 (11.5-20.5)	Andres Bermejo unpublished data; Cramp & Simmons 1983, Carrera et al 1987
Morocco	?	428.5 (410-445)	63.3 (61.6-65)		Andres Bermejo unpublished data; Urban et al 1986
Canary Islands/ Madeira	>30	424.8 (395-450)	64.4 (60-69.5)	18.4 (16.6-20.1)	Andres Bermejo unpublished data; Volsøe 1951, Bannerman 1963, Cramp & Simmons 1983
Azores	>34	417.5 (395-438)	64 (59-68)	18.25 (16.5-20.5)	Dwight 1922, 1925, Vaurie 1965

pale tongue on p10. However, these differences make eastern birds much less like Azores Gull and so they are not considered in further detail here. Further studies may reveal additional differences but they are not the focus of this paper. In the westernmost part of its range, however, Yellow-legged Gull shows more variation and there appear to be several populations that differ in plumage and voice (discussed later).

Structure

Measurements of adult Yellow-legged Gulls from various populations are shown in table 4. Compared with nominate *michahellis*, Macaronesian, Atlantic Iberian and Moroccan birds all average appreciably smaller with shorter wing length and shorter tarsus. Among the 'Atlantic' populations themselves there are no real differences in structure, although birds from País Vasco appear to show a rather deep bill by comparison, at least as heavy as in *michahellis*, which is remarkable given the smaller overall size of these birds and because birds from Asturias, which is only slightly further west, on average seem to have the most slender bill of all. The sample size from the latter region is very small, however, and no clear differences in bill depth are evident between birds from País Vasco and those from Galicia.

Head streaking

Compared with nominate *michahellis*, adult Yellow-legged Gulls from the Atlantic region tend to show more head streaking in autumn. This is especially true for Azores Gull, which regularly exhibits a hood of strong streaking that is restricted to the head and that covers the forehead, lore and chin. Often, the malar area is distinctly streaked. In other populations, the head streaking is usually not so intense, although a few birds from the Canary Islands, Madeira and even Galicia can show a very similar strong hood, so this character seems not restricted to the Atlantic islands. We have seen several birds in Galicia with such a head pattern; since their mantle colour was the same as in the local Yellow-legged Gulls, these were probably just local birds. In addition, a few colour-ringed birds born in Asturias have shown rather strong streaking not just around the eye but also on forehead, lore and malar area (although not the chin/throat). However, most have shown some streaking on hindneck too, making the hood look less neatly demarcated than in Azores Gull. Such birds were young adults when sporting such a head pattern, in their fifth- or sixth-cycle. Even subadult *michahellis* can show a hood, though only rarely so (plate 409). Along the Iberian Atlantic coast, head streaking can be much more extensive than in *michahellis*, reaching far down onto the lower

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404 Azores Gulls / Azorengeelpootmeeuwen *Larus michahellis atlantis*, adult, Terceira, Azores, 21 February 2015 *(Chris Gibbins)*. In addition to their dark, slaty-grey upperparts and deep yellow leg colour (in breeding plumage), adult Azores also typically show extensive black at base of wing-tip (just visible here below tertials). **405** Azores Gull / Azorengeelpootmeeuwen *Larus michahellis atlantis*, adult, Azores, 15 October 2016 *(Asier Aldalur)*. In autumn, head streaking typically forms isolated hood that does not reach down to lower neck area and that covers entire head including area around bill base. A few birds are already white-headed by this time of year though. **406** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, adult, Azores, 14 October 2016 *(Asier Aldalur)*. Although autumn birds often show eye-catching head pattern, identification can be problematic since outer primaries are still growing and primary pattern is therefore incomplete. Note, however, that dark 'shin pads' still remain on tarsus of this bird. **407** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, adult, Terceira, Azores, 18 February 2015 *(Peter Adriaens)*. Nearly one out of every two birds lacks grey base on outer web of p8. There is usually only one white mirror, black spot on p4, and grey tongue on underside of p10 is very short.

neck, where it may even form a brown 'shawl' (plate 414). Some adult birds from Atlantic Iberia may retain head streaking until February, i.e. much longer than in *michahellis* and birds from the Azores, which both often become white-headed by November.

Iris

As already noted by Dubois (2001), the iris of adult Azores Gull is often slightly paler than in *michahellis*, sometimes even whitish. However, some birds in the Canary Islands, Madeira, Morocco and the Iberian Atlantic coast can show a similarly pale iris. Nominate *michahellis* shows a yellow iris, sometimes with dark pigmentation. Differences are (very) subtle though, and we did not score the iris colour in our sample of birds.

Upperparts

Kodak grey scale values of the upperparts of all groups studied are shown in table 3. Adult birds from the Azores have clearly darker grey upperparts than nominate *michahellis*; their upperparts can be nearly as dark as in British Lesser Black-backed Gull *L fuscus graellsii*, although with a more bluish tinge. Birds from the Canary Islands and Madeira are similarly dark, as are many birds from Portugal and Morocco. Birds from Galicia

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408 Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, adult, Terceira, Azores, 18 February 2015 *(Peter Adriaens)*. Another bird with typical primary pattern, showing only one white mirror on each wing, black spot on p4, very short tongue on p10 and full black outer web of p8 up to primary coverts. **409** Mediterranean Yellow-legged Gull / Mediterrane Geelpootmeeuw *Larus michahellis michahellis*, (sub)adult, Port de Palma, Mallorca, Balearic Islands, Spain, 4 November 2006 *(Maties Rebassa)*. Relatively paler, more bluish-grey upperparts, big white primary tips and location make this most likely nominate bird but its head pattern could certainly cause confusion with Azores Gull *L m atlantis*. **410** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, adult, with Lesser Black-backed Gull / Kleine Mantelmeeuw *L fuscus*, Ares, Galicia, Spain, 19 November 2007 *(Antonio Guttierez)*. Ringed as pullus near Xove, Galicia; at time of photograph, it was young adult (in its fifth-cycle). Note very extensive streaking on head and neck. **411** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, adult, Sagres, Portugal, 8 November 2018 *(Peter Adriaens)*. Birds wintering in mainland Portugal can show extensive head streaking, though it tends to be sparser and more diffuse around bill base (as can be seen on chin of this bird) and often extends down on neck.

and Asturias, Spain, show more intermediate upperparts coloration, overlapping with darker examples of nominate *michahellis*. Contra Olsen & Larsson (2004) and Olsen (2018), their upperparts do not appear paler in the field; rather, when ringed adult *michahellis* turn up in Galicia, it is often apparent that the local Yellow-legged Gulls appear subtly darker. By contrast, adults from Cantabria and País Vasco in northern Spain look rather pale, not much darker than British Herring Gull *L argentatus argenteus* and overlapping with paler nominate *michahellis*.

Primary pattern

Details of the primary pattern of adult birds throughout the Atlantic and Iberian region are shown in table 5. Birds from the Azores show the most extensive black on the outer primaries. Most of the adult Azores Gulls (94%) in our sample lacked a white mirror on p9, most showed some black pattern on p4 (78%) and, importantly, nearly half showed an entirely black outer web on p8. In adult *michahellis* throughout the entire Mediterranean region, only 19-26% lacked a white mirror on p9, only 24-38% showed some black on p4 and in only one bird (0-1%) the outer web of p8

TABLE 5 Frequencies of different wing-tip features of adult Yellow-legged Gulls *Larus michahellis* included in our analysis; values show percentage of sample birds showing each feature. For sample sizes, see table 1.

feature	category	pattern	illustration	Azores	Canary Islands	Madeira	Berlengas (Portugal)	Morocco	North-western Spain	Eastern Spain	Gibraltar	Eastern Mediterranean
p10	A	tongue > 1/2 of length of feather		0%	0%	0%	1%	0%	0%	1%	10%	10%
	B	tongue 1/3-1/2		4%	33%	39%	12%	56%	28%	38%	40%	41%
	C	tongue < 1/3		93%	67%	61%	84%	44%	71%	61%	50%	49%
	D	no pale tongue		2%	0%	0%	2%	0%	1%	0%	0%	0%
p9	A	no mirror		94%	61%	78%	73%	63%	43%	26%	23%	19%
	B	mirror confined to one web		5%	23%	10%	22%	31%	33%	31%	26%	37%
	C	mirror on both webs		2%	16%	11%	6%	6%	24%	43%	52%	44%
p8	A	entire outer web black to primary coverts (PC)		42%	9%	1%	10%	0%	3%	1%	0%	0%
	B	black reaches PC only along outer edge		17%	11%	10%	32%	13%	6%	5%	4%	1%
	C	black falls up to 1/3 of length of feather short of PC		41%	76%	85%	56%	75%	83%	80%	76%	74%
	D	black falls >1/3 to 1/2 short of PC		0%	4%	3%	2%	13%	7%	13%	20%	25%
	E	black falls > 1/2 short of PC		0%	0%	0%	0%	0%	0%	1%	0%	0%
p4	A	no black		23%	45%	55%	64%	44%	78%	72%	71%	62%
	B	black spot on only one web		73%	54%	41%	35%	50%	18%	26%	26%	33%
	C	both webs but broken		3%	1%	4%	1%	6%	3%	2%	3%	5%
	D	complete band		3%	0%	0%	0%	0%	1%	0%	0%	0%
p3	A	no black		95%	100%	100%	100%	100%	100%	100%	100%	100%
	B	black spot on only one web		5%	0%	0%	0%	0%	0%	0%	0%	0%

was fully black up to the primary coverts. The combination of these characters is useful for identification, and is discussed in the next section.

The lack of a white mirror on p9 is also a notable feature in many adult Yellow-legged Gulls from Madeira and Portugal and, to a lesser extent, the Canary Islands, while about half of the birds from Madeira and the Canary Islands showed some black on p4.

Although there is considerable overlap, the primary pattern of adult Yellow-legged Gulls from northern and north-western Spain differs subtly from nominate *michahellis* in that more birds (43%) lack a white mirror on p9 and in more birds (71% versus 49-61%) the grey tongue on the inner web of the outermost primary (p10) is short, ie, less than one-third of the length of the feather. Andres Bermejo (in litt) found a similar result in that 49% of his sample of 111 adult birds from north-western Spain lacked a white mirror on p9.

It is worth noting that we could not find any clear differences in primary pattern between the birds from País Vasco in our sample and those from Galicia, while birds from Portugal differed from the Basque birds by being less likely to show a white mirror on p9 and a bit more likely to show some black pattern on p4. Garner & Quinn (1997), quoting Teyssèdre (1983), also pointed out slight differences in primary pattern between birds from Portugal, País Vasco and nominate *michahellis* from southern France. However, their notes are puzzling since they describe the opposite of our results, as they report Basque birds averaging more extensive white on p9 than *michahellis* and tending to show a longer grey tongue on p10. Their description was copied by Olsen & Larsson (2004) and Olsen (2018) but we have no way of confirming it; in our samples the Basque

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412 Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, adult, Sagres, Portugal, 7 December 2016 *(Peter Adriaens)*. This bird shows quite extensive black on outer primaries including black spot on p4 but, on outer web of p8, black colour does not reach primary coverts. **413** Presumed hybrid gull / vermoedelijk hybride meeuw *Larus*, adult, Rotterdam, Zuid-Holland, Netherlands, 31 March 2014 *(Merijn Loeve)*. This colour-ringed bird (ringed as adult) was breeding in harbour of Rotterdam annually in 2014-16. Its primary pattern is very similar to typical Azores Gull *L michahellis atlantis* but note thin sliver of grey at base of p8. **414** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, (sub)adult, Sagres, Portugal, 27 November 2016 *(Peter Adriaens)*. A few birds wintering in mainland Portugal show impressive brown 'shawl' on neck, which, together with pale, staring iris, may even be reminiscent of American Herring Gull *L smithsonianus*. **415** Putative 'Macaronesian' Yellow-legged Gull / mogelijke 'Macaronesische' Geelpootmeeuw *Larus michahellis*, subadult, with adult Yellow-legged Gull / Geelpootmeeuw in background, Cariño, Galicia, Spain, 4 January 2012 *(Antonio Gutierrez)*. This bird still showed signs of immaturity, such as extensive black on primary coverts and alula, which means that large amount of black on outer primaries cannot be considered diagnostic of Azores Gull *L m atlantis* here. Still, head pattern with restricted hood that is solidly dark in front of eye, as well as slaty-grey upperwings clearly darker than in local Yellow-legged Gulls seem to indicate this subspecies or at least seem to point to Macaronesian origin.

birds (n=89) tend to show a little more black on the outer primaries than *michahellis*, not less (see table 5). A sample of 26 adult birds from Cantabria (Andres Bermejo in litt) further corroborates our results (half of his sample birds lacked a mirror on p9, and 85% showed only a short grey tongue on p10). In another sample of 155 adult birds from País Vasco (Arrizaga et al 2008), 34% were found to lack a mirror on p9, ie, again a bit more frequently than in *michahellis*. The problem seems to be that Teyssèdre's (1983) data from País Vasco was based on only 12 birds, too few for meaningful conclusions, but several subsequent works have relied on these data so the 'myth' has perpetuated.

Our small sample of adult Yellow-legged Gulls from Morocco (n=33) suggests that the primary pattern may be rather similar to that of *michahellis*, with 56% of these birds showing a similar, distinct grey tongue on p10 (longer than one-third of the length of the feather). However, the Moroccan birds less frequently show a white mirror on p9 (absent in 63%) and more often have some black pattern on p4 (in 56%).

The primary pattern of birds in the Gibraltar-

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416 Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, first-cycle, Azores, 10 October 2016 *(Asier Aldalur)*. In early autumn, first-cycle birds are often less characteristic than during winter since their greater coverts are still fresh, with barred pattern. In this respect, they do not differ from Madeiran, Canarian or even Iberian birds, which may complicate identification. As an aside, this bird shows advanced moult: not only scapulars but also many median and lesser coverts have been replaced. **417** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, first-cycle, Terceira, Azores, 21 February 2015 *(Chris Gibbins)*. During winter, wing-coverts become worn and look uniformly brown, almost oil-stained. Note also zebra-like barring on flank (above legs). **418** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, first-cycle, Terceira, Azores, 16 February 2015 *(Peter Adriaens)*. Note dusky head with dark forehead and distinct streaking on throat, dark scapulars, chestnut colour of wing-coverts which lack clearly barred pattern, and breast pattern recalling that of Eurasian Scops Owl *Otus scops*. Like this bird, Azores can look quite dainty and short-legged. **419** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, first-cycle, Terceira, Azores, 21 February 2015 *(Peter Adriaens)*. Very typical bird with dusky forehead and lore, streaked throat, dark, messy pattern on scapulars, uniformly chestnut brown wing-coverts, 'zebra pattern' on flank, and smooth grey-brown colour on upper mantle.

Ceuta area appears to be identical to that of nominate *michahellis* but our sample from this region was small (n=32). Our sample from western Andalucía (Cádiz, Huelva) was too small (n=10) to analyse these birds separately, so we included them with our Spanish sample from the Mediterranean region. However, it is interesting to note that the primary pattern of these 10 birds was clearly more similar to *michahellis* than to the breeding birds from Portugal (despite the latter being geographically closer).

In summary, if we rank the populations we have sampled from most extensive black to least extensive black on the outer primaries, the order is roughly as follows: ***1*** Azores; ***2*** Madeira, Canary Islands and Portugal; ***3*** Morocco; ***4*** northern and

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420 Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, first-cycle, with Lesser Black-backed Gull / Kleine Mantelmeeuw *L fuscus*, first-cycle, Terceira, Azores, 16 February 2015 *(Peter Adriaens)*. This photograph allows interesting comparison. Lesser Black-backed in background shows whiter lore and chin and more regular pattern on scapulars than Azores in front. It also has fresher, darker wing-coverts with bold white fringes, and lacks vertical barring on flank. **421** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, first-cycle, Terceira, Azores, 17 February 2015 *(Peter Adriaens)*. In flight, upperwing looks almost uniformly dark, with very dark greater coverts and inner primaries, and tail often shows broad dark band and fairly extensive dark spotting on outermost tail-feather. This bird has unusually pale and neat pattern on scapulars. **422** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, first-cycle, Terceira, Azores, 21 February 2015 *(Chris Gibbins)*. Very typical individual with plain brown upperwings, broad dark tail band, extensive dark centre on scapulars, brown head and uniformly grey-brown collar around neck. **423** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, first-cycle, Terceira, Azores, 17 February 2015 *(Peter Adriaens)*. Underwing is usually very dark brown. Note distinct, dense 'zebra barring' on rear flank of this bird.

north-western Spain; ***5*** eastern Spain/Gibraltar (ie, western Mediterranean region); and ***6*** eastern Mediterranean.

Moult

Yellow-legged Gulls in the Mediterranean region have a rather early breeding season and their annual complete moult is therefore also earlier than in many other European gulls. Egg-laying starts in early April and the primaries are moulted between late April and early November. In the Atlantic region, however, the climate is different, and breeding generally starts later, which also delays the complete moult. In the Azores and Madeira, egg laying starts from mid-April at the earliest, while in Portugal, Cantabria and País Vasco it is even later,

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424 Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, first-cycle, Vestmannaeyjar, Iceland, 1 May 2010 *(Omar Runolfsson)*. Vagrant bird found almost 3000 km from Azores and constituting northernmost accepted record of this taxon. It shows classic dusky brown head (including dark lore and chin), dark, heavily marked underparts including breast, plain chestnut brown wing-coverts and extensive dark scapular centres. Other photographs of this bird revealed dark inner primaries, white tail with contrasting, well demarcated black band, and a few moulted wing-coverts in right wing. **425** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, first-cycle, Madeira, 15 January 2016 *(Merijn Loeve)*. Differs from typical Azores Gull *L m atlantis* in its overall slightly paler brown plumage with paler lore, throat and breast. Lack of bold dark centre on scapulars is also good feature here. **426** Yellow-legged Gull *Larus michahellis*, first-cycle, Sagres, Portugal, 30 November 2016 *(Peter Adriaens)*. Ringed as juvenile near Olhão, southern Portugal. Head and underparts quite dark but note barred pattern on greater coverts and neat, regular pattern on scapulars. **427** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, first-cycle, Sagres, Portugal, 31 October 2018 *(Peter Adriaens)*. Another dark bird from mainland Portugal, with rather dusky face and heavily marked underparts, including *Otus* owl-like pattern on breast. Differs from typical Azores Gull *L m atlantis* in bold white fringes on wing-coverts, neat, regular anchor pattern on scapulars, and more widely spaced vertical barring on rear flank.

from late April to early May.

In Portugal and Galicia, it is not unusual to see adult birds still completing their primary moult in late November or even early December (own data; Teyssèdre 1983, Pons et al 2004, Arizaga et al 2012). In Morocco, some adult birds start moulting their innermost primary in late April but moult must vary considerably, because in late November some Yellow-legged Gulls have still not completed the moult of the outermost primaries (own observations). In the Canary Islands, which are further south than all other breeding areas, egg laying starts in early April as in *michahellis*, and moult is similar to this taxon (Aldalur 2016).

Identification

Characteristic features of adult Azores Gull

In this section, we focus on traits that might allow vagrant Azores Gulls to be identified. Even though adult Azores Gulls have the most extensive black on the primaries of all Yellow-legged Gulls and have rather distinctive head streaking in autumn, birds of this age class are among the most difficult to identify in a vagrant context, due to wide overlap with other populations and due to the limited number of useful features.

In autumn, the head pattern, with strong streaking creating a restricted hood and the neck being clean white, may be the first thing that catches the eye. Importantly, the lore and forehead often show dark markings, and the malar area is streaked. Still, some birds from the other Atlantic islands and from Atlantic Iberia can look similar, and even the occasional (subadult) *michahellis* can look hooded (cf plate 409). Therefore, as many features as possible should be considered when dealing with a bird outside of its normal range, including upperparts and primary pattern. The following combination of features in the primary pattern provides a firm basis for identification: ***1*** no grey tongue or just a short one on p10 (shorter than one-third the length of the feather); ***2*** no white mirror on p9; ***3*** fully black outer web on p8 up to primary coverts (ie, no grey visible at base of outer web); and ***4*** black spot or band on p4. This combination was shown by 37% of the adult Azores Gulls in our sample and by only one bird from other populations (from the Canary Islands).

An additional character worth mentioning is that Azores Gull seems to be the only Yellow-legged Gull in which the adults sometimes show a black mark on p3. Nevertheless, this remains rare in Azores Gull, shown by only 5% in our sample; thus, one would be lucky to encounter such a bird out of range.

When combined with head streaking, primary pattern should help to secure identification. However, there is something of a 'catch 22' in that head streaking is only present in autumn (August-November), when birds are actively moulting their primaries. This means that in many birds not all features will be visible; in autumn one or two crucial primaries may be missing and, conversely, when all primaries are in place, head streaking is lost. This problem can make it impossible to distinguish a genuine Azores Gull from the odd Yellow-legged Gull from the Canary Islands with maximum amount of black, unless a black mark on p3 is also present. Fortunately, the proportion of birds from the Canary Islands with maximum amount of black on primaries is very small (less than 2%) and the population appears to be largely sedentary (see 'Movements and vagrancy'). Another difficulty is that correct ageing is essential, because subadult Yellow-legged Gulls can show very adult-like plumage but with more extensive black on primaries and with stronger head streaking. Still, subtle features will usually give away the age of such birds, such as bold black markings on the bill, black pattern on the alula, thick black streaks on the primary coverts or brown pattern on a few wing-coverts. It should be noted that adult Yellow-legged Gulls from the Atlantic region regularly show black shaft streaks on the primary coverts but these are only thin.

In bad light, when the colour of the upperparts cannot be judged accurately, separation from British Lesser Black-backed Gull can be problematic but, in normal conditions, the upperparts of adult Azores Gull will always look slightly paler with a more bluish tinge, and in flight the wing-tip contrasts more strongly with the rest of the upperwing and, particularly, underwing. Autumn head streaking usually differs in that in Azores Gull it is concentrated on the head and face while the neck is clean white. The body is often a little bulkier, more robust, and the white scapular and tertial crescents tend to be slightly narrower than Lesser Black-backed Gull.

Characteristic features of other 'Atlantic' gulls in adult plumage

Most adult Yellow-legged Gulls from populations other than the Azores cannot safely be told from nominate *michahellis* in a vagrant context, although a few birds from Atlantic Iberia show such an extensive brown 'shawl' on lower hindneck that their origin could at least be suspected (plate 410 and 414). Also, it is worth mentioning that a handful of birds from the Canary Islands (2%), Madeira (2%) and Portugal (6%) sported a combination of three features in the primary pattern that was not shown by any of the adult nominate *michahellis* in our samples: ***1*** no white mirror on p9; ***2*** completely black outer web on p8; and ***3*** black spot or band on p4.

Hybrid problems

Adult hybrid 'yellow-legged' gulls have been documented in breeding colonies in Belgium and the Netherlands (Cottaar 2004, Adriaens et al 2012, Cottaar et al 2019). They are assumed or have been proven to be the result of mixed breeding between European Herring Gull *L argentatus* and

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428 Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, first-cycle, Sagres, Portugal, 8 November 2018 *(Peter Adriaens)*. Ringed as pullus on Berlenga Islands, Portugal, illustrating how heavily marked tail base can be in Atlantic-Iberian region. Note that separation of such birds from Lesser Black-backed Gull *L fuscus* in the field can be nearly impossible. **429** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, first-cycle, Galicia, Spain, 6 December 2015 *(Pierre-André Crochet)*. Dark individual but with barred pattern on greater coverts, distinct white fringes on wing-coverts, and regular pattern on scapulars. **430** Mediterranean Yellow-legged Gull / Mediterrane Geelpootmeeuw *Larus michahellis michahellis*, first-cycle, Sagres, Portugal, 26 November 2016 *(Peter Adriaens)*. Ringed as pullus near Malaga, southern Spain, and should therefore be considered nominate *michahellis*. Note dainty and elongated structure with short legs though, quite similar to Lesser Black-backed Gull *L fuscus*. Note also dark shin pads on tarsus. **431** Lesser Black-backed Gull / Kleine Mantelmeeuw *Larus fuscus*, first-cycle, Daytona Beach, Florida, USA, 11 February 2019 *(Will Chatfield-Taylor)*. Bird showing some similarities to Azores Gull *L michahellis atlantis*, such as extensive streaking on head including forehead, lore and throat, and *Otus* owl-like pattern on breast. There are clear differences too, however, like barred greater coverts, distinct white fringes on many wing-coverts, regular pattern on scapulars, and more widely spaced barring on rear flank.

Lesser Black-backed Gull or between Yellow-legged and either of these two species, with Yellow-legged x Lesser Black-backed Gull being the most frequent one. This hybrid combination can be problematic with regard to the identification of adult Azores Gull, since such hybrids have shown a mantle colour intermediate between that of the two parent species, bright yellow legs, bright red orbital ring, large red gonys spot and extensive black on the outer primaries. Hybrids have also been documented backcrossing with Lesser Black-backed and successfully rearing young. Mixed pairs of Yellow-legged and Lesser Black-backed have also been reported from the Berlengas, Portugal, and Galicia (Paterson 1997) but descriptions or photographs of the offspring of these birds

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432 Lesser Black-backed Gull / Kleine Mantelmeeuw *Larus fuscus*, first-cycle, Portimão, Portugal, 10 October 2018 *(Carl Baggott)*. Bird ringed as pullus in Longford, Ireland. It is included here as example of pale end of variation: very pale new scapulars, whitish head with dark eye mask, one newly moulted median covert, and worn tertials and inner greater coverts make this bird extremely similar to Yellow-legged Gull *L michahellis*. It has retained a few juvenile scapulars but that can also be the case in Cantabrian or Portuguese Yellow-legged Gulls at this date. **433** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, early second-cycle, São Miguel, Azores, 10 August 2005 *(Pierre-André Crochet)*. In summer of their second calendar-year, many Azores acquire uniform dark brown plumage without any grey on upperparts. Head is still very brown and typically darkest in front of eye. Note also extensive dark centres on scapulars, as well as zebra-like barring just above legs. Some birds show even darker greater coverts than this individual, lacking any pale barring. Other populations of Yellow-legged Gull *L michahellis* do not normally become this dark and uniform. **434** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, second-cycle, Terceira, Azores, 20 February 2015 *(Chris Gibbins)*. When moult to second winter plumage has finished, plumage is variable and shows lots of overlap with other populations of Yellow-legged Gull *L michahellis*. However, birds like this one, showing isolated brown belly patch in combination with isolated hood of head streaking and uniformly dark greater coverts (at most with minimal white peppering along edges), can be assumed to be from Azores population. Note also dark 'shin pads' in this bird. **435** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, second-cycle, Terceira, Azores, 20 February 2015 *(Peter Adriaens)*. Very typical individual with plain dark brown greater coverts, isolated brown belly patch, concentrated streaking on head (heaviest in front of eye and on throat), dark 'shin pads' on tarsus, and dark slaty-grey upperparts.

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436 Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, second-cycle, Terceira, Azores, 17 February 2015 *(Peter Adriaens)*. Note belly patch and extensive head streaking. Greater coverts form rather solid dark wing-panel. **437** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, second-cycle, Terceira, Azores, 18 February 2015 *(Chris Gibbins)*. Another bird showing typical combination of features on head, belly and greater coverts. Inner greater coverts show only minimal white peppering, while outer ones are solidly dark. Underwing very dark, and tail showing extensive black band. **438** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, second-cycle, Terceira, Azores, 21 February 2015 *(Chris Gibbins)*. Brown greater coverts of this bird show minimal white peppering. **439** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, second-cycle, Terceira, Azores, 17 February 2015 *(Peter Adriaens)*. Note same features as in plate 434-438, including solid dark panel on greater coverts.

have not been published. In addition, mixed breeding between Yellow-legged Gull and Armenian Gull *L armenicus* has been proven in central Turkey (Liebers & Helbig 1999), and the hybrid offspring may theoretically resemble Azores. However, Armenian Gull tends to show a dark iris, and nominate Yellow-legged Gull has rather dull yellow iris, so hybrids can be expected to show a slightly darker eye colour than adult Azores. Armenian has a restricted, eastern range in the Western Palearctic, and its offspring is probably not very likely to reach the Atlantic region. Mixed breeding of Yellow-legged Gull with Caspian Gull *L cachinnans* and European Herring Gull is known from Poland (Neubauer et al 2010) but such hybrids do not show dark grey upperparts nor extensive black on outer primaries and so do not really match Azores.

We examined the primary pattern of 37 adult hybrid gulls breeding in colonies in Belgium and the Netherlands and found that none showed the characteristic combinations of features discussed for 'Atlantic' Yellow-legged Gulls. All showed some grey at the base of the outer web of p8 and/

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440 Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, second-cycle, Canary Islands, 16 January 2010 *(Eric Didner)*. From this angle, this bird with its isolated brown belly patch, isolated hood and very dark underwing looks identical to Azores Gull *L m atlantis*. Other photographs, however, revealed distinct white fringes to outer greater coverts, as well as rather bold white spotting on inner. For this reason, we feel that it is more likely local bird than vagrant from the Azores, although we admit that difference is subtle here. **441** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, second-cycle, Madeira, 16 January 2016 *(Merijn Loeve)*. Although dark head of this bird might suggest Azores Gull *L m atlantis*, it clearly differs from identifiable types in plate 433-438 because neck and breast are heavily marked and brown pattern on belly is not isolated (as streaking continues up to breast). Note also white barring on one inner greater covert, as well as broad white tips to outer ones. **442** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, second-cycle, Sagres, Portugal, 30 November 2016 *(Peter Adriaens)*. Bird ringed in its first-cycle near Olhão, Portugal, in December 2015. In autumn or early winter of their second-cycle, many Portuguese birds show only limited grey on upperparts. This, together with their rather brown underparts can make them quite similar to European Herring Gull *L argentatus* but they usually show bold, rounded dark spots on lesser coverts (as in this bird, on outer feathers). **443** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, second-cycle, Sagres, Portugal, 5 November 2018 *(Peter Adriaens)*. Rather dark bird, which overlaps with some Azores Gulls *L m atlantis* in plumage, although that taxon usually shows less white in wing-coverts. Still, birds like this are one of reasons why only second-cycle Azores of type shown in plate 434-439 can be safely identified in vagrant context.

or a white mirror on p9. One bird from the Netherlands wearing a white leg ring with black inscription 9.8 (plate 413) looked most similar to Azores Gull but still sported a thin sliver of grey at the base of the outer web of p8. Only a few of these hybrids have been documented in autumn and winter so far but those that exhibited head streaking differed from Azores in that streaking extended onto the neck. However, one colour-ringed bird from the Netherlands (green AH6) already sported

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444 Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, third-cycle, Azores, 10 October 2016 *(Asier Aldalur)*. In vagrant context, identification of third-cycle Azores is generally not possible but birds with blackish bill, isolated hood of head streaking, dark slaty-grey upperparts and dark 'shin pads' on tarsus can readily be assumed to be from Macaronesian islands. This combination of features is not common, however. **445** Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis*, third-cycle, Azores, 15 October 2016 *(Asier Aldalur)*. Note blackish bill, very dark hood, whitish iris and dark brown greater coverts of this bird. Aged by adult-like inner primaries. **446** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, third-cycle, Lanzarote, Canary Islands, 4 February 2017 *(Juan Sagardia)*. This bird also shows combination of extensive head streaking, large amount of black on bill, slaty-grey upperparts and dark 'shin pads'. Iris is very pale. Compared with Azores Gulls *L m atlantis* in plate 444-445, loral area and chin are whiter, and only distal half of bill is black. Other Canarian and Madeiran birds are trickier though, and suggest that there may be complete overlap with birds from Azores. **447** Yellow-legged Gull / Geelpootmeeuw *Larus michahellis*, third-cycle, Sagres, Portugal, 20 November 2016 *(Peter Adriaens)*. Bird with blackish bill and dark 'shin pads' but with dark iris and lacking strong dark hood. Upperparts also slightly paler grey than in most Macaronesian birds.

an immaculate white head and neck on 24 December 2001 and again on 10 January 2003 (Adriaens 2003), ie, early in winter like Azores. An additional, relatively helpful feature is that the white tertial and scapular crescents of hybrids tend to be a little wider than in Yellow-legged, sometimes obviously so.

In a North American context, hybridisation between Lesser Black-backed Gull and American Herring Gull *L smithsonianus* has been documented from Appledore, Maine, USA (Ellis et al 2014), and such hybrids are sometimes referred to as 'Appledore Gulls'. Not much is known about this type of hybrid, since few of them have been ringed or studied on their breeding colonies but, as can be expected of the offspring of two parent species

with heavy head streaking, they seem to show extensive streaking on the neck from late autumn (October) to February. They also appear to moult late, with the occasional bird still growing outer primaries in January. The primary pattern may be helpful: in a sample of 25 adult putative hybrids (22 on eBird.org and three that we observed in Newfoundland, Canada), none showed the characteristic combination of features that we discussed for 'Atlantic' Yellow-legged Gulls, and nearly half of them showed a prominent white tongue tip on p7 – a trait presumably inherited from the American Herring parent, and usually absent in Azores Gull. Leg colour in these hybrids seems to be variable, often being a strange mix of pink and yellow but in some birds it is bright yellow. As in European hybrids, the white tertial and scapular crescents may appear slightly wider and more prominent.

First-cycle birds

First-cycle Azores Gulls look quite different to first-cycle *michahellis*, especially after the post-juvenile moult, when the pattern of the new scapulars adds to the difference. Contra Dubois (2001), Olsen & Larsson (2004) and Olsen (2018), we found no Azores that retained a largely juvenile plumage into the winter; our observations indicate that birds start replacing their scapulars (and wing-coverts) in July-August and finish in October-November, ie, slightly later than *michahellis*. In a sample of 151 first-cycle Azores from October, 150 were actively moulting their scapulars and 88 were also replacing wing-coverts. In our February visit to the Azores, most showed a full set of new scapulars.

First-cycle Azores Gulls show darker plumage overall than *michahellis*, with dusky face, solid brown ear-patch, solid grey-brown hindneck and upper mantle (which may even recall American Herring Gull), and rather dark brown breast and belly. In fresh juvenile plumage, the greater wing-coverts tend to be more densely barred than in *michahellis*. From October onwards, these feathers wear to a very uniform brown colour and then become a typical chestnut brown, often looking as if they are oil-stained. Unlike *michahellis*, these feathers tend to lack pale fringes when no longer fresh. Some birds show a dense pattern of dark streaks and crossbars on the breast, almost recalling that of some owls (notably Eurasian Scops Owl *Otus scops* or Eastern Screech-Owl *Megascops asio*). After the post-juvenile moult, the scapulars usually show a messy, mixed pattern with various extensive dark centres to many of these feathers, quite unlike the regular anchor pattern seen in first-winter *michahellis*. From October onwards, some birds show bold, 'zebra-like' vertical barring on the rear flank; these 'black-and-white' bars contrast against the relatively plain brown belly and fore flank. *Michahellis* often shows vertical barring too but it is generally thinner, paler, more widely spaced and does not contrast as much. Many Azores (but far from all) show dark 'shins' (dark bars across the tarsus) throughout the entire first-cycle, which are seen in few *michahellis* only (but see plate 430). Some birds already show a somewhat pale, amber-coloured iris during their first winter. In flight, first-cycle Azores generally shows a broader black tail band than *michahellis*, and some birds even show dark barring or spotting at the base of the outermost tail-feather (unlike *michahellis*, which usually has a clean white base). Rump and uppertail-coverts can look barred (versus spotted in *michahellis*). Note that nominate *michahellis* typically combines solid, heart-shaped spots on uppertail-coverts with a clean white tail base, a combination that is less common in other populations of Yellow-legged Gull (especially Azores Gull) and in Lesser Black-backed Gull (see figure 3). The underwing-coverts usually look darker brown than in *michahellis*, and the inner primaries tend to be darker too, with very little colour difference between inner and outer webs.

First-cycle Yellow-legged Gulls from the Canary Islands and Madeira are generally more like *michahellis* than Azores Gull, although they frequently show a broad black tail band (sometimes with extensive pattern on outermost tail-feather too) and rather dark underwing-coverts. They usually show a pale head and neck like *michahellis*, pale fringes on the wing-coverts, and contrasting, regular anchor pattern on the post-juvenile scapulars. However, a few birds from Madeira show confusingly dark plumage with dusky head and neck, plain tawny brown wing-coverts or dark, messy pattern on replaced scapulars. Such birds will still differ from typical Azores in their pale chin and throat, lacking the prominent dark streaking. Also, it is very rare to see these unusual features combined in one bird; usually birds from Madeira with dark, messy scapular pattern will show pale fringes on their wing-coverts, and birds with dark, plain wing-coverts are likely to show a regular anchor pattern on scapulars.

First-cycle birds from Portugal are rather variable. Many are similar to *michahellis* but slightly smaller, with shorter legs and more gently rounded head; some are darker though, with dark, streaked head, and may, in fact, look so similar to Lesser

FIGURE 3 Comparison of tail patterns of first-cycle Azores Gull / Azorengeelpootmeeuw *Larus michahellis atlantis* (first column; *Chris Gibbins*), Yellow-legged Gull / Geelpootmeeuw *L michahellis* (second column; all nominate *michahellis* except for bottom bird, which was photographed in southern Portugal; *Peter Adriaens*) and Lesser Black-backed Gull / Kleine Mantelmeeuw *L fuscus* (third column; *Peter Adriaens*)

Black-backed Gull that they become practically impossible to tell from this species in the field. While most have a rather *michahellis*-like tail pattern, some do show a broad black band and extensive barring on outermost tail-feathers (plate 428). They can show boldly spotted rump and uppertail-coverts and may also show an *Otus* owl-like pattern of crossbars on the breast. However, even the darkest birds still differ from typical Azores Gull in several features: poorly streaked chin and throat, cleaner, more regular pattern on the post-juvenile scapulars, prominent pale fringes to the wing-coverts, and thinner, less contrasting barring on rear flank (if present). For the sake of completeness, we should also mention that some first-cycle birds from Portugal show a pale plumage with neatly barred greater coverts that is similar to European Herring Gull – although the inner primaries are darker. From experience, we can safely say that trying to find a first-cycle European Herring Gull in Portugal is hard work!

Like those in Portugal, first-cycle Yellow-legged Gulls from northern and north-western Spain are variable, though dark individuals seem to be much rarer, especially along the Cantabrian coast. Some birds, even pale individuals, show a broader black tail band than *michahellis*, and the outer tail-feathers can be extensively barred.

An important pitfall for Azores Gull is the appearance of dark first-cycle Lesser Black-backed Gulls. Such birds can show a dark, densely streaked head and thus suggest Azores. Size and shape are not always helpful since there is a rather wide overlap in structure between Yellow-legged Gulls of the Atlantic region and Lesser Black-backed. However, dark individuals of the latter species will usually still differ from typical Azores in the following ways: ***1*** the face does not usually look as dusky due to paler lore, forehead, malar area and chin (first-cycle Lesser Black-backed tends to have whitish feathers around the bill base, and its head pattern looks streaked rather than solidly dark); ***2*** even when worn, the juvenile wing-coverts and scapulars generally retain white fringes and therefore do not give an oil-stained impression (many birds show prominent pale barring on the greater coverts, which is something that Azores mainly shows in fresh juvenile plumage); ***3*** the breast is often paler than in Azores; a few birds show the *Otus* owl-like barred pattern but most look streaked or show V-shaped dark marks; ***4*** after the post-juvenile moult, the scapulars may show large dark centres but usually in a neatly arranged, regular pattern; in dark individuals, replaced scapulars and wing-coverts tend to show a greyish or dark beige base colour; ***5*** only relatively few birds show vertical barring on rear flank and, if present, the dark bars tend to be thin and widely spaced; also, the belly is only rarely uniformly dark; and ***6*** the post-juvenile moult is somewhat later than in Azores and less extensive; it is rare to see birds with replaced wing-coverts in August-September.

As an aside, it is worth noting that some Lesser Black-backed Gulls acquire very pale, even whitish scapulars in their post-juvenile moult, with only thin dark anchors (see plate 432). Such birds, if they are a bit bulkier than average and show a rather strong bill, may not be distinguishable from Ibero-Atlantic Yellow-legged Gulls, since plumage features including tail pattern are of no real use. Plumage wear and extent of moult will often differ but it is not a good sign if one has to rely on moult as the only identification feature. Moreover, Yellow-legged from northern and north-western Spain can retain several juvenile lower scapulars well into their first winter, sometimes even into April of their second calendar-year. Also, a few colour-ringed Portuguese birds have been documented with a nearly full set of juvenile scapulars in mid-November (Carl Baggot in litt).

Due to their overall dark, uniform plumage, first-cycle Azores Gulls could conceivably be confused with American Herring Gull. However, their vent, undertail-coverts and uppertail-coverts always look contrastingly white, the underparts are more coarsely marked, the inner primaries are rather uniformly dark (lacking the bold dark subterminal spots of American Herring), and the tail looks more contrastingly patterned. The bill usually looks darker throughout the whole first-cycle, more blackish and often with a thin sliver of pink at the base of lower mandible only. The legs often retain dark shins all throughout the first-cycle. The post-juvenile moult progresses more rapidly and often includes some wing-coverts (though a few American Herring also appear to replace a small number of wing-coverts during their first winter, as we have observed).

First-cycle Kelp Gull *L dominicanus* may also be quite similar to Azores Gull and could present a pitfall in some regions (eg, along the Atlantic coast of Morocco (Cape Gull *L d vetula*), or in south-eastern USA (nominate *L d dominicanus*)). Kelp, however, has a different structure with heavier bill and bulbous gonys. The body is bulky and the wings are so broad that in many standing birds the secondaries become visible below the greater wing-coverts. Even in fresh juvenile plumage, the face is usually whitish and contrasts against the brown mask around the eye. During the first-cycle,

head and breast quickly wear to whitish. Although the wing-coverts are rather uniformly dark, they do not give an oil-stained impression. The tail is often all dark. The flank lacks the barred pattern shown by many first-cycle Azores. After the post-juvenile moult, the scapular pattern is variable but generally regular (not messy) and dark, sometimes already blackish.

The appearance of first-cycle hybrids is not really known. European hybrids are not likely to cause more problems than Lesser Black-backed Gull, since their plumage is not likely to be darker than this species. Four first-cycle hybrids and backcrosses were shown in Adriaens et al (2012); these birds did not really suggest Azores Gull. The situation might be worse in North America, however, where mixed pairing between American Herring Gull and Lesser Black-backed could theoretically produce something that resembles Azores. In this context, the zebra-like barring on the rear flank, sooty face, plumage wear, extent of post-juvenile moult, as well as the colour and pattern of the wing-coverts all become critical features. As far as we know, only two such hybrids of known origin have been photographed during their first-cycle: both had been colour-ringed on Appledore Island, Maine, one with code F02 and one F07 (photographs on www.gull-research.org). F02 was photographed in March of its first-cycle and looked rather like Lesser Black-backed (although with whitish base colour to scapulars, making it very similar to Yellow-legged Gulls from the Ibero-Atlantic region); F07 was photographed as a fresh juvenile in August and appeared intermediate between both parent species. It did not really suggest Azores since its face already looked pale, the brown patch behind the eye was small, the tertial centres had distinctly jagged edges, and the wing-coverts showed broad pale fringes.

Second-cycle birds

Only a proportion of second-cycle Azores Gulls can be identified with confidence out of range. Separation from typical Mediterranean *michahellis* is rather straightforward, and in most cases they are also rather distinct from birds belonging to other populations. Nevertheless, there is a significant degree of overlap and only birds showing certain diagnostic combinations can be identified safely.

The following text concentrates on second-cycle birds over the autumn and winter period (approximately October to April) but first we need to point out the distinctiveness of moulting birds in summer. Formally, birds enter their second-cycle once the innermost primary has been dropped in April-May of their second calendar-year. The complete moult is well advanced by July, such that most of the feathers they had over the winter (their first winter of life) will have been replaced. At this time (July-August), the patterns on these new feathers make second-cycle Azores Gull look very dark, heavily marked on the head and body including upperparts, and brown overall (plate 433). The forehead, lore and chin often remain distinctly streaked, unlike in other Yellow-legged Gull taxa of the same plumage type, and obvious whitish barring on wing-coverts or scapulars is usually absent. The scapulars often show a dark, messy pattern. Birds from Madeira and the Canary Islands tend to look paler at this time of year, with whitish face, rather streaked hindneck (instead of blotchy or uniform brown as in Azores Gull), some whitish barring on wing-coverts and more regular barring on those scapulars that are not plain grey yet. Our collection of photographs of immature birds from the Canary Islands and Madeira from the summer period is small, admittedly, but it suggests they do not acquire the very dark plumage that 'first-summer' Azores show. The first British record of Azores was of such a dark second-cycle bird, which lingered for several months in Cornwall, England, over the summer and autumn of 2008 (Elliott 2008).

In early autumn, birds undergo a partial moult which is critical from an identification perspective, as it is one of the things that creates the distinctive appearance of many second-cycle Azores Gulls over the winter period. In very simplified terms, there are four 'types' of second-cycle Azores. These types, and their frequencies, are illustrated in figure 4: ***type 1*** birds with a distinct hood *and* belly-patch, dark brown wings and grey saddle; based on our own observations and photographs from the Azores in February, this type is numerically dominant (c 60% of all birds photographed); ***type 2*** a variable group of birds that lack both hood and belly patch; they are typically rather scruffy looking, with no striking features – they can look rather like European Herring Gulls or Cantabrian birds and so are quite different from type 1; ***type 3*** birds that show *either* a belly patch or a hood but not both and so are rather intermediate/show mixed characters; and ***type 4*** advanced, clean-looking birds with bright bare parts; overall, they resemble typical Mediterranean birds.

While we are not suggesting that Azores Gulls have 'morphs' or 'forms' *sensu stricto*, grouping them broadly in these four types is a helpful way to approach identification of out of range birds; the

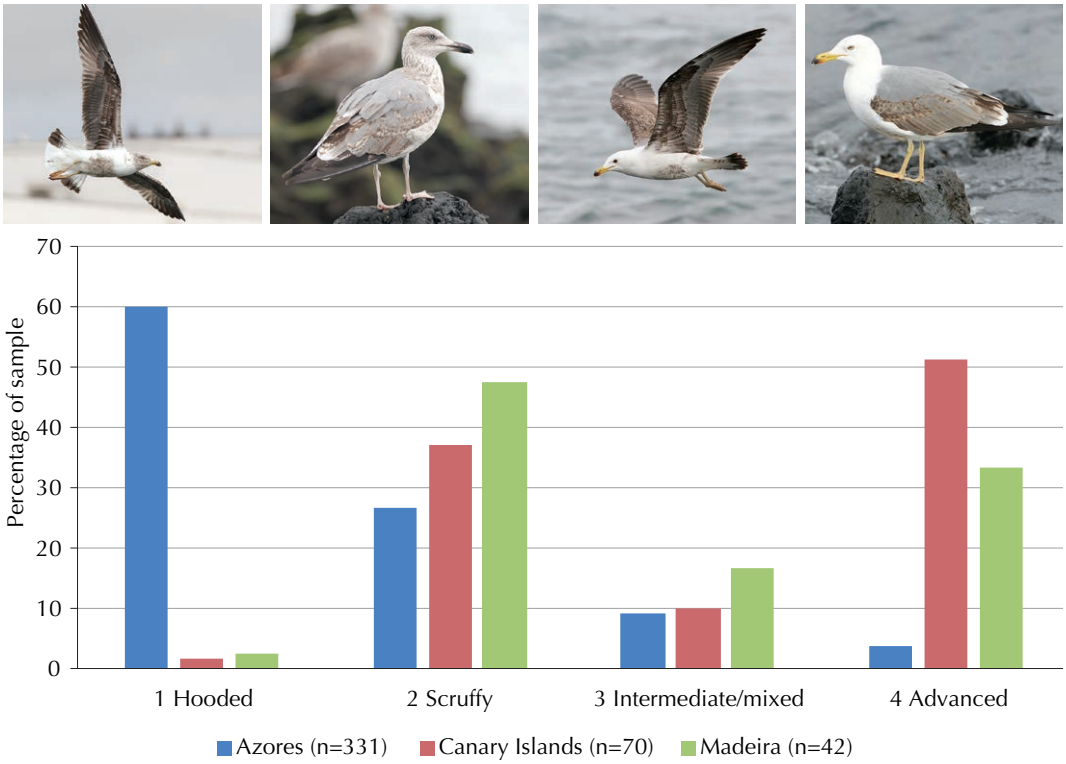

FIGURE 4 Frequency of different plumage types in second-cycle Azores Gull *Larus michahellis atlantis* relative to birds from Canary Islands and Madeira. Sample of Azores Gull consists of total of 331 birds photographed in February; samples of birds from Canary Islands and Madeira were taken from photographs supplied to us by numerous photographers, all from winter period (November-March). Photographs included here are all examples drawn from sample from Terceira, Azores, in February 2015 *(Chris Gibbins)*. ***1*** classic type of *atlantis* with both hood and 'Dunlin patch'; ***2*** resembles European Herring Gulls *L argentatus* or some Yellow-legged Gulls *L michahellis* from north-western Spain; ***3*** shows either hood or 'Dunlin patch' but not both; ***4*** matches Yellow-legged Gulls from other populations, appearing unstreaked, and typically having bright bare parts and much grey on upperparts.

search image for second-cycle Azores should be type 1, as these are the only ones that show diagnostic combinations of features.

The following features, when combined, are diagnostic for second-cycle Azores Gull: ***1*** dark hood of streaks restricted to the head and including the chin and throat; ***2*** isolated, dark 'Dunlin *Calidris alpina* patch' on belly; and ***3*** solid, dark brown band on greater wing-coverts. The hood is clearly demarcated from the neck, with a very sharp border. It is separated from the dark belly patch by an area of unmarked white on the breast. The dark hood tends to accentuate the pale (typically steely-grey or silver) eye. The dark belly markings appear as a solid, isolated patch. The last important and characteristic feature of Azores is an extensive dark panel on the wing formed by the plain brown greater coverts. Pale notches or barring are almost absent. It is quite common for such birds to have a few grey feathers on the inner greater coverts (two to three feathers) but these tend not to contrast too much with brown ones as they are darker grey than other taxa and often have a distinct brown cast. This extensive brown panel, when combined with the fact that the inner primaries tend to be very dark (see below) creates an impression on flying birds that is unlike *michahellis*, namely that of a uniformly brown upperwing, contrasting with a grey saddle. When added to the hood and belly patch, the combination of features can be very distinctive.

Second-cycle Yellow-legged Gulls from the Mediterranean should not present any serious identification problems in relation to type 1 Azores Gull; they are not hooded and do not have a belly patch. The problem comes with certain birds from

the other Atlantic islands and to a lesser degree some from Portugal and north-western Spain. As shown by figure 4, type 2 and 3 birds occur in populations in the Azores and Canary Islands with equal frequency and so such birds are not those to look for. The relative frequency of type 1 and 4 birds is, however, reversed: around half of all birds from the Canary Islands are type 4 ('advanced') whereas only c 5% of Azores are like this, and while most from the Azores are type 1, birds with such a pattern are rare amongst populations from the Canary Islands. The sample from Madeira is interesting, as it suggests that birds from here are a little more like Azores, in that advanced types are less frequent than on the Canary Islands and Azorean-like type 1 birds are a little more frequent. Samples sizes are, however, rather small and it would be good to investigate this intermediacy in greater detail with a better sample. Nevertheless, the overriding message is that c 1-2% of second-cycle birds from the Canary Islands and Madeira will have both a hood and belly patch and so it is critical that the greater covert pattern of a suspected vagrant matches Azores.

In addition, there are some other plumage features shown by many Azores Gulls that can be used to support identification, though as they are shared with some birds from other populations they are not in themselves critical either way (ie, the presence of a hood, belly patch and dark wing-panel would override these).

Upperwing
The inner primaries have a strong brown cast on most Azores Gulls. Some have a slight grey cast, but these feathers are only rarely as contrastingly clean grey as seen in typical Mediterranean *michahellis*. Brown inner primaries can be shown by the other populations of Yellow-legged Gull, however.

Underwing
Very often looks uniform and dark overall, strikingly so for anyone familiar with Mediterranean *michahellis*. Nevertheless, the pattern is extremely variable in all populations and should not be used as a firm identification criterion.

Bare parts
Dark areas on the front of the tarsus are a feature of first-cycle Azores Gull and in fact these 'shin pads' are regularly also present in second-cycle birds. However, they occur in other Yellow-legged Gull populations of this age class too so are of no real significance for identification.

Other features
Other features that we looked at, such as the presence of a pale tongue on p10, tail pattern, bill colour, pattern of longest undertail-coverts, number of brown tertials, and the number of grey greater coverts all appeared too variable to be of any use in the identification process.

The appearance of typical, type 1 Azores Gulls is distinctive and should easily rule out Lesser Black-backed Gull, which also shows slightly darker, slaty-grey upperparts from its second-cycle on. Hybrids in this plumage are, again, poorly known but are unlikely to show the distinctive combination of features described above. A second-cycle backcross from Zeebrugge, West-Vlaanderen, Belgium, looked identical to Lesser Black-backed (Adriaens et al 2012), and a second-cycle hybrid Lesser Black-backed x American Herring Gull from Appledore Island appeared intermediate between its parents (Ellis et al 2014). This was the bird with code F02 that was also photographed during its first-cycle (discussed earlier). In its second-cycle, it showed extensive brown spotting on the underparts (including breast), somewhat paler head, dense brown barring on uppertail-coverts, pale inner primaries, and some obvious, pale vermiculations on greater coverts – all unlike the typical type 1 Azores.

Third- and fourth-cycle birds
Subadult Azores Gulls (third- and fourth-cycle) are the most difficult age group to identify, since their primary pattern has not fully developed yet and their plumage features overlap completely with birds from the Canary Islands and Madeira. On current knowledge, most birds of this age class cannot be identified safely, at least not to the exact island group. Some (a small minority – see below for percentages) appear distinct from the mainland populations, although more research may be needed into the variation of the subspecies *lusitanius*.

In autumn (August-December), many third-cycle Azores Gulls show distinct dark head streaking forming a well-demarcated hood, while the neck is often mainly white. However, such a hood is also shown by some birds from the Canary Islands, Madeira, Galicia and even the odd nominate *michahellis* (plate 409). By winter, the head becomes whiter due to a partial body moult.

On the Macaronesian Islands as a whole, a small proportion of subadult birds show an eye-catching combination of features, namely: ***1*** dark streaking on head, including forehead, lore and

TABLE 6 Results of sonagram analysis of long calls in various Yellow-legged Gull *Larus michahellis* populations; see section Material and methods for meaning of abbreviations in headings. Given are mean and range (for H5 only mean).

location	FFm	DFm	FFm = DFm	nH	H5 (mean)	Dist
Galicia	1.27 (0.7-1.7)	1.60 (1.1-3.7)	63%	5.37 (3-9)	0.37	0.93 (0.4-1.5)
Portugal	1.19 (0.6-1.7)	1.54 (1.2-2.4)	57%	6.70 (4-10)	1.09	0.84 (0.4-1.5)
Madeira	1.49 (1.2-1.8)	2.35 (1.3-3.9)	50%	6.25 (5-9)	0.75	0.74 (0.5-1.0)
Azores	1.08 (0.5-1.7)	1.77 (1.1-3.9)	38%	7.38 (4-13)	1.03	0.63 (0.4-1.1)
Morocco	1.20 (0.8-1.5)	1.67 (1.2-2.5)	33%	8.67 (5-13)	0.67	0.63 (0.4-1.0)
Canary Islands	0.97 (0.6-1.7)	1.76 (1.3-2.3)	8%	7.75 (5-10)	1.17	0.61 (0.5-0.8)
south-western Spain	0.92 (0.7-1.6)	1.53 (1.3-1.8)	9%	8.36 (6-11)	1.18	0.60 (0.4-1.0)
nominate *michahellis*	0.66 (0.5-1.1)	1.45 (1.1-2.8)	7%	8.47 (6-14)	1.60	0.54 (0.4-0.7)

chin, well demarcated from the white neck; ***2*** dark grey upperparts (slightly darker than *michahellis*); ***3*** blackish bill; and ***4*** dark 'shin pads'. This combination was shown by c 9% of the subadult Azores Gulls in our photograph collection, 9% of birds from Madeira and 5% of birds from the Canary Islands. We did not find it in the other Yellow-legged Gull populations. A few birds with all of these features combined have been photographed in Galicia; since they differed from local birds in not just one but multiple features, it seems justified to consider them vagrants from Macaronesia.

Trying to decide which birds with the above combination are from the Azores and which from Canary Islands/Madeira is probably impossible. In the latter, at most half of the bill seems to be blackish, while in birds from the Azores this colour averages more extensive, but this is a subtle difference and may be more variable than our data suggests. Note also that an extensively blackish bill can be found in all Yellow-legged Gull populations, including subadult nominate *michahellis*.

Voice

Teyssèdre (1983, 1984) demonstrated clear differences in the long call of adult Yellow-legged Gulls from País Vasco compared with nominate *michahellis*. Simply put, the birds from País Vasco she recorded sounded much more like European Herring Gull. Compared with *michahellis*, the number of harmonics in the sonagrams of Basque birds was consistently lower, the fundamental was clearly higher, and the fifth harmonic was absent or weak. In other words, the calls sounded clearer, higher-pitched, and far less nasal than in *michahellis*. We had access to only few recordings from northern Spain (two from País Vasco and one from Asturias) but these corroborate the results from Teyssèdre (1983, 1984): their sonagrams show only four to five visible harmonics, an FFm of 1.2-1.6, an empty space where the fifth harmonic should be, and more vertical distance between the harmonics (Dist = 0.9-1.2). In addition, their DFm is equal to FFm.

Table 6 shows the results of our sonagram analysis for all other populations of Yellow-legged Gull. The long call of *michahellis* is characterized by a low fundamental, a high number of harmonics (up to 14), a clear H5, and little vertical distance between the harmonics. The DFm is only rarely equal to FFm. The call sounds fairly deep, nasal, and quite like Lesser Black-backed Gull.

In the other populations, the long call sounds more or less intermediate between that of *michahellis* and birds from País Vasco. Birds from the Azores and Canary Islands have rather variable long calls, some sounding similar to *michahellis* and others sounding higher pitched and less nasal, so recalling Basque birds or even European Herring Gull. Birds from Galicia and Portugal (Berlengas, Peniche, Lisbon, Sagres) sound similar to birds from País Vasco (ie, high FFm, few harmonics, large Dist), though a bit more variable, sometimes slightly deeper or slightly more nasal (eg, more prominent H5 in birds from Portugal). The same is true for birds from Madeira, surprisingly. Birds from south-western Spain (Cádiz region, close to Gibraltar) sound very similar to *michahellis*, although slightly higher pitched (higher FFm value). The sample from Morocco is probably too small to allow firm conclusions (only three recordings) but it may be worth mentioning that, although these few birds have rather high pitch, they sound as nasal as *michahellis* (mean nH = 8.67).

In terms of the core focus of this paper, the overall message from this analysis is that the long call of adult Azores Gull offers no staring clues for identification, but that it is interesting to consider the regional variation in calls throughout the whole Ibero-Atlantic region from a taxonomic standpoint.

Discussion

Taxonomic relations between Yellow-legged Gull taxa

It is prudent to use multiple lines of evidence to help assess the taxonomic relations between the gull populations included in this paper. Thus, the following discussion attempts to link our analysis of phenotypic traits and vocalisations to studies of population genetics. Interestingly, several genetic studies have been carried out on Iberian and Atlantic Yellow-legged Gulls but, due to different methodology and different samples, they have reached somewhat different conclusions and have not (yet) led to a well resolved phylogenetic tree.

Liebers et al (2001) and Sternkopf et al (2010) examined mitochondrial DNA (mtDNA) of all populations of Yellow-legged Gull except for those from the Canary Islands. According to their data, all Ibero-Atlantic populations share many haplotypes with nominate *michahellis* but these haplotypes occur with different frequencies. Some gene flow was found between these two groups, however. All Ibero-Atlantic populations differ significantly from each other in mtDNA, with the exceptions being Madeira clustering with Morocco, and the Azores clustering with Galicia. Birds from Portugal (sampled from the Berlengas) have distinct mtDNA, different from Galicia. Gene flow between birds from Galicia and Mediterranean *michahellis* seems limited. Hence, the mtDNA does not reflect the current taxonomic borders of the different populations. Birds from the Azores appear to be genetically more closely related to birds from Galicia and even to *michahellis* from the Mediterranean, rather than to birds from Madeira and Morocco. MtDNA data suggests a significant divide between 'northern *atlantis*' (Azores, Galicia) and 'southern *atlantis*' (Madeira, Morocco). Birds from Gibraltar are considered *michahellis*; their mtDNA does not differ from birds from the French Mediterranean coast, although it does show significant differences from the populations in Italy and Malta.

Pons et al (2004) compared birds from northern Spain (País Vasco and Galicia) with birds from the Mediterranean. They found no significant differences in mtDNA between these populations but some limited differences in nuclear DNA (nDNA). They suggested recognizing the Atlantic Iberian population as a distinct subspecies, *L m lusitanius* (after Joiris 1978).

Arizaga et al (2006) looked at nDNA of Yellow-legged Gulls from northern Spain (Gipuzkoa, Biscay and Asturias) and compared it with birds from the Balearics (nominate *michahellis*). Their results suggested little genetic variation between these four populations, those from País Vasco (Gipuzkoa and Biscay) being most similar and grouping together, and the other two populations showing more variability. Only the birds from Gipuzkoa differed significantly in their nDNA from Balearic *michahellis*. They concluded that there is still substantial gene flow along the northern coast of Spain.

More extensive work on genetics is currently being done by a team of Spanish and French researchers. The results are still very preliminary and may be subject to change. They have not been published yet but were presented at the 2018 International Gull Meeting in Bulgaria (Arizaga 2018). Their sample includes birds from the Mediterranean region, northern and north-western Spain, Portugal, south-western Spain (including Gibraltar), Morocco, Canary Islands, Madeira and Azores, with analysis focusing on both mtDNA and nDNA. The preliminary results suggest that three groups can be distinguished on the basis of nDNA: a Mediterranean group, a northern Spanish group (from País Vasco to Galicia), and a Macaronesian group, which also includes the Atlantic coast of Morocco. Birds from Portugal and south-western Spain (including Gibraltar) seem to have rather intermediate DNA and could be assigned to either the Mediterranean or northern Spanish group.

Genetics are only one part of the puzzle though, and we hope that they can be combined with our data on phenotype (not just of adult but also immature birds) and voice. The common message from these three lines of evidence is that variation appears to be largely clinal and so it is difficult to draw the line between the various populations. Our personal interpretation of all the current data on Ibero-Atlantic birds is that: ***1*** the birds in the Azores are the most distinct population of Yellow-legged Gull, at least in plumage; ***2*** there is a separate population of Yellow-legged Gulls along the Atlantic coast of Spain and Portugal, with relatively distinct adult plumage, voice, biometrics and nDNA; this group shows clinal variation, ranging from adult birds with relatively paler upperparts and most distinctive long call in País Vasco and Cantabria to adult birds with relatively darker upperparts and more variable long call in Portugal; ***3*** birds in the Gibraltar area appear very similar to nominate *michahellis;* and ***4*** birds in Morocco, the Canary Islands and Madeira all seem rather intermediate and so are difficult to assign to any subspecific group. While the nDNA of the latter three

populations appears very similar to that of Azores Gull, the mtDNA and phenotypic appearance paint a somewhat different picture and make it difficult to include Azores Gull with the other two Macaronesian and the Moroccan populations.

None of these populations seem distinct enough from *michahellis* to warrant full species status but a classification into three subspecies certainly makes sense to us: ***1*** nominate *michahellis* in the Mediterranean region and further north and east up to and including Gibraltar and possibly south-western Spain (Mediterranean Yellow-legged Gull); ***2*** *atlantis* confined to the Azores (Azores Gull); and ***3*** a third subspecies in Atlantic Iberia. Such a classification raises the question of what name to use for the latter. The name *lusitanius* is available but it was used to describe the Portuguese population (Joiris 1978), which differs subtly from the Cantabrian/Basque birds in morphology, nDNA and voice. The description by Joiris (1978) was very brief, lacking in detail, partly incorrect, and did not include photographs or drawings. It was based on field observations only, not skins. No type specimen was collected. Still, this name is the first one used to describe this local population and therefore has priority. We could consider *lusitanius* a subspecies showing clinal variation in the colour of the upperparts of adult birds and in voice along the Iberian Atlantic coast. A specimen like MNCN 2557 from Suances, Cantabria, preserved at Museo Nacional de Ciencias Naturales (Madrid, Spain) could then become the type. The type specimen of the subspecies *atlantis* was collected on Fayal, Azores, in March 1922 (Dwight 1922).

The other populations (group ***4***) are difficult to assign to any subspecies since in morphology, genetics and voice they appear to be intermediate. Should they go with Azores Gull or with *lusitanius*? Olsen (2018) states that birds from Madeira and the Canary Islands are 'almost identical' to nominate Yellow-legged Gull. Our analysis shows that they are rather intermediate in plumage and voice, and this accords broadly with the genetic data. It is therefore hard to make a strong case either way about where they should be placed. Our personal view is that these birds may simply be part of one or two intergradation zones, like for example many European Herring Gulls in the Netherlands, Denmark and Germany can be considered intergrades between *argenteus* and *argentatus*.

Other taxonomic hypotheses are possible too, of course, and we welcome other views and interpretations of the data, especially from taxonomists. We look forward to further results of the colour-ringing projects and the genetic research that are currently being undertaken by French, Portuguese and Spanish ornithologists.

Movements and vagrancy

On the one hand, our analysis of the appearance and voice of Yellow-legged Gull populations has not shed any strong new light on their taxonomic relations – the evident complexity and resulting uncertainties in the purely genetic studies pervade interpretation of the phenotypic and vocalisation data we have presented. On the other hand, we have been able to isolate a set of 'safe' features that can be used to identify Azores Gull, and point to others which, although often used to support identification, do not stand up to critical scrutiny. In turn, these safe and unsafe features allow us to say something about reports of out-of-range Azores.

Although ringing data suggest that the Atlantic and western Iberian Yellow-legged Gulls are generally resident, there are indications that some birds may wander, especially those from the Azores population. In the Azores, 332 pulli have been colour-ringed since 2017, and none have been observed outside of this island group so far (Aldalur 2019). However, Moore (1996) reported a total of five first-cycle Yellow-legged that followed sea-going vessels for considerable distances between the Azores and mainland Portugal over the course of eight years. One bird followed the ship all the way from the Azores to Madeira; another stayed with the ship for 1120 km when it returned from the Azores to Portugal. One bird followed the ship for 670 km from Madeira towards the Portuguese mainland, and another one did the same for 720 km. In addition, in September 2012 a first-cycle Azores Gull was photographed standing on the bow of a research vessel 1600 km south-west of the Azores. In the Canary Islands, at least 350 pulli have been colour-ringed on Gran Canaria since 2010 (Gutierrez 2012, Aldalur 2016), and 233 pulli have been colour-ringed since 2017 (Aldalur 2019). Several of these birds has been observed outside of the Canaries, but only in Dakhla Bay, Western Sahara. These were all immature birds (Xabier Remirez pers comm).

The Atlantic Iberian populations generally remain in the Iberian Peninsula all year, with immature birds (particularly first-cycle) covering somewhat greater distances than adults. However, colour-ring projects have shown that long distance movements are possible. For example, birds from the Berlengas, Portugal, have been seen in Britain (Gloucester, England; second-cycle), western France (Île d'Oléron, second-cycle) and Morocco (Oued Souss, two first-cycle birds) (Morais et al

1998). Birds ringed in Galicia have been reported from Morocco (two), Isle of Wight, England, and Den Helder, Noord-Holland, Netherlands (de Juana & García 2015). Yellow-legged Gulls ringed in País Vasco have been observed in Maine-et-Loire (five, all ages; Fossé 2019) and near Paris, France (adult; Thibaut Chansac pers comm), as well as in the Greater London area, England (third-cycle; Peter Alfrey). Birds from Tarifa, southern Spain, have been recovered in Morocco (four, including one as far south as the Agadir region) and Madeira (Cuenca & Delgado 2014).

Until 2019, there have been 15 records of 'Azorean Yellow-legged Gull' in Ireland, three in Britain, one in mainland Spain and one in Iceland (Hobbs & Irish Rare Birds Committee 2016, Hudson & Rarities Committee 2016, Gil-Velasco et al 2017; Omar Runolfsson pers comm). All of these birds have been accepted provisionally as 'showing characters of the Azorean form', without excluding the possibility of an origin from the Canary Islands or Madeira. Nine of the Irish records concerned adult birds, often returning to the same area for several years; the others were of subadult individuals. The British records included one second-cycle and two subadult birds, one of which was also observed in adult plumage in subsequent years. We did not have access to the full documentation of these Irish and British records and therefore cannot comment extensively on them. However, as already mentioned, the British second-cycle bird (Elliot 2008) looks like a typical, dark 'first-summer' type Azores Gull to us. The 2009 Oxfordshire bird certainly appeared to be of the Macaronesian type when it first appeared as a subadult (Lewington 2009) with its extensively blackish bill, streaked hood, dark shins and dark grey upperparts, which is typical of Macaronesian birds in general but does not allow pinpointing the exact origin (see the section on identification of third-cycle birds). This bird returned to the Midlands as an adult in subsequent years (Hudson & Rarities Committee 2016, Holt & Rarities Committee 2017) but we have not seen detailed photographs of its primary pattern. The Spanish bird was also a subadult of the Macaronesian type (and hence not necessarily Azorean). The Icelandic bird was a first-cycle and looks like a typical Azores Gull to us. Since this bird has not been officially published yet, a photograph of it is shown here (plate 424). Furthermore, we have seen photographs of several promising candidate Azores from mainland Portugal, eg, a second-cycle bird ('type 1') from Lagoa on 2 January 2010, and a first-cycle from Olhão on 18 December 2013, and also one possible candidate from north-western Spain, a first-cycle bird from A Coruña on 11 October 2004, which is currently being assessed by the Spanish rarities committee. Among the European records, the high proportion of (near-)adult birds is somewhat surprising, firstly because data seems to suggest that it is the immature birds that are more likely to wander, and secondly because these are generally the more difficult plumages in which to identify Azores – although it is true that a few subadults have a rather striking appearance and can at least be suspected to be of Macaronesian origin. In most cases though, identification of adult and subadult birds is complicated by extensive variation in *lusitanius*. Based on colour-ringed birds from Galicia and a few (unringed) nominate *michahellis* showing strong head streaking (see section on regional variation), it is clear that not every hooded bird is a true Azores, so care should be taken not to put too much weight on this character alone. Also, Portuguese adults can show as much black on the upperside of the primaries as Macaronesian birds.

In North America, Yellow-legged Gull has been considered a nearly annual vagrant to Newfoundland since 1995 (Howell et al 2014). Most records refer to adult birds, probably including returning individuals, with an additional few records of subadults. All are believed to be Azores Gulls. However, the photographs that we have seen of these birds do not show the full suite of characteristic features of this taxon, and we therefore cannot confirm their precise origin. In fact, we cannot even be sure that they are from the Macaronesian islands and not from Portugal, Galicia or Morocco. Elsewhere in North America, there have been two well-documented records of adult Yellow-legged from Quebec, Canada, and one from Washington DC, USA (Wilds & Czaplak 1994), but again the documentation does not allow positive identification as Azores in our opinion. As in Europe, the lack of records of younger birds is puzzling (although some may have been overlooked). Quite a few first-cycle and second-cycle Yellow-legged candidates have been documented from Florida, USA, and, especially, Texas, USA (c 35 individuals) but in the photographs that we have seen of these birds we find it impossible to exclude Lesser Black-backed Gull or, in some cases, hybrid Lesser Black-backed x American Herring Gull.

Summary and conclusions

Not all Azores Gulls can be identified safely. Our data suggest that around one third of adult birds have a combination of wing-tip features that make them identifiable (absent or very short tongue on

p10, no mirror on p9, fully black outer web on p8 reaching primary coverts, and black on p4). Birds with these features, darker upperparts and, at the right time of year, a hood of streaks should prove to be from the Azores. The dark plumage of first-cycle birds has been known for some time, and we provide some additional specific features to support descriptions from earlier literature. We estimate that approximately 50% of first-cycle Azores can be identified in a vagrant context. Second-cycle birds are problematic, especially because of variability and resulting overlap between birds from the various Macaronesian islands; the result is that only birds sporting a hood, 'Dunlin patch' and appropriately dark greater wing-coverts are safe to identify as Azores. For this age class, we would estimate that around 30-40% can be identified. Despite our best efforts, we have been unable to find any safe features for third-cycle (and subadult) Azores (although it is possible to recognize some birds of this age category as belonging to the Macaronesian population in general).

Olsen (2018) presented the most recent synthesis of large white-headed gulls. He gives Azores Gull a separate chapter and states that 'in all plumages they are different' (to Yellow-legged Gull). Although in fact no new detailed empirical analysis of its identification has been published since Dubois (2001), momentum seems to have been building in both the published literature and online for treating Azores as a full species. However, the evidence we have presented here (that the majority of adult and subadult birds appear not to be safely identifiable) rather contradicts this popular consensus.

Our scoring system for the wing-tip pattern of adult gulls was deliberately kept simple, to ease field application. This simplification may mean that it is rather too coarse to detect more subtle differences. Thus, while for the moment we suggest retaining Azores Gull as a subspecies of *michahellis* (albeit the most distinctive one), we recognize that more detailed work may add a different perspective.

We realize that readers probably expect identification criteria not only for Azores Gulls but also for birds from the Macaronesian population as a whole. However, this is fraught with difficulty, not only because the Canarian and Madeiran populations are much more similar to *lusitanius* and nominate *michahellis*, but also because the variation in *lusitanius* and Moroccan birds is extensive and still not fully known. This is an important point. While quite a few Azores Gulls – especially immatures – are distinctive and can be identified with confidence even in a vagrant context, the same cannot be said of birds from the Canaries/Madeira. We have already indicated that Portuguese adults can show as much black on the upper hand as birds from Macaronesia, and that they can sport quite heavy head streaking and dark grey upperparts. In their first-cycle, some Portuguese, Galician and probably Moroccan birds too show an overall very dark brown plumage, rendering the identification of first-cycle Canarian/Madeiran birds unsafe. Only birds combining many distinctive features, such as plain brown wing-coverts (looking 'oil-stained'), sooty face, streaked throat, dark breast, 'zebra barring' just above the legs, dark and messy scapular pattern, very dark underwing and plain dark inner primaries, can be identified as Macaronesian, but such distinctive birds should be from the Azores anyway. In second-cycle, birds of type 1 (hooded, and with isolated 'Dunlin patch') should be the focus of attention, since such birds seem to be very rare on the continent, if they occur at all. We have seen only one example, at Sagres, Portugal, on 27 November 2016, and this may have been a vagrant from Macaronesia. Type 1 birds are rather common in the Azores, making up 60% of second-cycle birds there, but not too many (perhaps only 30%) show the plain dark greater coverts needed to separate them from Canarian/Madeiran birds. If the pattern of the greater coverts can be disregarded for the Macaronesian population as a whole, then quite a lot of Macaronesian second-cycle birds can be identified in a vagrant context. More research into the variation of Moroccan birds and *lusitanius* is needed, especially in colour-ringed birds of known origin. For third-cycle birds, we have already suggested that a combination of blackish bill, dark hood, dark grey upperparts and dark 'shin pads' should indicate a Macaronesian origin, but that this combination is shown by only 5-9% of this age class.

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Samenvatting

Herkenning van Azorengeelpootmeeuw Hoewel Geelpootmeeuw *Larus michahellis* een vertrouwde soort is voor veel Europese vogelaars, is er nog steeds veel onduidelijkheid over het aantal ondersoorten en hun verspreiding. Is Azorengeelpootmeeuw *L m atlantis* beperkt tot de Azoren of komt deze zelfs tot op het continent voor? Hoe is die in het veld te herkennen? Is het een ondersoort of aparte soort? Bestaat er zoiets als een ondersoort *L m lusitanius*? Tot welke ondersoort behoren de vogels in Marokko?

Op deze vragen probeert dit artikel een antwoord te geven maar de nadruk ligt op de herkenning van Azorengeelpootmeeuw. Onze conclusie is dat alleen de vogels van de Azoren voldoende verschillen van de overige populaties Geelpootmeeuwen om in het veld te kunnen worden herkend. Volgens onze steekproef heeft ongeveer een derde van de adulte Azorengeelpootmeeuwen een uniek handpenpatroon, gekenmerkt door de combinatie van de (vrijwel) volledig zwarte basis van p10, geen witte spiegel op p9, de volledig zwarte buitenvlag van p8 (tot tegen de handpendekveren) en de zwarte tekening op p4. Exemplaren met dit handpenpatroon en erg donkergrijze bovendelen kunnen met zekerheid tot de Azorenpopulatie gerekend worden, zeker als ze ook nog eens de typische, zwaar gestreepte kopkap tonen na de zomerrui. C 50% van de eerstejaarsvogels is te herkennen aan het erg donkere verenkleed met effen donkere vleugeldekveren die met enige verbeelding zelfs onder de olie lijken te zitten, een donker gestreept gezicht (inclusief kin en keel), rommelig donker patroon op de schouderveren, zwaar getekende borst, brede zwarte staartband en vaak ook enige brede zwart-witte, verticale bandering op de achterflank (net boven de poten). Van de tweedejaarsvogels is 30-40% te herkennen aan een donker buikschild, gestreepte kopkap en effen donkere grote dekveren. Bij derdejaarsvogels is er te veel overlap in uiterlijk met de populaties op de Canarische Eilanden en Madeira om een vogel met zekerheid als Azorengeelpootmeeuw te bestempelen.

Op basis van verenkleed, afmetingen, geluid en DNA vormen de vogels van de Azoren weliswaar een opvallende groep maar wellicht niet uniek genoeg voor volwaardige soortstatus. Verder lijkt ook een afzonderlijk taxon aanwezig langs de noordelijke en westelijke kust van het Iberisch Schiereiland, van Baskenland tot het uiterste zuiden van Portugal. Deze populatie kan als ondersoort *L m lusitanius* worden beschouwd, hoewel het taxon slechts heel summier werd beschreven.

Geelpootmeeuwen in het zuidwesten van Spanje en in Gibraltar en Ceuta tonen vooral kenmerken van nominaat *L m michahellis*, hoewel meer onderzoek hier zeker wenselijk is. De populaties van de Canarische Eilanden, Madeira en Marokko vertonen veel intermediaire kenmerken tussen *atlantis* en *lusitanius/michahellis*, en lijken ons moeilijk in te delen bij een bepaalde ondersoort.

Het artikel gaat verder nog in op de dispersie van de verschillende ondersoorten op basis van ringgegevens en waarnemingen (ver) buiten het normale verspreidingsgebied.

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Scopoli's Shearwater collected in Faeroes in August 1877

Kent Olsen, Robert L Flood, Tereza Senfeld, Thomas J Shannon & J Martin Collinson

Until recently, Scopoli's Shearwater *Calonectris diomedea*, first described by Joannes Antonius Scopoli in 1769, was considered the nominotypical subspecies of the polytypic Cory's Shearwater *C borealis*. The taxonomic split of Scopoli's from Cory's was proposed by Sangster et al (1999) based on differences in genetic data, morphology and vocalisation. The split of the two taxa was not universally accepted at the time, although subsequently it has been adopted by Dickinson & Remsen (2013) and the International Ornithological Congress (IOC; Gill et al 2020).

The Natural History Museum of Denmark in København (NHMD) houses a specimen of *Calonectris* shearwater labelled Scopoli's Shearwater, collected in the Faeroes on 9 August 1877. The Danish rarities committee (Sjældenhedsudvalget – SU) follows taxonomic recommendations given by the IOC and evaluates records from the Faeroes. Thus, following the split, SU undertook a re-assessment of all Danish *Calonectris* shearwater records, including the aforementioned skin held at NHMD catalogued as Scopoli's (plate 448-451). Notes about the skin published in Danish state that the

448-449 Scopoli's Shearwater / Scopoli's Pijlstormvogel *Calonectris diomedea*, adult female (collected in Faeroes on 9 August 1877), Natural History Museum of Denmark, København, 1 March 2020 *(Kent Olsen)*

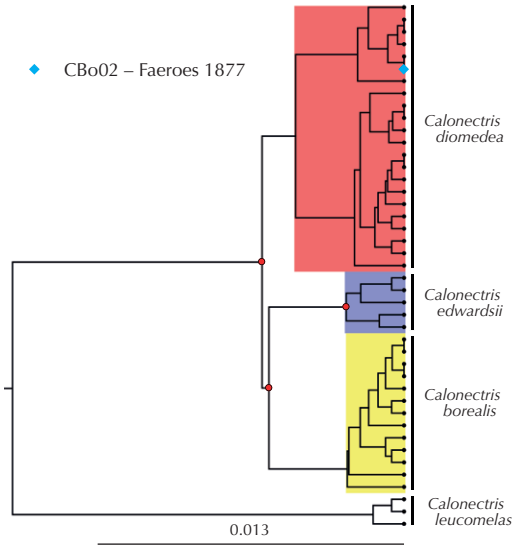

FIGURE 1 Maximum likelihood tree based on cytochrome b fragment, confidently placing Faeroese specimen (marked by blue diamond) within genetic diversity of other publicly available Scopoli's Shearwater *Calonectris diomedea* samples. Red dots: nodes with >95% bootstrap support.

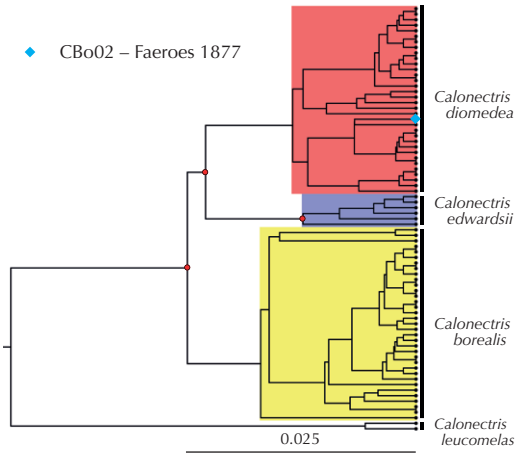

FIGURE 2 Maximum likelihood tree based on mitochondrial control region sequence, confidently placing Faeroese specimen (marked by blue diamond) within genetic diversity of other publicly available Scopoli's Shearwater *Calonectris diomedea* samples. Red dots: nodes with >95% bootstrap support.

specimen is an adult female that was shot in the Faeroes on 9 August 1877 (Andersen 1899). The NHMD specimen was originally identified as Great Shearwater *Ardenna gravis* (Andersen 1901) and included as such in the museum collection. The skin was re-identified and published as Scopoli's (Andersen 1899). Similar cases of re-identification of old shearwater skins are known from other natural history museum collections (eg, Flood et al 2020) and result from improved knowledge about the morphology of shearwater taxa and in recent times the separation of cryptic taxa by DNA testing.

Scopoli's Shearwater is an extreme rarity in north-western Europe, particularly north of south-westernmost France, with only two other records, both photographed off Scilly, England; one on 2 August 2004 (Fisher & Flood 2010) and one on 11 July 2019 (Flood & Fisher 2020). There are records for central Europe from Austria, Poland and Switzerland (Flood & Fisher 2020). The Faeroese specimen represents the northernmost record for Europe and possibly for the Atlantic Ocean.

Our study confirmed with confidence that the specimen concerns a Scopoli's Shearwater. The study involved DNA analysis, measurements and assessment of plumage aspect, and tracing the history of the specimen.

DNA analysis

A toepad sample was taken from the skin for DNA analysis (see appendix). Two mitochondrial fragments, one from the cytochrome b gene and one from the highly variable control region, were analysed. The Faeroese specimen control region sequence is identical to a number of Scopoli's Shearwater sequences, while being at least 3 base pairs (bp) and 9 bp different from Cory's Shearwater and Cape Verde Shearwater *C edwardsii*, respectively. At the cytochrome b locus, the Faeroese specimen is identical to the majority of Scopoli's reference sequences, and a minimum of 1 bp and 3 bp divergent from Cape Verde and Cory's respectively. A maximum likelihood tree was constructed for each gene, and in each case placed the Faeroese specimen confidently with other Scopoli's (figure 1-2). While the exact relationship between the three shearwater species is not reliably resolved with such short fragments, the Faeroese specimen nests deep within the *diomedea* (Scopoli's) clade.

Measurements

Kent Olsen measured the skin using calipers and his results agree with Andersen (1899). The biometrics largely support identification as a female Scopoli's Shearwater (table 1; sources cited in cap-

tion). The wing measurements fall in the central range for female Scopoli's, and outside of the ranges for male Scopoli's, male and female Cory's Shearwater and Cape Verde Shearwater. The tail measurement falls in the central range of female Scopoli's and the central range for female Cory's, but outside of the ranges for male Cory's and male and female Cape Verde. The bill measurement falls in the central range for female Scopoli's, and outside of the ranges for male Scopoli's, and male and female Cory's and Cape Verde.

Plumage

Field characters by which to differentiate the two taxa have been widely debated (Granadeiro 1993, Gutiérrez 1998, Camphuysen & van der Meer 2001, Howell & Patteson 2008, Robb et al 2008, Fisher & Flood 2010, Flood & Gutiérrez 2019). Recent advances recognise that the combination of three aspects of the underwing are the most important for separating Cory's Shearwater and Scopoli's Shearwater (Flood & Fisher 2020, Flood & Gutiérrez in prep):

1 Of greatest importance is the absence, or presence and length, of a white basal tongue running up the inner web of p10, measured as a percentage of the visible under primary. C 3% of 545 Cory's had a white tongue but with just one extreme outlier longer than 20%; c 70% of 462 Scopoli's had a white tongue longer than 20%. Thus, a white tongue longer than 20% may be considered diagnostic of Scopoli's.

2 Following Robb et al (2008), our study found that the great majority of Scopoli's have a single small or large dark spot or mark only in the outermost greater primary covert (gpc10). Some Cory's are the same but others have two large dark spots or marks, one in each of the two outermost greater primary coverts (gpc9 and gpc10). However, some Cory's have a single dark spot or mark like a typical Scopoli's but, importantly, very few Scopoli's have two dark spots or marks like some Cory's.

3 Typically, Scopoli's has fairly clean-looking underwing secondary coverts with largely unmarked lesser coverts; Cory's has dirtier looking underwing secondary coverts with more and denser dark markings mainly in the lesser coverts (overlap and reverse cases occur); a scoring system has been developed (Flood & Fisher 2020, Flood & Gutiérrez in prep).

Robert Flood and KO examined the plumage of the Faeroese skin. The wings were fixed to the body and it was not possible to fully examine the underwing secondary coverts without causing substantial damage to the specimen. The length of the white tongue on the inner web of p10 is 25%, (plate 451). While this measure is not particularly high, the key observation is that it is outside the range of Cory's Shearwater and within the range of Scopoli's Shearwater, thus strongly supporting identification as Scopoli's (Flood & Gutiérrez in prep). Of the two outermost greater primary coverts gpc9 and gpc10 in the underwing, there was a dark mark only in gpc10 (gpc9 unmarked; plate 450). This plumage character supports identification as Scopoli's.

Range, movements and vagrancy

The breeding range of Scopoli's Shearwater lies within the Mediterranean basin east of the Almería-

TABLE 1 Comparison of wing, tail and bill measurements (mm) of the Faeroese shearwater with Cory's *Calonectris borealis*, Scopoli's *C diomedea* and Cape Verde Shearwater *C edwardsii*. Data are: single measurements; or mean ± 1SD, range (sample size); or range (sample size). [1]Andersen (1899), [2]BWPi (2006), [3]Howell (2012), [4]Murphy & Chapin (1929). Additional measurements of the Faeroese shearwater: middle toe without claw 55.5 mm and tarsus 47.5 mm (Andersen 1899).

	Faeroese	Cory's Shearwater	Scopoli's Shearwater	Cape Verde Shearwater
wing	♀ 335[1]	♂ 361-367 (n=2)[2] ♀ 358±4.50, 347-363 (n=11)[2]	♂ 346±4.68, 339-351 (n=9)[2] ♀ 339±6.83, 330-347 (n=5)[2]	♂ 313.6±5.21, 298-321 (n=15)[2] ♀ 308.7±7.31, 299-319 (n=11)[2] ♂ 304.6±6.16, 287-322 (n=50)[4] ♀ 297.6±7.67, 282-317 (n=50)[4]
tail	♀ 133[1]	♂ 138, 145 (n=2)[2] ♀ 136±3.01, 131-141 (n=11)[2] 121-144[3]	♂ 130.0±1.00 (n=3)[2] ♀ 135.3±7.23 (n=3)[2] 117-135[3]	♂ 124.4±2.77, 121-130 (n=8)[2] ♀ 123.8±4.11, 120-129 (n=4)2 115-130[3]
bill	♀ 48[1]	♂ 55.5±1.73, 51-59 (n=52)[2] ♀ 52.8±1.85, 49-57 (n=60)[2] 50-60[3]	♂ 51.2±1.51, 49-55 (n=17)[2] ♀ 47.3±1.78, 45-50 (n=16)[2] 35-55[3]	♂ 44.0±0.75, 43.2-44.7 (n=8)[2] ♀ 44.4±1.16, 43.0-45.6 (n=4)[2] 40-45[3]

450 Scopoli's Shearwater / Scopoli's Pijlstormvogel *Calonectris diomedea*, adult female (collected in Faeroes on 9 August 1877), Natural History Museum of Denmark, København, 1 March 2020 *(Kent Olsen)*. Note that in outermost two greater primary coverts (gpc10 and gpc9; dashed outlines) there is dark mark only in gpc10 whereas gpc9 is unmarked. **451** Scopoli's Shearwater / Scopoli's Pijlstormvogel *Calonectris diomedea*, adult female (collected in Faeroes on 9 August 1877), Natural History Museum of Denmark, København, 1 March 2020 *(Kent Olsen)*. Dashed lines outline the white tongues, from right to left, in p10, p9 and p8 (difficult to capture in photograph of museum specimen). Note that length of white basal tongue running up inner web of outer three primaries measured as percentage of visible under primary falls in categories p10=25%, p9=40%, p8=40% (see main text for explanation).

Oran Oceanographic Front, with a small isolated outpost on the French Atlantic coast of Gironde (Mays et al 2006, Robb et al 2008, Flood & Gutiérrez 2019). The global population estimate is 141 000-223 000 breeding pairs (Defos du Rau et al 2015). Breeding colonies of Cory's Shearwater are found on north-eastern Atlantic islands with a small colony in the western Mediterranean Sea west of the Almería-Oran Oceanographic Front (Gómez-Días et al 2006, Genovart et al 2013, Flood & Gutiérrez 2019, Flood & Fisher 2020). The global population is larger than that of Scopoli's with an estimated 252 000-253 000 pairs (Brooke 2004). Hybridisation between the two taxa in the Mediterranean is rare (Flood & Gutiérrez 2019).

The majority of Scopoli's Shearwaters depart from the Mediterranean from mid-October, pass through the Strait of Gibraltar into the Atlantic late October/early November in large numbers, then move rapidly south, and return through the Strait mainly in February into March (de Juana & Garcia 2015). Birds undertake long-distance movements to the tropical and South Atlantic in the Angola and Canary Currents (Ristow et al 2000, González-Solís et al 2007, Ramos et al 2013). Cory's/Scopoli's Shearwaters frequent the eastern coast of South America mainly in May-November and some remain in the South Atlantic during the breeding season (Cardoso de Sousa et al 2005). Cory's/Scopoli's Shearwaters are occasional visitors to the south Caribbean Sea in September-October, including Colombia (Ruiz-Guerra & Cifuentes-Sarmiento 2010), Venezuela (Marín et al 2002) and Aruba (eg, Luksenburg & Sangster 2013). They are uncommon to fairly common in the Lesser Antilles in May-July (Howell 2012) and occasional in the Gulf of Mexico off Mexico (Brewer & Brewer 1997). Scopoli's likely occurs throughout the North American range of Cory's, although in much smaller numbers (Howell 2012). Both species are present off the eastern coast of the USA mainly in May-November, where roughly 5-10% in May/

June and 10-15% in August are Scopoli's (Howell 2012; based on rough scores of white tongues in the under primaries). However, Cory's occurs regularly off north-western Europe in June-October whereas Scopoli's is extremely rare here with just the three above mentioned records (mid-July to early August), meaning that Scopoli's from the eastern coast of the USA that subsequently continue to the Mediterranean Sea must follow a fairly direct or southern route.

Origin of specimen and history of its identification

Andersen (1901) documented several collected specimens of Great Shearwater in the Faeroes between 1875 and 1891. These included the Scopoli's Shearwater shot on 9 August 1877 and sent to NHMD by sysselmann Hans Christopher Müller. Andersen (1901) remarks that the date on which the bird was shot was 9 August and not 4 August 1877, indicating that the record had previously been published with the wrong date, although we were unable to locate such a publication. Provenance of the Faeroese shearwater was accepted when identified as Great Shearwater and when re-identified as Scopoli's Shearwater. The fact that the bird was added to the collection at NHMD on 11 April 1878 simply as a Great Shearwater reinforces the credibility of the record. Furthermore, Andersen (1901) comments that the shearwater was 'a female with a brood patch, very skinny'. This strongly suggests that Müller received and skinned the bird. Müller was considered a most reliable source of information by ornithologists, both at the time and subsequently. Neither Andersen (1899, 1901) nor Salomonsen (1935) gave any reason to doubt the origin of the specimen or its general provenance. The location given as the Faeroes is rather imprecise but probably simply reflects that the bird was shot at sea. This raises the question about exactly where at sea and whether the record can be considered Faeroese. The SU only considers records from Denmark within the Danish exclusive economic zone (200 nautical miles zone). It could be argued that SU should apply similar guidelines for the Faeroes, considering only records from within the Faeroes' exclusive economic zone (200 nautical miles zone). In 1877, all fishing from the Faeroes was undertaken by small boats that remained close to the islands. We therefore consider it highly improbable that the Scopoli's Shearwater – and for that matter the said Great Shearwaters – were shot more than 200 nautical miles away from the islands.

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Samenvatting

SCOPOLI'S PIJLSTORMVOGEL VERZAMELD IN FAERÖER IN AUGUSTUS 1877 In het natuurhistorische museum van Denemarken in Kopenhagen (NHMD) bevindt zich een balg van een pijlstormvogel *Calonectris* die gelabeld is als Scopoli's Pijlstormvogel *C diomedea* en werd verzameld in Faeröer, Denemarken, op 9 augustus 1877. Het in dit artikel besproken onderzoek bevestigt deze determinatie. Het onderzoek omvatte DNA-analyse, biometrie en een aantal kleedkenmerken en ook de geschiedenis van dit exemplaar werd gereconstrueerd. Scopoli's is zeer zeldzaam in Noordwest-Europa met slechts drie gevallen (midden-juli tot begin augustus), inclusief de balg van Faeröer. Er zijn ook drie gevallen in Midden-Europa. Het exemplaar van Faeröer betreft het noordelijkste geval van Scopoli's voor Europa en mogelijk ook voor de Atlantische Oceaan.

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APPENDIX Procedure of DNA analyis

A toepad sample was taken from the specimen and DNA was isolated using a QIAGEN QIAamp DNA Micro Kit following the manufacturer's instructions, with the addition of 0.1 M dithiothreitol to the proteinase K digest. Two mitochondrial fragments, one from the cytochrome b gene and one from the highly variable control region, were amplified using bespoke primers (cf table 2) and PCR conditions described in Shannon et al (2014). PCR products were visualised on a 1.5% agarose gel and extracted using a QIAGEN QIAquick Gel Extraction Kit. Final products were sent to Source Bioscience (Nottingham, England) for Sanger sequencing. Sequencing reads were checked by eye for quality and possible contamination. Alignments were made in CLC Sequence Viewer 8 for both fragments separately (182 bp for control region, 234 bp for cytochrome b), utilising other publicly available shearwater sequences from GenBank.

TABLE 2 Primers used to amplify short diagnostic mitochondrial fragments from *Calonectris* shearwaters

primer name	**sequence (5'-3')**	**mitochondrial locus**
CDiBo-CR-F1	CCCTTAAGCCCAATAGTCCC	control region
CDiBo-CR-R1	CCCAGCTCGACAGCTACCGG	control region
CDiBo-F2	CTCAGCTATTCCCTACATCG	cytochrome b
CDiBo-R2	CTTTTAGGGTGAAATAGGGG	cytochrome b

Chestnut-winged Cuckoo at Ayn Hamran, Oman, in December 2019

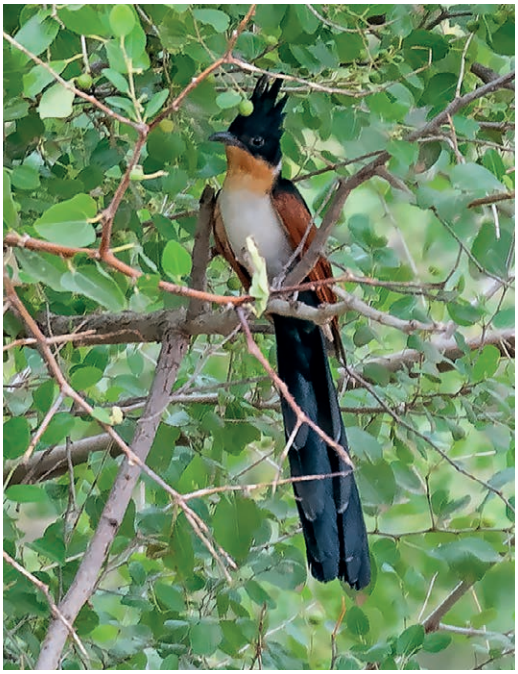
Petteri Lehikoinen & Dick Forsman

Situated on the eastern coast of the Arabian Peninsula and in the south-eastern corner of the 'greater' Western Palearctic (WP), Oman offers some great birding. While the country harbours a good share of Arabian endemics and specialities, the avifauna shows additional influences from both Africa and Asia. For these reasons, Oman has a huge potential for vagrants and the cyclones of the Indian Ocean are known to cast migrants from the Indian Subcontinent in autumn. In addition, the south-westerly monsoon, *Khareef*, gives a special twist to birding in southern Oman, as it bathes the southern coast with rains and immense humidity in late summer and early autumn. This, in turn, leads to lush greenery and several fresh-water pools, *khawrs*, which are utilized by large numbers of migrants. The winds of *Khareef* also result in an upwelling of cold and nutritious water on the coast of southern Oman, providing food for a diverse selection of seabirds.

We were guiding an Avescapes Travels tour in southern Oman and on 6 December 2019, we visited Ayn Hamran, Dhofar (17°05'34''N, 54°16'49''E) for the second time. The first visit had been unrewarding due to near gale-force winds, which is quite exceptional for Oman at this time of year. We still experienced these unusal weather conditions on 6 December, with overcast sky and strong westerly gusts. We started descending slowly along the small stream in the wadi and soon encountered surprisingly many Red-breasted Flycatchers *Ficedula parva* accompanied by a Blyth's Reed Warbler *Acrocephalus dumetorum*, which proved to be only the sixth record for Oman.

In hope for rallids, I (Petteri Lehikoinen) decided to go through extensive scrub of acacia and other spiny vegetation fringing the stream but progressing through the scrub proved to be difficult, due to the thorny vegetation. Just when thinking of turning back, a large, long-tailed bird flew up to lower branches of an acacia, with its wings flashing maroon red. With a walkie-talkie, I informed Dick Forsman that I was watching a Chestnut-winged Cuckoo *Clamator coromandus* in the middle of the thorny bush (plate 452-455). The bird moved deeper inside the scrub before I could take photographs. It took a while for DF and the rest of the group to locate the exact position and, by that time, the bird had moved deeper into the scrub.

When we finally got together, the situation looked dire. It had become clear that the cuckoo was most likely a first for Oman and possibly for the entire Middle East, as it was not illustrated in the field guide by Porter & Aspinall (2010). We had

452 Chestnut-winged Cuckoo / Coromandelkoekoek *Clamator coromandus*, Ayn Hamran, Dhofar, Oman, 6 December 2019 *(Petteri Lehikoinen)* **453** Chestnut-winged Cuckoo / Coromandelkoekoek *Clamator coromandus*, Ayn Hamran, Dhofar, Oman, 6 December 2019 *(Dick Forsman)* **454-455** Chestnut-winged Cuckoo / Coromandelkoekoek *Clamator coromandus*, Ayn Hamran, Dhofar, Oman, 6 December 2019 *(Petteri Lehikoinen)*

no idea of the bird's whereabouts and so far only one of us had seen it. Based on its elusive behaviour it looked rather hopeless trying to relocate the bird and a hint of despair was in the air. However, we reasoned that the bird might not have been able to get back into the dense and extensive vegetation without others seeing it, so we continued to follow the stream downwards. After reaching the second acacia in line, a call of relief 'There!' was roared, as the bird took off and flew to the next acacia viewed by the entire group. A strong gust of joy hit us. We followed the bird, and it flew always just when someone reached the tree or bush it had last landed in. It was very shy and for a long time we did not manage to see it perched as it always skulked inside the densest part of a bush.

Eventually, we obtained some decent flight shots, and even saw it briefly perched quite open on two occasions. It was a smart looking bird, especially when delivered in a rarity context! We were, however, not fully aware of this context until back in Finland and getting confirmation that the record was, indeed, the first for the entire 'greater' WP.

Description

SIZE & STRUCTURE Medium-sized, slim cuckoo with very long, graduated tail. Wing-tip rounded with four protruding but short fingers. Bill pointed, slightly downcurved. Leg short, with two toes pointing forward and two backward. Head with long pointed crest.
HEAD Head including crest black.
UPPERPARTS Mantle black, separated from black head by white collar. Lower back black.
UNDERPARTS Throat and upper breast rusty. Lower breast and belly white, grading into grey lower belly. Vent and undertail-coverts black.
WING Upperwing chestnut with black tertials. Outermost primaries with dark tip. Innermost upperwing-coverts also black. Underwing chestnut; underwing-coverts slightly paler than flight feathers and rusty coloured, with white leading edge.
TAIL Black with narrow white feather-tips, most prominent on outer tail feathers, and therefore mainly visible from below.
BARE PARTS Bill black. Leg grey.
SOUND No sounds heard.
BEHAVIOUR Rather shy and elusive when disturbed, flying quickly with straight flapping flight from one tree to another and hiding well inside thickets. When initially found, flushed from ground near small stream where possibly feeding and moving calmly and slowly in low vegetation.

Identification and ageing

Being such a distinctive looking bird, the identification did not really pose a challenge. The bird was in adult plumage but according to literature, the species should moult to this plumage in three months (Payne 2005, Erritzøe et al 2012), so it may have also been a juvenile with a completed body moult. The flight photographs show unmoulted primaries p3 and p6 (counting ascendantly) for both wings (plate 454-455). Similar moult signs can be seen also in the secondaries, where only the outermost secondary had been replaced.

Juveniles arriving to winter in the Thai-Malay Peninsula are still in the middle of their post-juvenile moult, while adults seemed to have completed their moult before autumn migration (Wells 1999). The most retarded individual had moulted only few primaries and one rectrix by 18 December, and many, likely juveniles, were still renewing remiges in January-February (Wells 1999). This strongly suggest that the bird at Ayn Hamran was a first-year bird with an uncompleted post-juvenile remex moult. The unmoulted remiges are paler, and the tips of the secondaries are narrower than on the replaced ones. Unmoulted primaries show more diffuse dark tips compared with the freshly moulted ones. They also show a rusty fringe to the tip, which is typical of a juvenile feather.

Distribution and movements

Chestnut-winged Cuckoo is an uncommon breeder from the foothills of the Eastern Himalayas to far-eastern China and South-East Asia. Northern populations are migratory and winter in South India, Sri Lanka, Thai-Malay Peninsula, Greater Sunda Islands and Philippines; the species is monotypic (Payne 2005, Erritzøe et al 2012, del Hoyo & Collar 2014).

Records outside the normal range give insight of its vagrancy potential: vagrants have been documented in Japan (c five records; Honshu, Iriomote, Tokara, Okinawa); South Korea (four to five records, even suspected breeding); Spratly Islands (South China Sea); Maldives; Palau (Micronesia); and Cocos (Keeling) Islands (Australian external territory in the Indian Ocean) (Erritzøe et al 2012, Carter et al 2019, Payne & Kirwan 2020). It seems likely that the Ayn Hamran bird had overshot its autumn migration after which cyclones moved it across the Indian Ocean to the Arabian Peninsula. This might be supported by the numerous Red-breasted Flycatchers and the Blyth's Reed Warbler, which should also be wintering on the Indian Subcontinent. Palau and the Cocos Keeling Islands are c 1000 km away from the closest mainland and these records could be considered a proof of the species' ability to cross long distances over sea. Yet, southern Oman lies c 2000 km from the nearest wintering grounds, so the Ayn Hamran bird seems to be an example of extreme vagrancy for the species.

Acknowledgements

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Samenvatting

Coromandelkoekoek te Ayn Hamran, Oman, in december 2019 Op 6 december 2019 werd door een reisgroep van Finse vogelaars een Coromandelkoekoek *Clamator coromandus* ontdekt en gefotografeerd te Ayn Hamran, Dhofar, Oman. De determinatie was eenvoudig, op basis van het middelgrote formaat met lange staart en duide-

lijke kuif, overwegend zwarte bovendelen, lichtere onderdelen, roestkleurige keel en overwegend roodbruine bovenvleugel en ondervleugel. De vogel werd gedetermineerd als eerstejaars op basis van de handpenrui. Dit betrof het eerste geval voor Oman en de 'grote WP'. De soort komt voor in grote delen van zuidelijk Azië en noordelijke populaties overwinteren van Zuid-India tot de Filippijnen. Gevallen in Japan en Zuid-Korea en op de Malediven, de Spratlyeilanden, Palau en de Kokoseilanden geven aan dat de soort als dwaalgast ver buiten de reguliere gebieden kan opduiken en vluchten over open zee niet schuwt. De waarneming in Oman was waarschijnlijk gerelateerd aan uitzonderlijke weersomstandigheden met cyclonen boven de Indische Oceaan.

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Armenian Gull at Blåvand, Denmark, in May 2017

During spring 2017, I worked as a ringer at Blåvand Bird Observatory, Syddenmark – the westernmost point in Denmark. With the day's ringing finished on 4 May, I planned to go to the local community for some shopping. As so often before, a 'detour' led me past an area called Grønningen just south of the community. The area is a meadow with a few small fresh water ponds that attract a fair number of gulls which come in to bathe and drink. In the past, I have been lucky enough to find rare birds like Sharp-tailed Sandpiper *Calidris acuminata* and Pectoral Sandpiper *C melanotos* in this area. As I was driving along the area a little too fast, I saw a single gull standing by one of the fresh water holes, and, even today, I do not know why I thought it looked like an Armenian Gull *Larus armenicus* but I quickly slammed the brakes, checked the gull in my telescope and – much to my surprise – noted that it really looked like an adult Armenian. Luckily, I had brought my camera and managed to take a number of photographs before it suddenly took off and flew north-west. A few minutes later, it returned and I was able to take some more photographs. I called a number of birders and told them about my observation. In total, seven local birders managed to see the bird before it again disappeared to the north-west over the community of Blåvand, never to be seen again. The bird was accepted by the Danish rarities committee as the first Armenian Gull for Denmark and western Europe (Olsen et al 2019).

Description

The description is based on field impressions and photographs (plate 456-459). The bird was mostly on its own and could not be compared directly with other gulls. At one point, however, c five European Herring Gulls *L argentatus* were standing at a short distance from it.

SIZE & STRUCTURE Appearing smaller than European Herring Gull and more slender and longer winged, more similar to Lesser Black-backed Gull *L fuscus*. In flight, appearing more robust, like European Herring. Head profile very characteristic, appearing rounder headed than European Herring. Bill short and thick, giving completely different impression from other large gulls in Europe.

HEAD All white.

UPPERPARTS Dark grey, darker than in European Herring and also seeming darker than in Yellow-legged Gull *L michahellis*.

UNDERPARTS White.

WING Primaries very black and conspicuous. Tertials with broad white edges. Whole hand extensively black, with only small white mirror on p10. Black reaching all the way inwards to p4 and present on both webs of p4 (plate 457-459).




456 Armenian Gull / Armeense Meeuw *Larus armenicus*, adult, Blåvand, Syddanmark, Denmark, 4 May 2017 *(John Frikke)* **457-459** Armenian Gull / Armeense Meeuw *Larus armenicus*, adult, Blåvand, Syddanmark, Denmark, 4 May 2017 *(Henrik Knudsen)*

TAIL White.
BARE PARTS Bill yellow, with blurred red gonys spot near tip on lower mandible, black on both lower and upper mandible (forming black bill-band) and white extreme tip. Leg yellow. Eye appearing very dark, both in field and on photographs (easy to see at rather close range with 50x telescope); by comparison, few adult European Herring Gulls at same distance (not standing with Armenian Gull), obviously looking pale eyed compared with Armenian.
BEHAVIOUR On ground, standing still but right wing was hanging slightly. However, no apparent problems in flying.

Identification

The identification of Armenian Gull outside its normal range may be difficult because the species can be confused with (nominate) Yellow-legged Gull but also with Steppe Gull *L barabensis* and Azores Gull (or Atlantic Yellow-legged Gull) *L m atlantis* (cf Grant 1986, Olsen & Larsson 2004, Olsen 2018, Adriaens et al 2020).

The Danish bird appeared to be a full adult, lacking any dark colour on its primary coverts or alula. As such, the dark iris and prominent black bill-band become significant, because the confusion species loose the dark bill-band in adult plumage and develop a pale iris. Furthermore, the exact primary pattern is important: in this bird, it is characterized by rather extensive black on p4 (with black pattern on both the inner and outer web), black on outer web of p6 reaching along c 50% of the length of the feather, and black on the outer web of p7 covering about 3/4 of the length of the feather. On p8, black almost reaches the primary coverts. Note that Yellow-legged from the Canary Islands, Madeira, Morocco, Portugal

and, especially, the Azores have on average more black on the outer primaries than nominate *L m michahellis* and also show darker grey upperparts (cf Adriaens et al 2020; Peter Adriaens pers comm). According to PA's database, 17 out of 1016 adult Yellow-legged Gulls (of all populations; ie, 2%) show a primary pattern similar to that of the Danish bird, combining an extensive black pattern on p4 (black present on inner as well as outer web) with extensive black on p8 (grey colour (if any) at the base of the outer web covers less than 1/3 of the length of the feather) and lack of mirror on p9. Therefore, the primary pattern of the Danish bird is indicative for Armenian but not fully diagnostic, and thus should be used in combination with other features. Fortunately, the bill pattern is convincing for Armenian. In adult breeding Yellow-legged (as well as in European Herring and Lesser Black-backed) strong black bill markings, if present, tend to be found more centrally in and/or above the red gonys spot. Head and bill structure are also important features. The bill of the Danish bird is short, thick and stubby; the culmen curves very steeply downwards at the tip. Also, the white feathering of the forehead protrudes rather far forward on the upper mandible. Finally, the dark iris is crucial, as it excludes the possibility of adult Azores Gull (Peter Adriaens pers comm; cf Grant 1986, Olsen & Larsson 2004, Olsen 2018, Adriaens et al 2020; plate 456).

Steppe Gull shows a medium-dark iris, dark grey mantle and yellow bill with dark marking near the gonys (mostly) on the lower mandible, characters shared with Armenian, but differs by, eg, the lack of a full black bill-band. Steppe generally has longer grey tongues on the outermost primaries. The tongue on p10 covers more than 30% of the length of the feather, often even 50% of the length or more, and the tongue on p9 more than 50% of the length of the feather. In the Danish bird, the tongues are clearly shorter. Also, Steppe tends to show a relatively thinner, straighter bill, not as short and stubby. In these respects (tongues and bill shape) Steppe is more similar to Caspian Gull *L cachinnans* than to Armenian. From February onwards, the legs show a vivid yellow colour (cf Olsen & Larsson 2004, Olsen 2018).

Adult summer large gulls of several species can still show blackish bill markings (cf Muusse et al 2011) but a thick, solid, complete black band across both mandibles as in the Danish bird would be exceptional, especially since the bird is already in breeding plumage. In addition, the black band in this bird is located closer to the bill tip, beyond the red gonys spot.

Caspian Gull can retain a dark iris and black bill-band or smudge in adult plumage but differs by its paler mantle, much more slender bill, different head shape and yellowish-grey to greenish-pink legs, as well as the very different primary pattern (cf Olsen & Larsson 2004, Olsen 2018). The Danish bird shows a thicker, more complete band than in Caspian, and this band is located closer to the bill tip.

The possibility of a hybrid Yellow-legged x Lesser Black-backed Gull should also be excluded. The dark iris, bill pattern and rather narrow white tips to the tertials are useful features to exclude this possibility (cf Adriaens et al 2012). Hybrids of Ring-billed Gull *L delawarensis* and Lesser Black-backed (which would explain the dark bill band) seem to be very rare; examples are known from Spain in 2010-12 (https://tinyurl.com/y8m4szgw) and Midlands, England, in 2012-18 (https://tinyurl.com/ychnqpst and https://tinyurl.com/y94rx4pr). Both birds showed a thinner, straighter bill than the Danish bird, intermediate in size and shape between the parent species, and the amount of red on the gonys was minimal. The black bill band was placed more centrally on the gonys, not as close to the bill tip. The bill of the Danish bird looks short and stubby even for a Lesser Black-backed, and is clearly very different from Ring-billed. The iris of both hybrid gulls was pale. The white mirror on p10 was larger in both birds than in the Danish bird, and at least the Spanish bird showed a mirror on p9 as well. Note that adult Ring-billed does not normally show any black on p4, and even the amount of black on p5 is often limited or absent; therefore, the extensive amount of black on p4-5 of the Danish bird is not that expected in a Ring-billed hybrid. Other small differences include the larger white primary tips in both hybrid gulls and a white tongue-tip on p7 in the Spanish hybrid. In all, the bill shape, bill pattern, dark iris and primary pattern safely rule out a hybrid with Ring-billed.

Based on the combination of characters (mantle colour, wing pattern, bill shape and colouration of bare parts), the Danish bird can be safely identified as Armenian Gull and was accepted as such by the Danish rarities committee (Olsen et al 2019).

Distribution, movements and vagrancy

Armenian Gull primarily breeds east of the Black Sea in Armenia, Georgia, north-western Iran and eastern Turkey (Olsen & Larsson 2004). In May 2018, the first breeding colonies for Azerbaijan

were found on the islands at Semkir reservoir (Harrison 2019). The global population was estimated at 69 000-75 000 individuals in 1999 but has clearly declined since then (Burger et al 2020), although recent census data from Iran are not available. Some of the largest populations were reported in Armenia (9000-14 000 pairs) and Turkey (10 000-15 000 pairs) (Burger et al 2020). Some birds remain in their breeding areas all year but many migrate to winter on Eastern Mediterranean coasts from Turkey to Israel, with a few reaching the northern end of the Red Sea (Olsen & Larsson 2004). The largest winter concentrations have been reported from Israel north of Tel Aviv but numbers there have declined from c 60 000 individuals in the late 1980s to 22 000-26 000 in 2009-14 (Burger et al 2020). The mean wintering population in Turkey is 8000-12 000 birds, mainly at two small reservoirs on the Euphrates river (Kirwan et al 2008). The species is seen in low numbers in Cyprus (Olsen & Larsson 2004). In Greece, it is reported as a regular winter visitor in small numbers with the main area at Irakleion harbour in Crete (Nikos Probonas in litt; https://tinyurl.com/mowjxl9).

Armenian Gull is also a scarce visitor to Bahrain, Iraq, Kuwait, Lebanon and the western and north-eastern coasts of Saudi Arabia (Mitchell 2017). Even if gulls can turn up anywhere and we can almost expect the impossible, Armenian was definitely not an anticipated addition to the avifauna of Denmark and western Europe.

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Varia

Sillem's Rosefinch – the toughest Palearctic bird to see?

On 7 and 8 September 1929, Dutch explorer and naturalist Jérôme Alexander Sillem (1902-1986) collected two specimens of (presumed) mountain finches (an adult male and a juvenile male; plate 460-461) in westernmost Tibet, China, close to the border with Xinjiang, China, and the disputed border with Ladakh, India. This was during the Karakorum expedition at camp 58 near Kushku Maidan (35°26'N, 78°13'E). The wings of the juvenile male were not fully grown, indicating that the species had bred in the area. The specimens were at the time labeled as aberrant Brandt's Mountain Finches *Leucosticte brandti* and as such disappeared, first in the private collection of John G van Marle and, when that collection was moved, subsequently in one of the drawers of the Zoological Museum Amsterdam, Noord-Holland, the Netherlands (specimens ZMA.AVES.43449 and ZMA.AVES.43450), now part of the collection of Naturalis Biodiversity Center at Leiden, Zuid-Holland, the Netherlands. It lasted until 1992 before a new chapter unfolded: after comparing the two specimens with c 400 specimens of Brandt's, C S (Kees) Roselaar established that the two birds actually should be described as a species new to science, Sillem's Mountain Finch *Leucosticte sillemi* (now Sillem's Rosefinch *Carpodacus sillemi*, see below), named after the discoverer (Roselaar 1992). In particular, the grey-fringed flight feathers, tawny-cinnamon head and neck and absence of black on the lores and forehead separate it from Brandt's. In addition, the juvenile is heavily streaked above, unlike any juvenile Brandt's. The publication was just in time for the species to be mentioned in Clement et al (1993) under the account of Brandt's and with the caveat that the specimens possibly were aberrant individuals of Brandt's, too late to get a full species account in this book. In a subsequent paper (Roselaar 1994), the story about the discovery of the 'new' species and about the expedition was extensively told, with a colour plate by Frits-Jan Maas of the new species and Brandt's for comparison, and two sepia-coloured photographs from the expedition (for more information about the expedition, see Sillem (1934) and Kruijt & Sillem (2009)). For two more decades, the species remained a ghost species, not seen in the field by any other naturalist than the members of Sillem's expedition group. Until June 2012...

In that month, French wildlife photographer Yann Muzika was trekking in the Yenigou valley in Qinghai, China, c 1350 km east of the type locality of Sillem's Rosefinch. Shortly before departure, he contracted food poisoning and therefore the journey took another course than planned. After two difficult days, camp was set up at an altitude

460 Sillem's Rosefinch / Sillems Bergvink *Carpodacus sillemi*, adult male (ZMA.AVES.43449, holotype; collected at Kushku Maidan, camp 58 (35°26'N, 78°13'E), Tibet, China, on 7 September 1929) *(Pepijn Kamminga/ Naturalis Biodiversity Center)*

461 Sillem's Rosefinch / Sillems Bergvink *Carpodacus sillemi*, juvenile male (ZMA.AVES.43450, paratype; collected at Kushku Maidan, camp 58 (35°26'N, 78°13'E), Tibet, China, on 8 September 1929) *(Pepijn Kamminga/ Naturalis Biodiversity Center)*

462 Front row from left to right: Philips Christiaan Visser, the amban (high official), Jenny Visser-'t Hooft and Jérôme Alexander Sillem, Yarkand, Xinjiang, China, 11 April 1930 *(Philips C Visser/Nationaal Archief)*

463 Jérôme Alexander Sillem preparing skins, Daulat Beg Oldi, Ladakh, India, 14 August 1929 *(Philips C Visser/Nationaal Archief)*

of almost 5000 m above sea level. YM had just enough energy to make a detour from the camp. In a group of Tibetan Rosefinches *C roborowskii*, he discovered a different bird that looked like a Brandt's Mountain Finch but with a reddish-brown instead of dark head. With his 400 mm lens, he was able to take a single photograph before it flew off. Later in the day, however, he saw a few similarly looking individuals and was able to take more photographs. Upon returning home, he first let the photographs rest for a while and the mysterious birds remained unidentified, until he read a brief description of Sillem's in a field guide and concluded that this was possibly the correct identification. For confirmation, he sent the photographs to Krys Kazmierczak, manager of the Oriental Bird Images database of the Oriental Bird Club (OBC). KK inquired with various experts, including CSR, and the identification as Sillem's was confirmed. On 22 October 2012, the news about the rediscovery was announced through various media (cf Kazmierczak & Muzika 2012) and the story of the rediscovery and another successful trip in the next year with photographs was published in Muzika (2014). The photographs showed a female, a plumage that until then had not been described.

Subsequent sightings

In May 2013, YM revisited the site and again observed a small number of Sillem's Rosefinches (two sightings: one male and four females; plate 464). In early June 2014, Mark Beaman conducted a search in the same area and managed to observe up to seven birds. Moreover, he found out that instead of a two-day trek on foot, the area could be reached up to 2 km by four-wheel drive jeep, provided the conditions were favourable and that you could find drivers brave enough to do the job. In 2015-17, no sightings were reported but, in 2018, MB and his company Birdquest organized a bird tour to find Sillem's, with me (Max Berlijn) being one of the participants, hoping to add one of the most difficult species to see to my 'false' Holarctic bird list (a previous attempt in 2016 to arrange a trip failed because the necessary permits could not be obtained). In March 2018, all permits had been obtained and the trip, to be led by Hannu Jännes, was definitely set to go in June.

Birding trip in June 2018

On 20 June 2018, after 27 hours of traveling, I arrived at Yushu airport in Qinghai. I immediately experienced the height of 3700 m above sea level – altitude sickness being my biggest fear for this trip. After all, I joined a group that had been traveling for over two weeks at altitudes of 3500-5000 m and I only had three days to adjust to high altitude. I met the rest of the group at the hotel, six birders in total (David Haigh, HJ, Werner Müller, Anne Murray, Karen Rose and me), and Dawei, our translator of Tibetan origin. During the first dinner, the tactics for the coming days were discussed, as well as the challenges that would await us. In the early morning of 21 June, we took a bus from Yushu north towards Golmud on the G109. The next two and a half day birding along this road would end in the 'Wild Yak valley'. This slow way of traveling allowed us to get used to the altitude. The last stretch (after 100 km on a dirt track into the valley) is called Yeniugou valley, measuring more than 20 km, where the biggest challenge for our drivers would be.

The first two days of the trip went smoothly, with Bar-headed Goose *Anser indicus* and Ruddy

464 Sillem's Rosefinch / Sillems Bergvink *Carpodacus sillemi*, male, 5007 m above sea level, Yeniugou valley, Qinghai, China, 28 May 2013 *(Yann Muzika)*

Shelduck *Tadorna ferruginea* along the banks of many stony rivers, numerous Upland Buzzards *Buteo hemilasius* and Saker Falcons *Falco cherrug* along the way and Great Rosefinch *C rubicilla* (subspecies *C r severtzovi*) and Ground Tits *Pseudopodoces humilis* in and around the settlements. The many bird stops yielded five species of snowfinch *Pyrgilauda/Montifringilla* and as highlights several Tibetan Sandgrouse *Syrrhaptes tibetanus* and singing Lesser Sand Plovers *Anarhynchus atrifrons pamirensis*. On the third day, we arrived at our transfer point (from the bus to 4x4 jeeps). In recent years, to our surprise, a large sign with a map of the first section of the 'Wild Yak valley' had been placed at the entrance, as the valley is increasingly known as a place of pilgrimage. The next 100 km was covered fairly easily with our new 4x4 jeeps. Some small rivers had to be crossed and we arrived at a place near a large river around 17:00 where we would plant our base camp, in pouring rain (plate 465).

The next day (the first of three search days planned) started early and, at first light, we left with two of the three jeeps. We drove through a river of gravel and melt water and had to pass two large ice shelves as the first obstacles. At the second shelf, the melt water river turned out to be very deep but the drivers took the chance – water just came out above the hood but the cars drove on and quickly drove back to a higher part of the gravel. The next 18 km, it went this way over and over again and after less than two hours we reached the first GPS coordinates from 2014 and we were able to search further on foot. After hours of searching and climbing up, we had 'only' found Himalayan Horned Larks *Eremophila elwesi*, Brandt's Mountain Finches and the rare Tibetan Rosefinches. We concluded that the character of the terrain was not entirely correct; the hill-side was steep and not sloping as described for Sillem's Rosefinch. We drove a few kilometers along the river bed to see if we could find a site that suited the description better; after c 3 km, we saw terrain that looked more suitable (plate 466) and we pinpointed this area for the next day.

The next morning we left even earlier, planning to have breakfast at the foot of our newest site and then walk uphill. The weather was calm, foggy and luckily we had no hail or thunderstorms like the day before. While walking, we heard an unknown high whistling sound that resembled Eurasian Penduline Tit *Remiz pendulinus* or Common Reed Bunting *Emberiza schoeniclus*. Two birds came flying in and landed in front of us and were quickly identified as Sillem's! It was a pair, often calling to each other, and the female was

465 Basecamp near site of Sillem's Rosefinch *Carpodacus sillemi*, c 5000 m above sea level, Yeniugou valley, Qinghai, China, 23 June 2018 *(Max Berlijn)*

collecting nest material. They quietly foraged around us intermittently, with the female being incredibly tame. The unique call was sound-recorded by HJ and WM (figure 1) and excellent photographs were obtained of both birds (plate 467-469). After a few hours, I started to experience minor troubles like nausea and shortness of breath (we saw the birds at 5023 m) and we decided to return to the cars and drive back to our base camp, and from there to Golmund. A full trip report can be found in Birdquest (2018).

A visit to the site will become easier in the coming years. Golmud has an airport, the road in the valley is being improved and a number of drivers now know what the wishes of birders are. Getting used to this altitude will be the biggest challenging factor and, possibly, fluctuations in the levels of melt water in the rivers. The only subsequent sighting after May 2018 was on 3 June 2020 when a group of Chinese naturalists lead by Tang Jun visited the area and found the species on the second day of their visit (Yann Muzika in litt; https://tinyurl.com/yc4oy3d7).

466 Site of Sillem's Rosefinch *Carpodacus sillemi*, c 5000 m above sea level, Yeniugou valley, Qinghai, China, 25 June 2018 *(Max Berlijn)*

467 Sillem's Rosefinch / Sillems Bergvink *Carpodacus sillemi*, male, 5023 m above sea level, Yeniugou valley, Qinghai, China, 25 June 2018 *(Werner Müller)*

468 Sillem's Rosefinch / Sillems Bergvink *Carpodacus sillemi*, female, 5023 m above sea level, Yeniugou valley, Qinghai, China, 25 June 2018 *(Karen Rose)*

Morphology

Adult male Sillem's Rosefinch differs from adult Brandt's Mountain Finch (in which the sexes are similar) mainly in having: ***1*** tawny-cinnamon head, without black on the forecrown (dark-grey head with blackish frontal part in Brandt's); ***2*** unstreaked mantle (thinly streaked in Brandt's); ***3*** paler rump and underparts (darker and greyer in Brandt's); ***4*** complete absence of white fringes on the flight feathers (even when freshly moulted; prominent in Brandt's); ***5*** drab-grey ground colour of flight feathers (blackish in Brandt's); and ***6*** structural differences: longer wing, shorter tail and more slender feet (cf Roselaar 1992, 1994, Clement et al 1993). Adult female differs from Brandt's by its overall pale greyish plumage (more sandy in Brandt's), streaked underparts (plain in Brandt's) and paler head (darker grey forecrown in Brandt's). Juvenile Sillem's differs from juvenile Brandt's by the more streaky upperparts and breast, whiter chin and belly and (as in the adult) lack of white fringes on the more greyish flight feathers. Juvenile Sillem's shows a rather close resemblance to adult females of some large pale rosefinches like Great Rosefinch, Rose-breasted Rosefinch *C puniceus* or Tibetan Rosefinch (formerly placed in a genus of its own, *Kozlowia*, and named Roborovski's Rosefinch; cf Zuccon et al 2011, Tietze et al 2013) and to juveniles of Great and Rose-breasted but differs from the first two species by a much more slender bill. The differences from juvenile Tibetan, a rare endemic species of the high plateaus of eastern Qinghai, could not be studied because the juvenile of this species has apparently never been collected. Snowfinches of the genus *Montifringilla* show a superficial resemblance to Sillem's but the larger species have boldly patterned flight feathers, unlike Sillem's (Roselaar 1992, 1994). Images in 3D of the holotype and paratype of Sillem's can be viewed at

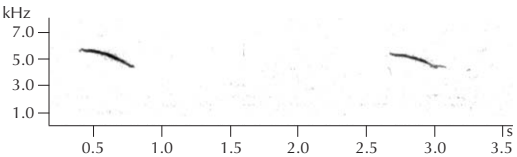

FIGURE 1 Sillem's Rosefinch / Sillems Bergvink *Carpodacus sillemi*, call, 5023 m above sea level, Yeniugou valley, Qinghai, China, 25 June 2018 *(Werner Müller)*. First-ever sound-recording of species.

469 Sillem's Rosefinch / Sillems Bergvink *Carpodacus sillemi*, female, 5023 m above sea level, Yeniugou valley, Qinghai, China, 25 June 2018 *(Anne Murray)*

470-471 Sillem's Rosefinch / Sillems Bergvink *Carpodacus sillemi*, male, 5023 m above sea level, Yeniugou valley, Qinghai, China, 25 June 2018 *(Max Berlijn)*

https://tinyurl.com/ybpe9b3n and https://tinyurl.com/yatp6mr9.

Distribution and status

The location of the rediscovery in 2012 was c 1500 km east of where the holotype and paratype had been collected. The altitude and climatic conditions at both locations show great similarities. Possibly, Sillem's Rosefinch can also be found in slightly more accessible places along the Golmud-Lhasa highway, and especially above the Kunlun pass (4760 m, 160 km south of Golmud) and the Tanggula pass (5230 m, c 200 km further south). The species is qualified as 'Data Deficient' by BirdLife International (2020); so little is known about the distribution and population, that it is not possible to judge if the species is declining and/or under any kind of threat, and what the population size could be.

Taxonomy

The taxonomic validity and phylogenetic position of Sillem's Rosefinch have been unclear and the rosefinches and related species have been subject of several systematic studies in recent years (eg, Drovetski et al 2009, Zuccon et al 2011, Tietze et al 2013). Based on phylogenetic analysis of mitochondrial DNA from the holotype, Sangster et al (2016) confirmed that Sillem's is not a colour morph of Brandt's Mountain Finch but represents a valid, overlooked species of rosefinch (*Carpodacus*) that has secondarily acquired a pale plumage converging to that of *Leucosticte*. Sillem's represents the only known species of rosefinch of which the males have lost all reddish plumage colouration. The retention in *Leucosticte* became untenable and based on Sangster et al (2016), the species was moved to *Carpodacus* in 2015 (cf Gill et al 2020), a move already hinted upon by Roselaar (1992, 1994). This species and its sister taxon, Tibetan Rosefinch, are likely the world's highest-altitude sister-species pair of birds.

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Trends in systematics

Resolving the mystery of Vaurie's Nightjar and problems posed by single-specimen species

One of the last remaining enigmas among Palearctic birds has been solved recently – or at least partially so (Schweizer et al 2020). Following the rediscoveries of Large-billed Reed Warbler *Acrocephalus orinus* (Bensch & Pearson 2002, Round et al 2007, Svensson et al 2008, Timmins et al 2009, Ayé et al 2010) and Sillem's Rosefinch *Carpodacus sillemi* (Kazmierczak & Muzika 2012, Muzika 2014, Sangster et al 2016; cf Roselaar 1994) (see Ebels & Berlijn 2020 for more information on this species), Vaurie's Nightjar *Caprimulgus centralasicus* was the final remaining mysterious bird species of the Palearctic, with the arguable exception of the probably extinct Crested Shelduck *Tadorna cristata* (Butchart et al 2005).

Vaurie's Nightjar is known solely from the type specimen, a female, collected by Frank Ludlow at 'Goma' (now Pishan) (37°37'N, 78°17'E), on the southern edge of the Taklamakan Desert in Xinjiang, in extreme north-western China, on 7 September 1929, and eventually described as a new species by Charles Vaurie 31 years later (Vaurie 1960; plate 472-474). Born in France, Vaurie (1906-1975) progressed via dentistry, an interest in natural history art, and marriage to an entomologist, to eventually become curator of birds at the American Museum of Natural History, New York, USA, and one of the foremost taxonomists to have worked on Palearctic birds during the 20th century. Instigated and encouraged by Ernst Mayr, his two-volume magnum opus, *Birds of the Palearctic Fauna*, published in 1959 and 1965, and his long series in the American Museum Novitates on single Palearctic genera or species groups commenced in the 1950s, are still regularly referred to by serious students of the Eurasian avifauna. Vaurie's obituary by Lester Short characterised him as, above all, 'meticulous' (Short 1976).

Initially, the Goma specimen that has since borne his name was thought to be one of two caprimulgid specimens from China identified as Egyptian Nightjar *C aegyptius* (Ludlow & Kinnear 1933). The other is arguably even more mysterious: it was collected by Scully in the environs of Yarkand, in July 1875, and identified as *C arenicolor* (a synonym of *C aegyptius*) by the contemporary doyen of South Asian ornithology, Allan O Hume; however, the report that it was apparently collected in a poplar forest (Scully 1876) argues against his diagnosis. Unfortunately, although some of Scully's material came to London (and now Tring), England, the whereabouts of this nightjar specimen is unknown.

In contrast, Ludlow's specimen is still held in the Natural History Museum at Tring (NHMUK 1931.7.8.256). Christened in honour of its describer by Voous (1973), it has been almost universally referred to as Vaurie's Nightjar since, and due to the lack of subsequent encounters, the species has become one of the greatest mysteries in Asian ornithology, if not the world (Collar et al 2001, Leader 2009).

Building on previous efforts to elucidate wheth-

472-474 Female holotype of Vaurie's Nightjar / Vauries Nachtzwaluw *Caprimulgus centralasicus* (collected by Frank Ludlow at 'Goma', on southern edge of Taklamakan Desert, Xinjiang, China, on 7 September 1929), Natural History Museum, Tring, England (NHMUK 1931.7.8.256), 21 February 2020 *(Hein van Grouw/©Natural History Museum, Tring)*. Schweizer et al (2020) indicated that this taxon is most likely a synonym of *C europaeus plumipes*.

er Vaurie's Nightjar really constitutes a valid species, for example by Cleere & Nurney (1998), Cleere (1999, 2010) and, separately, Leader (2009), our investigations commenced with renewed morphological comparisons which were conducted by Hadoram Shirihai and Guy Kirwan. Furthermore, with assistance from curators at NHMUK, toepad samples for genetic work were taken from the specimen and tested in two separate laboratories, at Alexander Koenig Research Museum, Bonn, Germany, and the Natural History Museum of Bern, Switzerland. The samples were compared with a variety of other species of nightjars (Schweizer et al 2020).

Comparative genetic analysis of Vaurie's Nightjar

The genetic work, coordinated by Manuel Schweizer and Till Töpfer, assisted by Claudia Etzbauer, was productive on multiple levels. We found that Vaurie's Nightjar has an identical partial fragment of the mitochondrial gene cytochrome oxidase subunit 1 (COI) as five European Nightjar *C europaeus* specimens taken in Iran, Kyrgyzstan and Russia, some of which were almost certainly collected on migration. The samples of European Nightjar basically split into eastern and western lineages, which seem to have diverged as long ago as the early Pleistocene or even the late Pliocene (some 1.16-4.82 million years ago). Although we recovered this surprisingly marked phylogeographic structure in mitochondrial DNA (mtDNA) within European Nightjar (cf Bilgin et al 2016), its correspondence with morphology, especially plumage variation, requires further investigation using a more comprehensive geographic sampling exclusively taken from the breeding grounds. Vaurie's was found to be nested within the 'eastern clade' together with samples assigned to European Nightjar of the subspecies *C e plumipes* and *C e unwini*. However, the same clade also contained individuals that were inseparable by plumage from nominate *C e europaeus* collected in south-central Siberia. Moreover, as phylogeographic or phylogenetic reconstructions based on a single recombination unit such as mtDNA do not necessarily retrace the true history of lineage divergence, this finding should be re-tested using genome-wide data (cf Schweizer & Burri 2019). However, based on current information, there is no correspondence between the described subspecies of European Nightjar and the species' genetic variability. In addition, our genetic comparisons also revealed deep mtDNA variation within the principally East African and Arabian distributed Nubian Nightjar *C nubicus* (Schweizer et al 2020). These issues offer hot topics for future research, to be pursued by ourselves and colleagues.

Fresh look at morphology of Vaurie's Nightjar

The overall plumage colouration of Vaurie's Nightjar is similar, especially on the upperparts, to at least some specimens of European Nightjar of the subspecies *C e plumipes* and *C e unwini*, and by implication also to that of *C e dementievi* (given descriptions in the relevant literature), although we were unable to examine any specimens of the latter. The small size of the holotype compared to European, which has frequently been invoked as one of the prime reasons for accepting it as a species, remains difficult to explain. However, we believe that the Vaurie's Nightjar holotype, which has usually been considered to be an adult (only Cleere & Nurney (1998) expressed some doubts), is in fact a fledgling in its first plumage, whose outermost primaries are not yet fully grown and in some other respects has probably also not yet completed growing.

In European Nightjar, both post-breeding and post-juvenile moults are complete. They are initiated in the breeding areas (with adults starting first) and are completed on the wintering grounds, being suspended prior to the autumn migration. Wing- and tail-feathers are usually replaced only after the birds have reached the wintering areas in October and November in adults, with first-years moulting later (Glutz von Blotzheim & Bauer 1980, Cramp 1985). Adults rarely replace the innermost primary on the breeding grounds (Cramp 1985, Cleere & Nurney 1998). Consequently, in our estimation the Vaurie's Nightjar holotype must be a not yet fully grown fledgling. Moreover, the pattern and shape of the remiges correspond to those found in juvenile European.

Is Vaurie's Nightjar a synonym of European Nightjar C e plumipes?

In conclusion, our investigations suggest that it is probable that Vaurie's Nightjar is a synonym of European Nightjar *C e plumipes* (Schweizer et al 2020). However, there is one potential pitfall, albeit one which we consider to be highly unlikely. As we solely analysed a maternally inherited mtDNA marker, we can confidently state only that the mother of the type of Vaurie's possessed a COI haplotype of the eastern clade of European. The genetic identity of the male parent remains unknown, meaning that a hybrid origin for Vaurie's cannot definitely be excluded. Analyses of multiple genetic loci would be needed to detect potential admixture. Although hybridisation at the spe-

cies level is widespread in birds (Grant & Grant 1992, McCarthy 2006, Ottenburghs et al 2015), very few reports of interbreeding in Caprimulgiformes appear to exist, and none of these appears to be unambiguous. Holyoak (2001) noted 'The absence of records of hybrids between any of the generally accepted species in the Caprimulgiformes appears to be quite remarkably complete, since none of the few claimed instances of interspecific hybrids in the literature appears to withstand close scrutiny'. Furthermore, he took this to represent additional evidence that a hybrid theory cannot be used to explain away anomalous single-specimen species, including Vaurie's.

Genetics and mysteries posed by unique specimens

Hand in hand with the now seemingly universal application of molecular techniques to solve more routine questions in avian taxonomy, genetic tools are increasingly being deployed to resolve the mysteries inherent to unique specimens. Collar & Rudyanto (2003) noted that: 'Specimens that defy classification generally qualify as 'undocumented material'. In some cases the matter may be genuinely intractable; in others it may be more one of the experience and ability of the taxonomists. Olson (1986) observed that unique specimens tend to be regarded as 'freaks, hybrids, or... subspecies' and thus 'overlooked and ignored'. It requires considerable time and dedication to investigate such material and attempt to resolve the problems, simply because the returns on such endeavours may be so small. Nevertheless, it clearly matters to conservation whether one or a small series of apparently anomalous specimens represents a species or not.'

As Collar & Rudyanto (2003) also remarked, the 'rewards' for investigating such cases can be distinctly underwhelming. Who remembers the taxa that disappeared into synonymy, or worse, as a result of such investigations? The so-called Mascarene Starling *Necropsar leguati*, a mainly white bird with a long yellow bill said to be from 'Madagascar', whose unique type resides in the World Museum, Liverpool, England, proved by DNA to be a Grey Trembler *Cinclocerthia gutturalis* from the Lesser Antilles or, less kindly, 'a banquet of codswallop' (Olson et al 2005). Even more recently, several widely recognised species have been debunked as a result of detailed genetic and morphological work. These include ***1*** Bogota Sunangel *Heliangelus zusii*, initially validated by a molecular study (Kirchman et al 2010), is now deemed to be a hybrid as a result of further appraisal (Pérez-Emán et al 2018); ***2*** Liberian Greenbul *Phyllastrephus leucolepis*, which is now believed to represent a variant of the common Icterine Greenbul *P icterinus* (Collinson et al 2018); and ***3*** the most parsimonious explanation for the mysterious Hooded Seedeater *Sporophila melanops* is that it is a melanistic Dark-throated Seedeater *S ruficollis* (Areta et al 2016). It seems that Vaurie's Nightjar will also join this list of 'former' species. It will be exciting to test molecularly the taxonomic status of the three other nighjar species known only from single specimens: Nechisar Nightjar *C solala* from Ethiopia (just a wing!), Itombwe Nightjar *C prigoginei* from the Democratic Republic of the Congo, and Cayenne Nightjar *Setopagis maculosa* from French Guiana.

Nevertheless, sometimes the results are more positive. Silveira et al (2017) have recently validated *Ortalis remota*, a chachalaca (Cracidae) described by Pinto (1960) on the basis of a single specimen from the state of Mato Grosso do Sul, Brazil, as a species, and a small and potentially highly threatened population has been found in nature. Furthermore, the hummingbird *Amazilia alfaroana*, named from a specimen collected in north-western Costa Rica, in 1895, was independently verified as a species by Weller (2001) and Kirwan & Collar (2016), although its type, also at NHMUK, has not been tested genetically. Accepted as a species (Guanacaste or Alfaro's Hummingbird) by BirdLife International, the American Ornithologists' Society (formerly Union) in its *Checklist of North American birds* appears unable to conclude whether it represents a species apart, a hybrid, a 'form of doubtful status', or a synonym of Indigo-capped Hummingbird *A cyanifrons* (which is otherwise a Colombian endemic). Efforts to search for *alfaroana* in the Cordillera de Guanacaste have recently commenced in earnest (Ernesto Carman in litt).

Other mysteries may prove to be even more intractable, even following the investment of considerable time and effort into elucidating their identity. The case of *Thinornis rossii* (the so-called 'Auckland Islands Shore Plover' or 'Ross's Plover') could prove to be one such. Said to have been collected on the Auckland Islands, south of New Zealand, in the 1840s, it was generally accepted as a species until the early 20th century. Then, a suggestion was made that the specimen was more likely to have been taken at Auckland, on North Island, and to represent an example of Shore Plover *T novaeseelandiae*, a species nowadays confined to the Chatham Islands. As a result, interest in *T rossii* rather swiftly dissipated and it has remained far from most ornithologists' radars, de-

spite a call for its DNA to be sequenced (Carlton et al 1999). Recently, one of us (GMK) has co-authored a re-evaluation of the historical background to the collection, and a reappraisal of the specimen's morphological attributes, which suggests that *T rossii* seems most likely to have been taken on the Auckland Islands, as originally supposed, and might well represent a valid, albeit almost certainly extinct, taxon (Kirwan & Collar in press). Nevertheless, there is a possibility that the specimen concerned is an aberrant Shore Plover but an obstacle to any genetic work is that the bird's legs and feet do not certainly belong to it (being now detached from the specimen, which was plainly mounted at one time). Molecular sampling of museum specimens of birds typically relies on a sample of the toepad.

While the special volume of *Handbook of the birds of the world* (del Hoyo et al 2013) and a paper by Rheindt et al (2020), which described 15 and 10 new taxa from Amazonia and Indonesia, respectively, remind us that there are still comparatively many novelties awaiting discovery even among birds, there is also much work to do to re-evaluate the mysteries among already described diversity. How else would we prevent ourselves from falling into the trap of reducing the distinctive Rusty-throated Wren-Babbler *Spelaeornis badeigularis* of north-eastern India to a subspecies of Rufous-throated Wren-Babbler *S caudatus*, as done in the third edition of the Howard & Moore checklist (Dickinson 2003)? Long known from just one specimen, taken in January 1947, it was rediscovered in the field in November 2004 (King & Donahue 2006), and independently revalidated as a species from re-examination of the type by Collar (2006).

An attempt to assemble a more or less complete compendium of such unresolved mysteries is the subject of a work in progress (Collar & Kirwan in prep). A list of persistently dubious taxa, whether on or off world lists, is highly desirable for future workers, in much the same way that the lists of enigmatic birds in need of investigation in the Afrotropical (Butchart 2007), Asian/Oriental (Butchart et al 2005) and Neotropical regions (Tobias et al 2006), prepared by researchers at BirdLife International, did a decade and a half ago. Museum workers and molecular scientists both have important roles to play in such work.

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Corrigenda

In het artikel over de Audouin's Meeuw *Larus audouini* bij 's-Hertogenbosch, Noord-Brabant, op 18 april 2018 (Dutch Birding 42: 188-190, 2020) werd vermeld dat het een derde-kalenderjaar betrof. Op basis van de volgende kenmerken betrof het echter een vierde-kalenderjaar: alleen de buitenste handpendekveren op de bovenvleugel waren zwart (bijna allemaal zwart bij derde-kalenderjaar); ongeveer de helft van de handpennen was lichtgrijs (alleen een of twee binnenste grijs bij derde-kalenderjaar); grijze buitenste grote dekveren (donker bij derde-kalenderjaar); smalle en onderbroken donkere achterrand aan de bovenvleugel (langer en breder bij derde-kalenderjaar); en ontbreken van donkere tekening op de staart (donkere tekening bij tweede-kalenderjaar) (Sylvain Reyt in litt).

In het artikel over Oosterse Tortel *Streptopelia orientalis* in Nederland in 2009-20 (Dutch Birding 42: 248-261, 2020) is bij de Meenatortel *S o meena* van Sneek, Friesland, van 28 december 2019 tot 11 maart 2020 per abuis niet de correcte informatie gegeven over de herontdekking. Na het bekend worden van de foto's bij Vogelbescherming was het Dick Pruiksma die de vogel op 30 januari rond 14:00 als eerste terugvond en determineerde als Meenatortel; DP heeft het nieuws toen verspreid en de waarneming later ook ingediend bij de Commissie Dwaalgasten Nederlandse Avifauna (CDNA).

In Recente meldingen in het vorige nummer stond een verkeerd bijschrift bij plaat 378 (Dutch Birding 42: 292, 2020). Het juiste bijschrift moet zijn: Dougalls Stern / Roseate Tern *Sterna dougallii*, adult (midden), met Visdief / Common Tern *S hirundo*, adult (links) en Grote Stern / Sandwich Tern *S sandvicensis*, adult (rechts), De Putten, Camperduin, Noord-Holland, 28 juni 2020. REDACTIE

The paper about the Audouin's Gull *Larus audouini* at 's-Hertogenbosch, Noord-Brabant, on 18 April 2018 (Dutch Birding 42: 188-190, 2020) stated that it was a third calendar-year. However, based on the following features, it was a fourth calendar-year: on upperwing, only the outer primary coverts were black (almost all black in third calendar-year); about half of the primaries were pale grey (only one or two innermost grey in third calendar-year); grey outer greater wing-coverts (dark in third calendar-year); narrow and short dark trailing edge of secondaries (longer and broader in third calendar-year); and lack of dark markings on tail (dark markings in third calendar-year) (Sylvain Reyt in litt).

In last issue's Recente meldingen, a wrong caption was given for plate 378 (Dutch Birding 42: 292, 2020). The correct caption should read: Dougalls Stern / Roseate Tern *Sterna dougallii*, adult (centre), with Visdief / Common Tern *S hirundo*, adult (left) and Grote Stern / Sandwich Tern *S sandvicensis*, adult (right), De Putten, Camperduin, Noord-Holland, 28 juni 2020. EDITORS

DBA-nieuws

Nieuw lid redactie-adviesraad De redactie van Dutch Birding is verheugd te kunnen mededelen dat per september 2020 Robert Flood is toegetreden tot de redactie-adviesraad. REDACTIE

New member of editorial advisory board The editors of Dutch Birding are pleased to announce that as of September 2020 Robert Flood has joined the editorial advisory board. EDITORS

WP reports

This review lists rare and interesting Western Palearctic birds reported mainly from **August to late September 2020**. The reports are largely unchecked and their publication here does not imply future acceptance by a rarities committee. Observers are requested to submit their records to each country's rarities committee. Corrections are welcome and will be published.

DUCKS TO GREBES If accepted, an adult male **White-winged Scoter** *Melanitta deglandi* at Colesbukta, Spitsbergen, on 12 July will be the first for Svalbard. In Estonia, the males **Stejnegeri's Scoter** *M stejnegeri* and Black Scoter *M americana* flew past Cape Põõsaspea on 18 and 20 September, respectively. A flock of five **Blue-winged Teals** *Spatula discors* photographed at Eoligarry, Barra, Scotland, on 8 September was the largest ever for Britain, equalling the Irish record on Achill, Mayo, in September 2010. In the Canary Islands, a **Pied-billed Grebe** *Podilymbus podiceps* was reported at La Florida, Gran Canaria, on 21 August. One was seen at Rochesevière, Vendée, France, from 21 August into September. The long-stayer at Sesimbra, Setubal, Portugal, was still present on 21 August.

DOVES TO SWIFTS In Iran, five **Yellow-eyed Pigeons** *Columba eversmanni* were photographed near Mash-

had, Khorasan-e Razavi, on 6 September. An **Oriental Turtle Dove** *Streptopelia orientalis* at Kaamanen, Inari, Finland, on 9 August was probably the same individual as one found here in May. The first WP breeding attempt of **White-tailed Tropicbird** *Phaethon lepturus* concerned a pair laying an egg this summer on Ilhéu de Cima, Cape Verde Islands, where one adult was also trapped and ringed on 6 July (cf Dutch Birding 42, 274, plate 339, 2020); there were only three previous records of this species in the WP, and the nearest known breeding colony is over 2250 km away on Fernando de Noronha, Brazil. After the discovery of the first breeding colony of **Alpine Swift** *Tachymarptis melba* for Hungary at Debrecen in June, a second colony was found at Hódmező-vásárhely on 22 July.

CUCKOOS TO RAILS A **Great Spotted Cuckoo** *Clamator glandarius* on Røsnæs, Sjælland, on 25 July was the eighth for Denmark. A first-winter **Sora** *Porzana carolina* was trapped (and released) on Lundy, Devon, England, on 12 September. At Chavornay, Vaud, **Little Crake** *Zapornia parva* bred in July-August for the second time in Switzerland since 1971. Also, a **Western Swamphen** *Porphyrio porphyrio* stayed here from 27 June to 24 August. Recently, a photograph turned up of the first **Allen's Gallinule** *P alleni* for the Cape Verde Islands at Baxona beach, Calheta, Maio, on 7 January 2016.

TUBENOSES A **Wilson's Storm Petrel** *Oceanites oceanicus* off Eilat on 7 September was the fifth for Israel. In Ireland, a **Black-browed Albatross** *Thalassarche melanophris* flew south-west past Bloody Foreland, Donegal, in the mid-morning of 9 September and then past Copeland Island, Down, in the early evening. In Spain, an **Atlantic Yellow-nosed Albatross** *T chlororhynchos* flew past Punta de Estaca de Bares, A Coruña, on 30 August; possibly, it was the same individual as one in Gulf of Cádiz in June (cf Dutch Birding 42: 272, 2020). Moreover, on 29 August, an unidentified **albatross** was seen from Punta de la Vaca, Gozón, Asturies. The first **Zino's Petrel** *Pterodroma madeira* for Britain was photographed at sea c 5 km south-west of Bishop Rock, Scilly, Cornwall, England, on 30 July. If accepted, a **Great-winged Petrel** *P macroptera* watched from Punta de Estaca de Bares on 29 August may be the first for Spain and the WP. The third **Scopoli's Shearwater** *Calonectris diomedea* for Britain was present between Fife and Lothian, Scotland, on 9-11 August. Photographs recently revealed that chronologically the first **Short-tailed Shearwater** *Ardenna tenuirostris* for the WP occurred 2 km off Planguenoual, Côtes-d'Armor, France, on 9 September 2015. The second for France and third for the WP was photographed in Mor Braz bay, Morbihan, on 7 August (the second for the WP was found exhausted and then died in Ireland in June this year; cf Dutch Birding 42: 277, plate 346, 2020). A **Flesh-footed Shearwater** *A carneipes* photographed at sea south of Pico on 7 August was the first for the Azores and the second for the WP 'sensu BWP' (previous one was in Aqaba bay, Israel/Jordan, on 15 August 1980). Rodríguez et al (2020) described a new subspecies, **Canarian Manx Shearwater** *Puffinus puffinus canariensis*, which breeds on La Palma and Tenerife (and maybe also on La Gomera and El Hierro). It breeds c 2-3 months earlier than northern populations of Manx, and shows not only some genetic differentiation but is also smaller, with darker underwing, and with small differences in sound (https://tinyurl.com/y6pwgpam).

STORKS TO HERONS In Italy, 22 pairs of **Black Stork** *Ciconia nigra* raised 45 juveniles in 2019 (https://tinyurl.com/yysemwwf). Between 27 July and 9 August, 69 267 **White Storks** *C ciconia* passed over Strait of Gibraltar. Up to 7300 arriving in a broad front in Cyprus on 16 August were the largest number ever. Censuses in south-eastern European countries (Albania, Bulgaria, Greece, Montenegro, North Macedonia, Romania, Turkey and Ukraine) in May 2016-18 resulted in 22 944-37 334 **Great White Pelicans** *Pelecanus onocrotalus* (most in Romania) and 5617-6265 **Dalmatian Pelicans** *P crispus*, with the latter's largest population of 3342-3858 in Greece (https://tinyurl.com/y3cqvyof). The first breeding of **Little Egret** *Egretta garzetta* for the United Arab Emirates (UAE) concerned two nests with chicks at Al Marmoon on 14 July.

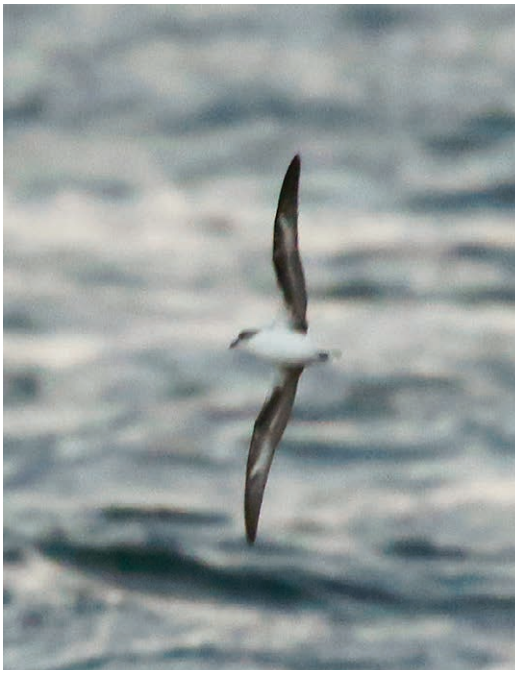
BOOBIES TO CORMORANTS The fourth **Red-footed Booby** *Sula sula* for the UAE landed on a boat at sea between Dubai and Abu Dhabi on 16-17 September. In England, two adult **Brown Boobies** *S leucogaster* flew together past St Levan, Cornwall, on 2 August. On 23 August, one flew west at Port Eynon Point, Glamorgan, Wales, and maybe the same individual was reported at Pendeen, Cornwall, on 27 August. Probably different ones were seen off Burela, Lugo, Spain, on 29 August; Gran Canaria, Canary Islands, on 30 August; Cabo São Vicente, Algarve, Portugal, on 1 September; Cap de la Hague, Manche, France, on 5 September; Bornholm, Denmark, on 12 September (first record if accepted); and Trevose Head, Cornwall, on 16 September. A first-year **Pygmy Cormorant** *Microcarbo pygmaeus* stayed at Rosières-aux-Salines, Meurthe-et-Moselle, France, on 17-26 August.

WADERS Two **Senegal Thick-knees** *Burhinus senegalensis* stayed at Kfar Ruppin, Israel, on 1-5 August (one was present here from 18 July). The first **Three-banded Plover** *Charadrius tricollaris* for Israel from 12 April remained at HaMa'apil fishponds until at least 21 August. In Egypt, an adult photographed c 1 km from the airport at Borg Al Arab, Alexandria, on 16 June was the country's northernmost ever. In the Azores, three **Semipalmated Plovers** *C semipalmatus* were seen on Terceira on 1 September and another two on Corvo on 21 September. The fifth for Britain was found on North Ronaldsay, Orkney, Scotland, on 7-10 September. A male **Oriental Plover** *Anarhynchus veredus* at Westkapelle, Zeeland, on 15 August was the first for the Netherlands and the fourth for the WP. A photographed juvenile **Steppe Whimbrel** *Numenius phaeopus alboaxillaris* at Saadiyat Beach Golf Club, Abu Dhabi, UAE, from 28 August to at least 11 September was this taxon's first field observation between the northern Caspian Sea and Mozambique; it was also the first juvenile of this taxon to be photographed. An adult

475-476 Steppe Whimbrel / Stepperegenwulp *Numenius phaeopus alboaxillaris*, juvenile, Saadiyat Beach Golf Club, Abu Dhabi, United Arab Emirates, 4 September 2020 *(Oscar Campbell)*

477 Rüppell's Vulture / Rüppells Gier *Gyps rueppelli*, adult, Militello Rosmarino, Messina, Sicily, Italy, 22 July 2020 *(Davide D'Amico)*

478 Short-tailed Shearwater / Dunbekpijlstormvogel *Ardenna tenuirostris*, Mor Braz bay, Morbihan, France, 7 August 2020 *(Sébastien Roques)*



479 Zino's Petrel / Freira *Pterodroma madeira*, c 5 km south-west of Bishop Rock, Scilly, Cornwall, England, 30 July 2020 *(Danni & Zac Hinchcliffe/Scilly Pelagics)* **480** Preuss's Swallow / Preuss' Klifzwaluw *Petrochelidon preussi*, juvenile, Santa Maria, Sal, Cape Verde Islands, 13 September 2020 *(Uwe Thom)* **481** Senegal Thick-knees / Senegalese Grielen *Burhinus senegalensis*, Kfar Ruppin, Israel, 1 August 2020 *(Nitay Haiun)*




482 Short-tailed Shearwater / Dunbekpijlstormvogel *Ardenna tenuirostris*, 2 km off Planguenoual, Côtes-d'Armor, France, 9 September 2015 *(Yann Février)* **483** Flesh-footed Shearwater / Australische Grote Pijlstormvogel *Ardenna carneipes*, south of Pico, Azores, 7 August 2020 *(Susana Simião/Espaço Talassa)* **484** Oriental Plover / Steppeplevier *Anarhynchus veredus*, male, Domburg, Zeeland, Netherlands, 15 August 2020 *(Floor Arts)* **485** Three-banded Plover / Driebandplevier *Charadrius tricollaris*, adult, Borg Al Arab, Alexandria, Egypt, 16 June 2020 *(Mohamed Wkry)*

Sharp-tailed Sandpiper *Calidris acuminata* at Ambon, Morbihan, on 10-23 August was the eighth for France.

SKUAS TO TERNS A **Great Skua** *Stercorarius skua* ringed as a chick on Fair Isle, Shetland, Scotland, in July 2018 was photographed at Hare Bay, Newfoundland, Canada, on 18 August. Two **South Polar Skuas** *S maccormicki* flew past Punta de Estaca de Bares, Spain, on 29 August. In early September, an influx of **Ross's Gulls** *Rhodostethia rosea* was reported from Svalbard, with many birds observed each day, including a flock of 36. An adult and a juvenile **Sooty Tern** *Onychoprion fuscatus* were found on Ilhéu da Praia, Azores, on 10 August. In 2018-19, one pair of **Roseate Terns** *Sterna dougallii* bred in Bermuda for the first since 1849 (Waterbirds 43: 101-106, 2020). The adult **Forster's Tern** *S forsteri* in Ireland was seen at Soldier's Point, Louth, on 8 August. A **Lesser Crested Tern** *S bengalensis* at Tas-Safra on 24 August was the third for Malta.

RAPTORS The breeding population of **Western Osprey** *Pandion haliaetus* in the Cape Verde Islands was an estimated 103-125 pairs in 2016-19 and showed an increase of over 30% in the last 20 years (Zool Caboverdiana 8: 3-10, 2020). In Sardinia, Italy, a pair raising two young this summer concerned the island's first breeding since 1963. In north-western France, two pairs of **Black-winged Kite** *Elanus caeruleus* bred in Finistère this summer, one of them raising three young. In late August, the first breeding attempt for Belgium concerned a pair mating several times a day and nearly completing their nest at Hautes Fagnes near Waimes, Liège. The fifth for Hungary was found at Jászivány, Jász-Nagykun-Szolnok, on 7-8 September. In Egypt, a **Crested Honey Buzzard** *Pernis ptilorhynchus* flew over Ras Gharib on 7 August. The fourth for Turkey was photographed at Subaşı, Hatay, on 27 August. The second calendar-year female (without markings) **Bearded Vulture** *Gypaetus*




486 Amur Falcon / Amoerroodpootvalk *Falco amurensis*, adult male, Dnipro, Dnjepropetrovsk, Ukraine, 4 August 2020 *(Maria-Adel Bradbeer)* **487** Black-winged Kites / Grijze Wouwen *Elanus caeruleus*, pair, Hautes Fagnes, Liège, Belgium, 27 August 2020 *(Victor Claes)* **488** Bay-breasted Warbler / Kastanjezanger *Setophaga castanea*, first-winter male, Corvo, Azores, 18 September 2020 *(Pierre-André Crochet)* **489** Brown Shrike / Bruine Klauwier *Lanius cristatus*, male, Krümmi, Kerzers, Fribourg, Switzerland, 15 August 2020 *(Adrian Jordi)*

barbatus that turned up in England in late June was still present in Derbyshire by at least mid-September; this wildborn bird was also seen in May-June in the Netherlands, northern France, the Channel Islands and Belgium (cf Dutch Birding 42: 278, 2020). In Israel, an immature **Bateleur** *Terathopius ecaudatus* stayed near Mt Yoseifun, Golan Heights, on 4-16 August and then further south near Mevo Hama on 30-31 August. In Sicily, Italy, an adult **Rüppell's Vulture** *Gyps rueppelli* first found at Monti Nebrodi on 2 October 2019 remained in this region through the summer, even mating with a Griffon Vulture *G fulvus*. In Austria, 25 pairs of **Eastern Imperial Eagle** *Aquila heliaca* had 35 young this year. The first **Dark Chanting Goshawk** *Melierax metabates* for Tunisia was photographed on an electricity pylon at Jbel El Haouaria, Cap Bon, on 22 September 2019. It was also the northernmost record of this species; elsewhere in North Africa, the species occurred locally in Morocco where, despite searching, no nest has been found since 1979 and the last sighting was in 2007 (Alauda 88: 235-236, 2020). The breeding population of **Hen Harrier** *Circus cyaneus* in the Wadden Sea national park of Niedersachsen, Germany, declined from 49 females in 2001 to only three in 2017; the total German breeding population was estimated at less than 20 females (https://tinyurl.com/yxhmwg8h). The first breeding confirmed for Poland since 21 years occurred this year near Głubczyce, Silesia. For the first time in France, **Pallid Harrier** *C macrourus* bred successfully with four young in southern Pas-de-Calais; in recent years, this species' breeding was also recorded for the first time in the Netherlands (2017), Spain (2019) and Czechia (2020). Between 3 and 9 August, as many as 61 629 **Black Kites** *Milvus migrans* passed over Strait of Gibraltar. This year, a pair bred in Sardinia for the first time since 1992.

OWLS In Iran, four **Omani Owls** *Strix butleri* and two **Turkish Fish Owls** *Bubo semenowi* were photographed in Minab, Hormozgan, in June-July. The breeding population of **Lapland Owl** *S lapponica* in Hedmark, Norway, increased from one pair in 2009 to more than 100 pairs in 2017-18, extending its distribution c 100 km to the south-west (https://tinyurl.com/yy338j86; cf Dutch Birding 35: 145-154, 2013). One photographed at Pusha, Rezekne, on 28 August was the ninth for Latvia since 1910. In early September, two **Snowy Owls** *B scandiacus* were reported in Scotland: a returning male at Ronas Hill, Mainland, Shetland, and a female on St Kilda, Outer Hebrides.

ROLLERS TO FALCONS On Sal, a **European Roller** *Coracias garrulus* on 12 August and a **Eurasian Wryneck** *Jynx torquilla* on 17 September were the third and second for the Cape Verde Islands, respectively. The first **Amur Falcon** *Falco amurensis* for Ukraine was an adult male photographed over Dnipro, Dnjepropetrovsk, on 4 August. If accepted, a second-calendar year **Eleonora's Falcon** *F eleonorae* at St Lambrecht, Steiermark, on 31 July will be the second or third for Austria. In England, a first-summer pale morph was photographed at Winterton Dunes, Norfolk, on 20 August and a dark morph was at Lytchett Bay, Dorset, on 25 August (eighth and ninth for Britain).

TYRANT-FLYCATCHERS TO CROWS The first **Yellow-bellied Flycatcher** *Empidonax flaviventris* for the WP stayed at Balephuil, Tiree, Argyll, Scotland, on 15-23 September. A first-winter **Alder Flycatcher** *E alnorum* photographed at Hvalsnes, Suðurnes, on 21 September (trapped and ringed next day) was the second for Iceland and the fifth for the WP. This autumn's first **Red-eyed Vireo** *Vireo olivaceus* in the WP was seen on Corvo, Azores, on 18 September. The second **Eurasian Golden Oriole** *Oriolus oriolus* for the Cape Verde Islands was photographed on Sal on 16 September. The first **Brown Shrike** *Lanius cristatus* for Switzerland was found at Krümmi, Kerzers, Fribourg, on 15 August. A first-winter at Warham Greens, Norfolk, from 18 September onwards was the 31st for Britain. A first-winter **Bay-backed Shrike** *L vittatus* photographed at Jahra East Outfall on 10 September was the first for Kuwait and the WP 'sensu BWP'. In the Canary Islands, two **Pied Crows** *Corvus albus* were reported at Las Palmas de Gran Canaria on 5 August.

LARKS TO CISTICOLAS In France, an adult **Shorelark** *Eremophila flava* summered at Hyères, Var, from 18 May to at least 3 September. A juvenile **Preuss's Swallow** *Petrochelidon preussi* photographed at Santa Maria, Sal, Cape Verde Islands, on 13-16 September was the first for the WP. The first-ever **Yellow-browed Warbler** *P inornatus* in August in Britain arrived on 31 August on North Ronaldsay, Orkney. One at Heist, West-Vlaanderen, Belgium, on 1 September was also exceptionally early. An **Eastern Bonelli's Warbler** *P orientalis* photographed and sound-recorded on Hoedic, Morbihan, on 15-23 August was the second for France. If accepted, a **Booted Warbler** *Iduna caligata* at Firenze, Toscana, on 7 September will be the second for Italy. An adult female **Paddyfield Warbler** *Acrocephalus agricola* ringed at Falsterbo, Skåne, Sweden, on 24 July 2018 was retrapped here on 19 August. This summer, a mixed pair of **Blyth's Reed Warbler** *A dumetorum* and **Marsh Warbler** *A palustris* successfully raised at least one juvenile (confirmed by DNA analysis) on Helgoland, Schleswig-Holstein, Germany. The first breeding of **Zitting Cisticolas** *Cisticola juncidis* in Germany concerned a pair raising young in Saarland this summer.

WAXWINGS TO FLYCATCHERS Two adult **Bohemian Waxwings** *Bombycilla garrulus* feeding two young at Alajõe on 15 August constituted the second breeding for Estonia (the first was in 1968). A large population of **Algerian Nuthatch** *Sitta ledanti* was discovered in the central parts of the Tamentout forest, Kabylie des Babors, Algeria, in May-June 2019, where 187 individuals (80 pairs and 27 solitary individuals) were counted in an area of 9688 ha mainly between 1130 and 1413 m altitude (https://tinyurl.com/yxugg8fr). This autumn's first **White's Thrush** *Zoothera aurea* was trapped on Greifswalder Oie, Mecklenburg-Vorpommern, Germany, on 20 September. The season's first American thrush was the 43rd **Swainson's Thrush** *Catharus ustulatus* for Britain trapped on Burray, Orkney, on 17 September. The 10th for Iceland was photographed at Suðurnes, Seltjörn, on 23 September onwards. The third **Western Rufous-tailed Scrub Robin** *Cercotrichas galactotes galactotes* for the Netherlands was trapped at Oostvaardersdijk, Flevoland, on 13 September and present until the evening of 16 September (previous ones were on 25-27 September 2013 and on 20-24 September 2016). This summer, it was a record year for **Red-flanked Bluetail** *Tarsiger cyanurus* breeding in Finland with c 730 singing males (the previous high was 580 in 2012); one pair bred in Sør-Varanger, Finnmark, Norway. A **Red-breasted Flycatcher** *Ficedula parva* ringed as a juvenile at Chituc, Romania, in September 2018 was trapped (and eaten) in Pakistan in April 2020. Frédéric Jiguet used data from loggers to find that three **Spotted Flycatchers** *Muscicapa striata* from Maine-et-Loire, France, three **Balearic Flycatchers** *M tyrrhenica balearica* from Menorca, Balearic Islands, Spain, and five **Tyrrhenian Flycatchers** *M t tyrrhenica* from Corsica, France, spent December-January in the same region of Angola (https://tinyurl.com/yyua86ts).

SPARROWS TO BOBOLINK Since 20 July, a possible male **Italian Sparrow** *Passer italiae* stayed with a hybrid **Italian x House Sparrow** *P italiae x domesticus* at Berlin-Treptow, Germany. The seventh **Yellow-throated Sparrow** *Gymnoris xanthocollis* for Israel was ringed at Einot Tzukim reserve on 25 August. The first breeding **Black-headed Wagtail** *Motacilla feldegg* for Poland concerned a pair with five chicks near Żywiec, Małopolska, in June-July; all young were ringed and material was obtained for genetic analysis. In the Netherlands, the long-staying possible **Amur Wagtail** *M leucopsis* at Strypsche Wetering, Rockanje, Zuid-Holland, from 16 April remained until at least 8 September. In Iceland, **American Buff-bellied Pipits** *Anthus rubescens rubes-*

490 Western Rufous-tailed Scrub Robin / Westelijke Rosse Waaierstaart *Cercotrichas galactotes galactotes*, Oostvaardersdijk, Flevoland, Netherlands, 15 September 2020 *(Thijs Glastra)* **491** Bay-backed Shrike / Bruinrugklauwier *Lanius vittatus*, first-winter, Jahra East Outfall, Kuwait, 10 September 2020 *(Abdulrahman Al-Sirhan)* **492** Possible Italian Sparrow / mogelijke Italiaanse Mus *Passer italiae*, male, Berlin-Treptow, Brandenburg, Germany, 30 July 2020 *(Martin Gottschling)*

493 Alder Flycatcher / Elzenfeetiran *Empidonax alnorum*, first-winter, Hvalsnes, Suðurnes, Iceland, 21 September 2020 *(Yann Kolbeinsson)* **494** Yellow-bellied Flycatcher / Berkenfeetiran *Empidonax flaviventris*, first-winter, Balephuil, Tiree, Argyll, Scotland, 15 September 2020 *(John Bowler)* **495** Yellow-bellied Flycatcher / Berkenfeetiran *Empidonax flaviventris*, first-winter, Balephuil, Tiree, Argyll, Scotland, 17 September 2020 *(Richard Bonser)*

496 Black-and-white Warbler / Bonte Zanger *Mniotilta varia*, first-winter male, Grødalandskogen, Hå, Rogaland, Norway, 23 September 2020 *(Sigmar Lode)*

497 Cape May Warbler / Tijgerzanger *Setophaga tigrina*, first-winter female, Utsira, Rogaland, Norway, 23 September 2020 *(Bjørn Mo)*

cens were found at Fitjatjörn on 21 September and at Garðskagi on 23 September. The fourth **Bobolink** *Dolichonyx oryzivorus* for Ireland was photographed at Fanad Head, Donegal, on 21-22 September.

AMERICAN WARBLERS The identity of a hybrid **Blue-winged x Cerulean Warbler** *Vermivora cyanoptera x Setophaga cerulea* trapped at Sandhill Wildlife Area, Wisconsin, USA, in May 2017 was confirmed by DNA analysis; unlike other intergeneric American warbler hybrids, this individual's song matched its maternal parent species (Cerulean), suggesting that it might have been the result of an extra-pair mating and raised in a Cerulean nest (Biol J Linn Soc 131: 183-191, 2020). A first-winter male **Black-and-white Warbler** *Mniotilta varia* photographed at Grødalandskogen, Hå, Rogaland, on 23 September was the first for Norway. A first-winter **Tennessee Warbler** *Leiothlypis peregrina* on Hrísey on 22 September was the third for Iceland. The first **Cape May Warbler** *S tigrina* for Norway and the fourth for the WP was a first-winter female ringed on Utsira, Rogaland, on 23 September and stayed for at least two days. A first-winter male **Bay-breasted Warbler** *S castanea* photographed on Corvo on 18 September was the third for the Azores and the fourth for the WP.

SEABIRDS IN THE CAPE VERDE ISLANDS Semedo et al (2020) published new data on surveys of seabirds colonies in the Cape Verde Islands in 2017-19 with current distribution maps of WP specialities like **Red-billed Tropicbird** *P aethereus*, **White-faced Storm Petrel** *Pelagodroma marina*, **Cape Verde Storm Petrel** *Hydrobates jabejabe*, **Fea's Petrel** *P feae*, **Cape Verde Shearwater** *C edwardsii*, **Boyd's Shearwater** *P boydi*, **Bulwer's Petrel** *Bulweria bulwerii* and **Brown Booby** (https://tinyurl.com/yys5jf93).

For a number of reports Birdwatch, British Birds, Global Rare Bird Alert Facebook, Sovonnieuws, www.birdguides.com, www.clanga.com, www.dutchavifauna.nl, www.go-south.org, www.magornitho.org, www.rarebirdalert.co.uk, www.rarebirdspain.net, www.tarsiger.com, www.waarneming.nl and many others were consulted. We wish to thank Abdulrahman Al-Sirhan, Mohamed Amezian, Floor Arts, Patrick Bergier, Richard Bonser, John Bowler, Maria-Adel and Paul Bradbeer, Mika Bruun, Oscar Campbell, Victor Claes, Magnus Corell, Andrea Corso, Pierre-André Crochet, Davide D'Amico, Jochen Dierschke, Philippe Dubois, Nils van Duivendijk, Enno Ebels, Yann Février, Robert Flood, Raymond Galea, Eduardo Garcia-del-Rey, Thijs Glastra, Martin Gottschling, Eirik Grønningsæter, Marcello Grussu, Ricard Gutiérrez, Nitay Haiun, Danni and Zac Hinchcliffe, Johannes Hohenegger, Frédéric Jiguet, Josh Jones, Adrian Jordi, Zbigniew Kajzer, Abolghasem Khaleghizadeh, Leander Khil, Bence Kókay, Yann Kolbeinsson, Richard Kvetko, Sigmar Lode, André van Loon, Daniel López-Velasco, Lionel Maumary, Bjørn Mo, Geir Mobakken, Yoav Perlman, René Pop, Nikos Probonas, Colin Richardson, Sébastien Roques, Susana Simião, Jiri Sirek, Vincent van der Spek, Rasmus Strack, Ehsan Talebi, Uwe Thom, Hugo Touzé, André Vieira, Sam Viles, Roland van der Vliet, Peter de Vries and Mohamed Wkry for their help in compiling this review.

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Recente meldingen

Dit overzicht van recente meldingen van zeldzame en interessante vogels in Nederland beslaat voornamelijk de periode **juli-augustus 2020**. De vermelde gevallen zijn deels niet geverifieerd en het overzicht is niet volledig.

GANZEN EN EENDEN Een **Zwarte Rotgans** *Branta nigricans* werd nog waargenomen op 1 juni op Texel, Noord-Holland, pas de vierde juniwaarneming ooit. Ongeringde **Ross' Ganzen** *Anser rossii* werden op drie locaties gemeld: van 1 tot 15 juli bij de Twijzelermieden, Friesland; van 27 juli tot 30 augustus in de Lauwersmeer, Groningen; en op 30 juli bij Kolham, Groningen. Sensationeel is de vondst van een nest met eieren van **IJseend** *Clangula hyemalis* bij het Lingemeer bij Tiel, Gelderland. Op 17 juli bleek het nest gepredeerd. Na het eerste, geslaagde broedgeval vorig jaar op de Marker Wadden, Flevoland, is dit de tweede broedpoging, op een plek waar de afgelopen twee jaar al een vrouwtje overzomerde. Daarnaast werden drie exemplaren gezien op de Marker Wadden, waar dit jaar niet is gebroed. Trekkers vlogen op 11 juli naar noord langs telpost Westerslag, Texel, en op 31 augustus naar zuid langs telpost Castricum aan Zee, Noord-Holland. Na ruim een maand uit beeld te zijn geweest werd het lang verblijvende mannetje **Koningseider** *Somateria spectabilis* van Texel weer waargenomen op 17 juli op de Waddenzee. De vogel was volledig in eclipskleed en werd gemeld tot 21 augustus. Het overzomerende mannetje **Buffelkopeend** *Bucephala albeola* in de Brabantse Biesbosch, Noord-Brabant, bleef tot tenminste 30 augustus. Opmerkelijk was de aanwezigheid van 25 juli tot 7 augustus van een met een kwekersring geringd exemplaar in de Zuiderhaven bij Den Oever, Noord-Holland, op dezelfde plek waar sinds 2014 een ongeringd mannetje in het najaar terugkeert om te overwinteren.

FLAMINGO'S TOT PIJLSTORMVOGELS **Flamingo's** *Phoenicopterus roseus* werden gemeld in 40 uurhokken, hetgeen een goed jaar betekent. Spectaculair was een groep van zeven op 10 juli bij Milsbeek, Limburg, omdat twee exemplaren (een adult en een tweedejaars) waren geringd in Lagune de Fuente Piedra, Andalusië, Zuid-Spanje. De adulte vogel was er geringd in 2010 en sindsdien (slechts) eenmaal teruggemeld, in het noordoosten van Italië. Dit is de eerste keer dat ringen van vogels van een wilde populatie konden worden afgelezen in Nederland. De groep foerageerde de volgende dag in Waterland, ten noorden van Amsterdam, Noord-Holland, en bleef daar tot 20 juli. Hierna vertoefde deze van 22 juli tot tenminste 14 augustus op de Marker Wadden en van 29 tot 31 augustus in de Oostvaardersplassen, Flevoland, waar het aantal was toegenomen tot 10 exemplaren. **Alpengierzwaluwen** *Tachymarptis melba* vlogen op 14 juli bij Egmond-Binnen, Noord-Holland, en op 10 augustus over Westenschouwen, Zeeland. Op drie plekken waren **Kleine Waterhoenders** *Zapornia parva* aanwezig: van 9 tot 11 augustus een juveniel in het Zuidlaardermeergebied, Groningen; op 14 augustus een adult vrouwtje in de Eendragtspolder bij Zevenhuizen, Zuid-Holland; en van 20 tot 28 augustus een juveniel bij Budel, Noord-Brabant. Deze laatste was uitzonderlijk tam en werd daarom veelvuldig bezocht; hij bleek verzwakt en stierf op 28 augustus. Op 3 juli werd het zingende mannetje **Kleinst Waterhoen** *Z pusilla* in de Kennemerduinen bij Bloemendaal, Noord-Holland, voor het laatst gehoord. Een coöperatief juveniel exemplaar was van 14 tot 28 augustus een trekpleister bij Wissenkerke, Zeeland. Het enige **Vale Stormvogeltje** *Hydrobates leucorhous* trok op 28 augustus langs telpost Bloemendaal aan Zee, Noord-Holland. De stormen van eind augustus zorgden voor 42 **Grauwe Pijlstormvogels** *Ardenna grisea* langs telposten, de meeste in Zuid-Holland. Het aantal van 11 **Noordse Pijlstormvogels** *Puffinus puffinus* stak daar een beetje schril bij af. In totaal werden 13 **Vale Pijlstormvogels** *P mauretanicus* gezien, de meeste eind augustus. Er waren geen waarnemingen in juli, voorheen dé maand voor deze soort. Op 3 augustus werd een dood exemplaar gevonden op het strand ten noorden van Castricum aan Zee.

OOIEVAARS TOT IBISSEN **Zwarte Ooievaars** *Ciconia nigra* werden in maar liefst 287 uurhokken waargenomen, vooral in Zuidoost-Brabant. Het hoogste aantal betrof een groep van 11 pleisteraars op 29 augustus in de Mariapeel, Limburg. Op telposten werden 129 exemplaren vastgesteld. Een juveniel dat op het nest was geringd in Lorraine, Frankrijk, werd van 30 juli tot zeker 9 augustus op Texel gezien. Op 27 augustus werd een juveniel met alleen een metalen ring opgevangen in een vogelasiel en later losgelaten bij de Dijkgatsweide in de Wieringermeer, Noord-Holland. Op 31 augustus noteerde telpost Brobbelbies-Noord bij Uden, Noord-Brabant, een nieuw landelijk record voor **Ooievaar** *C ciconia* met 763 exemplaren, daarmee het oude record (257) van telpost Hazewater bij Amersfoort, Utrecht, verpulverend. De **Roze Pelikaan** *Pelecanus onocrotalus* bleef de gehele periode nog in het Reestdal, Drenthe/Overijssel. **Koereigers** *Bubulcus ibis* hielden zich met name op in het zuidwesten. Het maximum had betrekking op een groep van 10 op 16 juli op in het Veerse Meer, Zeeland. **Zwarte Ibissen** *Plegadis falcinellus* werden op zes locaties gezien. Alleen het exemplaar van Kampen en Hattem, Overijssel, bleef langere tijd, vanaf 5 juli.

STELTLOPERS Deze periode werden drie **Grielen** *Burhinus oedicnemus* waargenomen: op 7 juli in de Amsterdamse Waterleidingduinen, Noord-Holland; op 15 juli bij Westhoek, Friesland; en op 22 juli in Meijendel, Zuid-Holland. Op zeker negen plekken vonden geslaagde broedgevallen van **Steltkluut** *Himantopus himantopus* plaats. Op 27 juli werd een **Amerikaanse Goud-**

498 Kleinst Waterhoen / Baillon's Crake *Porzana pusilla*, juveniel, Wissenkerke, Noord-Beveland, Zeeland, 15 augustus 2020 *(Corstiaan Beeke)*

499 Klein Waterhoen / Little Crake *Porzana parva*, juveniel, Budel, Noord-Brabant, 22 augustus 2020 *(John van der Graaf)*

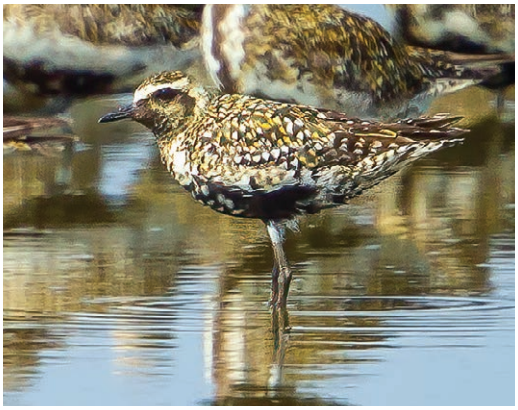
500 Flamingo's / Greater Flamingos *Phoenicopterus roseus*, Polder IJdoorn, Durgerdam, Noord-Holland, 11 juli 2020 *(Arnold Meijer)*

501 Flamingo / Greater Flamingo *Phoenicopterus roseus*, adult, Polder IJdoorn, Durgerdam, Noord-Holland, 11 juli 2020 *(Jaap Denee)*

plevier *Pluvialis dominica* gevonden tussen Goudplevieren *P apricaria* en Kieviten *Vanellus vanellus* bij Koehool, Friesland. Op 18 juli werden twee **Aziatische Goudplevieren** *P fulva* waargenomen in de Kroonspolders op Vlieland, Friesland. Op 27 juli werden het er zelfs drie, het hoogste aantal tot nu toe op één locatie. Naar alle waarschijnlijkheid zat hier op 9 augustus een nieuwe en ook op 21 augustus werd weer een exemplaar gemeld. Daarnaast waren er waarnemingen op 2 augustus bij Ruidhorn, Groningen; van 8 tot 10 augustus in de Workumerwaard, Friesland; en verder scoorde Zeeland goed met maar liefst drie verschillende: van 16 tot 24 augustus op Tholen; van 23 tot 30 augustus bij Kerkwerve; en op 29 augustus bij Wolphaartsdijk. De trek van **Morinelplevier** *Charadrius morinellus* kwam goed op gang met waarnemingen uit 65 uurhokken en 43 over telposten en één op een nachtelijke opname. De grootste groep pleisteraars bestond uit 10 op 17 augustus bij Aagtekerke, Zeeland. Op 15 augustus werd in het Noordervroon bij Westkapelle, Zeeland, een gekke plevier gefotografeerd. Al snel werd deze gedetermineerd als mannetje **Steppeplevier** *Anarhynchus veredus*. De vogel was inmiddels uit beeld maar werd gelukkig vrij snel op een akker in de buurt van Domburg teruggevonden in een groep Goudplevieren. Hier was de vogel c vijf uur twitchbaar, waarna hij in zijn eentje hoog naar het zuidwesten opvloog en niet meer werd teruggezien. Dit betreft het eerste geval en pas het vierde in de WP. **Breedbekstrandlopers** *Calidris falcinellus* werden uitsluitend gezien in het Waddengebied: van 16 tot 19 juli op de Schorren op Texel; op 23 juli bij Paesens-Moddergat, Friesland; op 27 juli minimaal twee bij Koehool en Westhoek; op 30 juli bij Holwerd, Friesland; en van 30 juli tot 8 augustus in de Dollard, Groningen. Een volledig zomerkleed **Bonapartes Strandloper** *C fuscicollis* verbleef van 20 juli tot 7 augustus in Utopia op Texel. Ook werd een exemplaar gezien in de Workumerwaard van 19 augustus tot in september. **Gestreepte Strandlopers** *C melanotos* liepen op minimaal zes plekken. Maximaal drie tegelijkertijd werden gezien op 10 juli op de Bochtjesplaat in de Lauwersmeer, Friesland. Een **Terekruiter** *Xenus cinereus* was van 24 tot 28 juli aanwezig bij Holwerd. Daarnaast werd een exemplaar van 1 tot 8 augustus gemeld op de inmiddels traditionele pleisterplek in de Dollard. Opmerkelijk was de nachtelijke opname op 25 augustus over een tuin in Arnhem, Gelderland. Vorig jaar stond hier ook al twee keer een roepend exemplaar op de geluidsrecorder. Op 23 juli werd een adult-zomer **Amerikaanse Oeverloper** *Actitis macularius* ontdekt in het Verdronken Land van Saeftinghe, Zeeland. Hij zat in een niet toegankelijk gebied maar dankzij excursies konden vogelaars toch tot 26 juli genieten van deze soort. Het betreft pas het vijfde geval. Op 10 juli werd een **Kleine Geelpootruiter** *Tringa flavipes* waargenomen bij Avenhorn, Noord-Holland. **Poelruiters** *T stagnatilis* werden gezien op c 10 locaties in het noorden, met een maximum van drie op 30 juli in de Onnerpolder in het Zuidlaardermeergebied. **Poelsnippen**

502 Bonapartes Strandloper / White-rumped Sandpiper *Calidris fuscicollis*, adult zomer, Utopia, Texel, Noord-Holland, 25 juli 2020 *(Ruwan Aluvihare)*

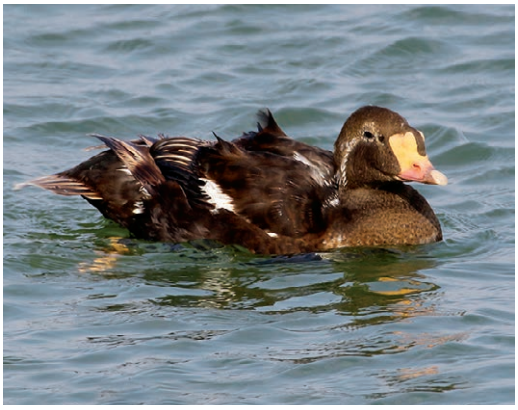


503 Griel / Eurasian Stone-curlew *Burhinus oedicnemus*, Meijendel, Zuid-Holland, 22 juli 2020 *(Gerjon Gelling)* **504** Amerikaanse Oeverloper / Spotted Sandpiper *Actitis macularius*, Verdronken Land van Saeftinghe, Zeeland, 25 juli 2020 *(Corstiaan Beeke)* **505** Aziatische Goudplevier / Pacific Golden Plover *Pluvialis fulva*, Kerkwerve, Zeeland, 23 augustus 2020 *(Corstiaan Beeke)* **506** Aziatische Goudplevier / Pacific Golden Plover *Pluvialis fulva*, Tholen, Zeeland, 16 augustus 2020 *(Kris De Rouck)* **507** Amerikaanse Goudplevier / American Golden Plover *Pluvialis dominica*, Koehool, Friesland, 27 juli 2020 *(Corstiaan Beeke)* **508** Steppeplevier / Oriental Plover *Anarhynchus veredus*, mannetje, Domburg, Zeeland, 15 augustus 2020 *(Kris De Rouck)*








509 Schreeuwarend / Lesser Spotted Eagle *Clanga pomarina*, Balloërveld, Ballo, Drenthe, 13 juli 2020 *(Thom Schroot)* **510** Slangenarend / Short-toed Snake Eagle *Circaetus gallicus*, tweede-kalenderjaar, Bilthoven, Utrecht, 3 juli 2020 *(Benjamin Simmelink)* **511** Grijze Wouw / Black-winged Kite *Elanus caeruleus*, Meinweg, Limburg, 9 juli 2020 *(Mariet Verbeek)* **512** Steppekiekendief / Pallid Harrier *Circus macrourus*, eerste-kalenderjaar, Sint Maartensvlotbrug, Noord-Holland, 30 augustus 2020 *(Harm Niesen)* **513** Koningseider / King Eider *Somateria spectabilis*, adult mannetje eclips, Waddenzee nabij Wagejot, Texel, Noord-Holland, 18 juli 2020 *(Eric Menkveld)* **514** Dougalls Stern / Roseate Tern *Sterna dougallii*, derde-kalenderjaar (op basis van ring), De Putten, Camperduin, Noord-Holland, 22 juli 2020 *(Eric Menkveld)*

515 Kleinste Jager / Long-tailed Jaeger *Stercorarius longicaudus*, tweede-kalenderjaar, Alblasserdam, Zuid-Holland, 11 juli 2020 *(Eduard Sangster)*

516 Kleinste Jager / Long-tailed Jaeger *Stercorarius longicaudus*, juveniel, Petten, Noord-Holland, 29 augustus 2020 *(Diederik Kok)*

517 Grijze Wouw / Black-winged Kite *Elanus caeruleus*, eerste-kalenderjaar, Sibbe, Limburg, 28 augustus 2020 *(Eduard Sangster)*

518 Steppevorkstaartplevier / Black-winged Pratincole *Glareola nordmanni*, eerste-kalenderjaar, Schagerbrug, Noord-Holland, 13 augustus 2020 *(Renate Visscher)*

519 Slangenarend / Short-toed Snake Eagle *Circaetus gallicus*, adult, Fochteloërveen, Friesland, 27 augustus 2020 *(Corstiaan Beeke)* **520** Slangenarend / Short-toed Snake Eagle *Circaetus gallicus*, tweede-kalenderjaar, Wieringerwerf, Noord-Holland, 1 juli 2020 *(Johan van der Vegt)* **521** Slangenarend / Short-toed Snake Eagle *Circaetus gallicus*, adult, Oude Willem, Drenthe, 20 augustus 2020 *(Martijn Bot/birdingholland.nl)*

Gallinago media verschenen van 19 tot 21 augustus bij Staphorst, Overijssel, en op 24 augustus bij de Westerplas op Schiermonnikoog, Friesland. Vanaf 11 augustus verbleef een eerste-kalenderjaar **Steppevorkstaartplevier** *Glareola nordmanni* rondom Schagerbrug en Camperduin, Noord-Holland. Op 20 augustus werd er ook kortstondig één gemeld bij Kerkwerve.

JAGERS TOT STERNS Op 11 en 12 juli vloog een tweede-kalenderjaar **Kleinste Jager** *Stercorarius longicaudus* rond bij Ridderkerk en Alblasserdam, Zuid-Holland. Deze soort is erg zeldzaam in juli en dit kleed wordt ook bijna nooit gezien op het Noordelijk Halfrond. Er waren bovendien maar liefst 26 trekkers langs telposten. Daarnaast noteerden zeetrektellers al 265 **Kleine** *S parasiticus,* zeven **Middelste** *S pomarinus* en 92 **Grote Jagers** *S skua*. En opnieuw dook de onvolwassen **Vorkstaartmeeuw** *Xema sabini* op bij Koehool, te weten op 5 juli, terwijl de laatste waarneming hier dateerde van 7 mei. Daarnaast werden er minimaal 12 gezien, waaronder enkele in adult zomerkleed, tijdens de stormachtige dagen eind augustus. De derde-kalenderjaar **Grote Burgemeester** *Larus hyperboreus* was de gehele periode nog aanwezig in de haven van Vlissingen, Zeeland. **Lachsterns** *Gelochelidon nilotica* arriveerden vanaf 11 juli op de bekende pleisterplaats bij Alteveer, Groningen, waar het aantal aangroeide tot maximaal 42. Tijdens een slaapplaatstelling op 30 juli bij de Dollard werden er 25 geteld. Vanaf eind juli verschoof de verspreiding weer naar de Kop van Noord-Holland, waar een maximum van 29 werd geteld op 7 augustus op de slaapplaats op het Balgzand. Vanaf medio augustus werden enkele trekkers in Zuid-Holland gezien. **Reuzensterns** *Hydroprogne caspia* waren talrijk, met waarnemingen in 145 uurhokken. De hoogste aantallen werden vastgesteld op slaapplaatsen, zoals 104 op 13 augustus in de Workumerwaard en 53 op 22 augustus op het wad ter hoogte van de Bantpolder, Friesland. Onder de 100 die op telposten werden waargenomen zaten ook drie nachtelijke opnames. Waarnemingen van **Witwangsterns** *Chlidonias hybrida* bleven vrijwel uitsluitend beperkt tot de omgeving van de broedkolonies in het Zuidlaardermeergebied, waar op 24 juli één groep van 106 werd geteld, het luchtruim kiezend vanwege een jagende Havik *Accipiter gentilis*. De tweede-kalenderjaar **Dougalls Stern** *Sterna dougallii* van De Putten bij Camperduin werd alleen nog gezien op 1 juli. De adulte vogel van De Putten werd gemeld tot 2 augustus. Op 4 augustus werd mogelijk dezelfde adult gefotografeerd op de Tweede Maasvlakte, Zuid-Holland. Op 1 juli werd een adult gemeld vanaf telpost Castricum aan Zee.

ROOFVOGELS EN UILEN Tot nu toe is 10 het hoogste aantal **Grijze Wouwen** *Elanus caeruleus* in één jaar (2017).

522 Waterrietzanger / Aquatic Warbler *Acrocephalus paludicola*, eerste-kalenderjaar, Zevenhuizen, Zuid-Holland, 20 augustus 2020 *(Julian Bosch)*

523 Zwartkopgors / Black-headed Bunting *Emberiza melanocephala*, eerste-kalenderjaar, Renvogelveld, De Cocksdorp, Texel, Noord-Holland, 24 augustus 2020 *(Jeroen de Bruijn)*

524 Grauwe Fitis / Greenish Warbler *Phylloscopus trochiloides*, eerste-kalenderjaar, Terschelling, Friesland, 27 augustus 2020 *(Tim Schipper)*

525 Kleine Spotvogel / Booted Warbler *Iduna caligata*, eerste-kalenderjaar, Ooijse Graaf, Ooijpolder, Gelderland, 28 augustus 2020 *(Marijn Nijssen)*

De tussenstand voor dit jaar is op 10 gekomen, met nieuwe gevallen van 7 tot 10 juli in Nationaal Park de Meinweg, Limburg; op 19 augustus bij Bath, Zeeland; vanaf 21 augustus in het Hamsterreservaat bij Sibbe, Limburg; en op 30 augustus over telpost Hazewater. **Slangenarenden** *Circaetus gallicus* werden gemeld uit 34 uurhokken. In het Drents-Friesewold, Drenthe, werden er op 11 augustus drie op hetzelfde moment gezien. Op 12 juli vlogen vier **Vale Gieren** *Gyps fulvus* richting noordoost bij Maarn, Utrecht. Ze konden worden opgepikt bij Ede, Gelderland. De volgende ochtend stegen ze op vanaf de Hoge Veluwe, Gelderland, en zetten koers verder naar het noordoosten. Ze werden voor het laatst gemeld boven Loozen, Overijssel. Op 13 juli werd een **Schreeuwarend** *Clanga pomarina* gefotografeerd boven het Balloërveld, Drenthe. Dit betreft, indien aanvaard, het 16e geval, een stuk minder dan het aantal gevallen van Bastaardarend *C clanga* (35). Het is nog niet bekend of er dit jaar opnieuw **Steppekiekendieven** *Circus macrourus* in Groningen hebben gebroed. Wel verbleven er in juli vijf tot zes tweede-kalenderjaar mannetjes in het oosten van deze provincie. Verder waren er opvallend weinig waarnemingen. Op 29 augustus vloog een derde-kalenderjaar mannetje over Vliegbasis Soesterberg, Utrecht, en vanaf 30 augustus verbleef een eerste-kalenderjaar mannetje tussen Petten en Camperduin. De **Dwergooruil** *Otus scops* die op 1 juni werd gevonden als raamslachtoffer in Oudemirdum, Friesland, is hersteld in de vogelopvang De Fûgelhelling bij Drachten, Friesland en werd op 3 augustus in goede gezondheid vrijgelaten in Slenaken, Limburg.

HOPPEN TOT VALKEN Maximaal drie **Hoppen** *Upupa epops* van het geslaagde broedgeval werden nog tot 1 augustus in de Amsterdamse Waterleidingduinen gezien. Hierbuiten waren er waarnemingen uit ruim 20 uurhokken. Voor zover bekend broedde in ieder geval één paar **Bijeneters** *Merops apiaster* op Tholen. Verder waren er verspreid door het land waarnemingen, met de grootste groepen in Limburg: 19 op 4 augustus bij Paarlo en niet minder dan 30 op 14 augustus bij Tegelen, vlak bij de grens met Duitsland. **Roodpootvalken** *Falco vespertinus* werden waargenomen in 30 uurhokken. Alleen bij Wijhe, Overijssel, was er sprake van twee exemplaren, op 19 augustus. Trektellers registreerden er 10.

KLAUWIEREN TOT GRASZANGERS Op 4 augustus was een adulte **Roodkopklauwier** *Lanius senator* aanwezig in de Midden-Heerenduinen bij IJmuiden, Noord-Holland. Op 19 augustus zong een **Grauwe Fitis** *Phylloscopus trochiloides* op Vlieland. Daarna was het een goede periode met op 27 augustus één op Terschelling, Friesland; op 29 augustus één op Vlieland; en van 30 augustus tot in september één op Schiermonnikoog. De **Iberische Tjiftjaf** *P ibericus* in Haarlem, Noord-Holland, werd gehoord tot 11 juli. Acht **Sperwergrasmussen** *Sylvia nisoria* werden waargenomen in augustus. De vroegste was op 10 augustus op Rottumerplaat, Groningen. Op 28 augustus werd een **Kleine Spotvogel** *Iduna caligata* geringd in de Ooijpolder, Gelderland. Dit is het 33e geval, waaronder 12 ringvangsten. Op acht plekken werden **Orpheusspotvogels** *Hippolais polyglotta* gemeld met het merendeel in Noord-Brabant en Limburg. Opmerkelijk was het broedgeval van een gemengd paar Orpheusspotvogel x Spotvogel *H polyglotta x icterina* met ten minste twee jongen bij Cottessen, Limburg. In 2009 werden op dezelfde plek twee hybride jongen geringd. Na een ongelofelijk goed voorjaar voor **Struikrietzanger** *Acrocephalus dumetorum* waren de eerste twee ringvangsten van het najaar al vroeg een feit: op 12 augustus in Meijendel en op 16 augustus in de Amsterdamse Waterleidingduinen. September en oktober zijn statistisch gezien de beste maanden voor deze soort. De eerste **Waterrietzanger** *A paludicola*, een adult, werd dit jaar op 1 augustus geringd in Meijendel. Extra leuk was dat de vogel een Franse ring droeg, pas de derde aflezing van een buitenlandse ring in Nederland! Vanaf 5 augustus werden meer vogels ontdekt, waaronder ten

minste drie bij Zevenhuizen op 10 augustus en ook drie bij Nijkerk, Gelderland, op 12 augustus. Tot 20 augustus was bij Zevenhuizen minimaal één exemplaar aanwezig, welke veel bekijks trok. Verder waren er nog c 20 veldwaarnemingen. Op de ringstations was het rustiger; slechts zes lieten zich vangen. Buiten het bolwerk in Zeeuws-Vlaanderen, Zeeland, werden zingende **Graszangers** *Cisticola juncidis* gevonden op acht locaties, de meest noordelijke in de Bantpolder op 28 en 29 augustus.

WATERSPREEUWEN TOT KWIKSTAARTEN De gehele periode werden op verschillende plekken langs de Geul in Zuid-Limburg adulte en juveniele **Roodbuikwaterspreeuwen** *Cinclus cinclus aquaticus* gezien. Er kwamen nog aardig wat adulte **Roze Spreeuwen** *Pastor roseus* binnen en vanaf medio augustus bovendien de eerste juveniele, op basis van waarnemingen uit 27 uurhokken, met name in het westen van het land. Op 11 juli en 3 augustus werd opnieuw een **Noordse Nachtegaal** *Luscinia luscinia* teruggevangen in de Kennemerduinen, waar dezelfde vogel in mei al meerdere keren in de netten hing. Verder werd er nog een exemplaar geringd op 15 augustus in Meijendel. Een mannetje **Rode Rotslijster** *Monticola saxatilis* werd op 16 juli gevonden bij Uffelte, Drenthe. De vogel was verzwakt en werd een week later helaas dood aangetroffen. Het betreft alweer het derde geval dit jaar, wat het totaal op 17 brengt. Twee eerstekalenderjaar **Citroenkwikstaarten** *Motacilla citreola* werden gezien: op 22 augustus in de Duffelt, Gelderland, en van 27 tot 29 augustus op verschillende plekken op Terschelling, pas de tweede voor het eiland. De mogelijke **Amoerkwikstaart** *M leucopsis* bleef nog de gehele periode bij Rockanje, Zuid-Holland.

PIEPERS EN GORZEN De afgelopen 10 jaar zijn er in juli-augustus bij lange na niet zoveel **Duinpiepers** *Anthus campestris* geteld op telposten als dit jaar, namelijk 199. Telpost Loozerheide bij Weert, Limburg, had met 75 een groot aandeel. Daarnaast was er ook een nachtelijke opname. Het gemiddelde voor deze periode in die jaren bedraagt 73. De meeste vogels aan de grond bevonden zich eveneens in Zuidoost-Nederland. Texel scoorde een eerste-kalenderjaar **Zwartkopgors** *Emberiza melanocephala* op 24 augustus. Indien aanvaard betekent dit pas het tweede geval van deze leeftijd, na een vogel bij Ridderkerk in het najaar van 2016. Slechts een schamele 14 **Ortolanen** *E hortulana* werden opgemerkt op telposten. Dit is het laagste aantal in juli-augustus sinds 2011 (vier). Een hoger aantal, 22, werd vastgesteld met nachtelijke opnames. Op enkele plekken werden pleisteraars gevonden.

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