

Unravelling Meinertzhagen-generated confusion concerning the occurrence of Pale Sand Martin *Riparia diluta* in Egypt and the Near East, with a review of the species' status in the Middle East

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We present evidence to dispute the often-stated 'fact' that the recently recognised species, Pale Sand Martin *Riparia diluta*, a principally Central Asian breeder, has been recorded in the Near East and Egypt. Claims from the latter country are based solely on misidentified specimens collected by Michael Nicoll and Richard Meinertzhagen, and the second-named was also responsible for equally erroneous claims from southernmost Turkey and Saudi Arabia. Some of these reports have been perpetuated in subsequent literature down to the present. Statements concerning the species' occurrence and status in Israel are to some extent contradictory and require clarification; we therefore consider that more proof of its presence in that country than has been provided to date is required. Status in Iran is also discussed in the light of significant recent advances in knowledge of separating *R. diluta* from Common Sand Martin *R. riparia*. The sole available evidence for the species' occurrence therein appears to be a recent, unpublished, photographic record. Finally, we present a résumé of other Middle Eastern records of Pale Sand Martin, all of them since the year 2000, from the easternmost portion of the Arabian peninsula.

INTRODUCTION

During the course of the last c15 years the extent to which The Natural History Museum (NHM, Tring, UK) bird collection and the ornithological record in general are compromised by specimen fraud perpetrated by Richard Meinertzhagen has become increasingly apparent (see *eg* Rasmussen & Prys-Jones 2003). However, not all problems concerning Meinertzhagen's specimens are the result of fraudulent activity; some, like those of his peers, apparently pertain to simple misidentifications. Here we discuss Meinertzhagen-generated errors concerning the status of Pale Sand Martin *Riparia diluta* in Egypt and the Near East. It merits stating at the outset that knowledge concerning the characters unequivocal of *R. diluta* and those taxa considered most closely related to it were subject to considerable confusion amongst ornithologists well into the second half of the 20th century, some of them with far more experience of the relevant forms than Meinertzhagen. Nonetheless, in the present case, the erroneous statements he published have, to a greater or lesser extent, been accepted and perpetuated until the present day.

R. diluta was, until recently, generally considered a subspecies of Common Sand Martin *R. riparia*, but is now increasingly frequently regarded as a species apart, based on vocal and morphological differences, and the realisation that the two breed in separate colonies over a broad area of sympatry in Central (Middle) Asia (Gavrilov & Savchenko 1991, Goroshko 1993, Loskot & Dickinson 2001, Turner 2004, Rasmussen & Anderton 2005, Loskot 2006), but also in mixed colonies with no evidence of mixed pairings *eg* at lake Alakol in eastern Kazakhstan (P Alström, AG, PA Lassey and L Svensson pers obs). Molecular evidence also supports their specific status (Pavlova *et al* 2008). Pale Sand Martin breeds from central Siberia and southern and eastern Kazakhstan east to the river Lena in the north and eastern China in the south. Northern populations (*eg* *R. d. diluta* and *R. d. gavrillovi*) are migratory, moving south principally to winter in the northern Indian subcontinent as far south at least as Maharashtra (Rasmussen & Anderton 2005) and perhaps South-East Asia (Turner 2004). In the latter region, Robson (2008) mentioned records for East Tonkin (northern Vietnam) and Malaysia, but Bakewell (2010) pointed out



Plate 1. Meinertzhagen specimens of sand martins *Riparia*, most of which were originally identified as Pale Sand Martin *R. diluta*, but all of which are Common Sand Martin *R. riparia*, as follows, from left to right. BMNH 1965-M-8263, collected at Wadi Natrun, Egypt, 14 April 1923; BMNH 1965-M-8264, collected at the same locality on the same date; BMNH 1965-M-8262, collected at Hadda, near Mecca, Saudi Arabia, 3 April 1948; BMNH 1965-M-8240, collected at lake of Antioch, Turkey, 17 May 1933; BMNH 1965-M-8239, collected at the same locality on the same date; BMNH 1965-M-8261, collected at the same locality, 28 May 1933; and BMNH 1965-M-8260, collected at the same locality on the same date. Guy M Kirwan/© Natural History Museum, Tring

that none of the several claims from the last-named country are acceptable. This illustrates how prevalent the problem of separating *diluta* appears to be. Some authors have included eastern Iran within the breeding range of *diluta* (eg Vaurie 1951, Kumerloeve 1961, Éraud & Etchécopar 1970), but this should also be re-evaluated given modern knowledge of the species' identification. Occurrence in the southeast corner of the Arabian peninsula in winter has been well established within the last decade (Porter & Aspinall 2010) and is considered further here only in the Discussion.

MATERIALS AND METHODS

We examined potentially misidentified Egyptian and Middle Eastern specimens of *R. diluta* in the following museums: NHM, Tring, UK, the Field Museum of Natural History, Chicago (FMNH), and, through the assistance of JM Bates and J Engel, the American Museum of Natural History, New York (AMNH). Relevant specimens for investigation were established from the literature, with additional material from adjacent regions being examined where appropriate. Specimen identification followed a standard protocol combining plumage features, which focused on overall upperparts coloration (paler and more greyish in *diluta* compared to *riparia*), much less contrasting (paler) ear-coverts of *diluta* but obviously dark lores and eye, underparts pattern, especially the nature of the breast-band (less clear-cut and often broken in *diluta*) and throat colour (often pure white in *diluta*), and the presence and pattern, or absence, of tarsal feathering, with mensural data. We relied on our combined field experience of *R. diluta* on its Central Asian breeding grounds (AG) and, to a lesser extent, its wintering areas in southern Asia (GMK), as well as Loskot's (2006) work on variation and identification of specimen material.



Plate 2. Specimens of Pale Sand Martin *Riparia diluta* from India, collected by WN Koelz and held at the Field Museum of Natural History, Chicago, showing differences in underparts pattern from Iranian specimens of Sand Martin *R. riparia innominata* taken by the same collector (see Plate 3, Table 1). © Guy M Kirwan

Among plumage characters, the pattern of the breast-band and ear-coverts are unquestionably the most important, although some overlap between *diluta* and *riparia* is known (Schweizer & Ayé 2007). The pattern of tarsal feathering, as noted by Loskot (2006) can be difficult to accurately establish on museum specimens for several reasons, including the possibility that any such feathers have been lost. In general, in *R. riparia* “one or two small feathers may be present above the feather tuft near the base of the hind toe, but these never reach the middle of the tarsus, and the upper half of the tarsus always remains bare” (Loskot 2006). Nonetheless, we must point out that our own research, in conjunction with that of our colleagues L Svensson and H Shirihai, indicates that the tarsal feathering differences reported by Loskot (2006) require considerable clarification, especially with respect to other sand martin taxa in the Middle Eastern region, most notably *R. r. shelleyi* and *R. r. eilata*. The two most important mensural characters are wing length and tail fork depth (Schweizer & Ayé 2007). In adults, nominate *riparia* usually has the wing <111 mm (all values approximate), versus *diluta* <104 mm, while in juveniles the respective values are <108 mm and 105 mm (Loskot 2006). With respect to tail fork values, adults of nominate *riparia* typically measure >13 mm versus >6.5 mm in *diluta*, with juveniles scoring >8.5 mm and 7.5 mm, respectively (Loskot 2006). Most of the above-mentioned characters are to



Plate 3. Specimens of Sand Martin *Riparia riparia innominata* from Iran, collected by WN Koelz and held at the Field Museum of Natural History, Chicago, all of which were suggested to be hybrid *R. riparia* × *R. diluta* by Charles Vaurie (see Table 1). © Guy M Kirwan

some extent diagnostic, but there is overlap in many of them and all of our identifications were based on as broad a sample of these as possible.

All mensural data were collected by GMK, with the exception of those specimens held at AMNH, which were measured by John M Bates. Wing (flattened chord) and tail measurements were taken to 0.5 mm accuracy using a standard metal wing rule with a perpendicular stop at zero. Our results are presented below according to country/region.

RESULTS

Egypt

The case of the Egyptian specimens of ‘*diluta*’ provides a classic example of ‘hand-me-down’ assumption, with numerous sources, many of them highly authoritative including the definitive national checklist (Goodman & Meininger 1989) and many keynote reviews of the family (eg Turner 2004), having unwittingly or uncritically persisted in repeating the original error. Writing about *R. r. diluta*, Meinertzhagen (1930) stated “A single bird obtained on 24/ix. by Nicoll, near Cairo, belongs to this form, and several obtained near Cairo and in the Wadi Natrun between 9/iii. and 19/iv. On 14/iv./1923 there were large flocks of this form at the Wadi Natrun, among which were some conspicuously large birds,

one having a wing of 113 mm. No record from Sinai, though they doubtless occur." The latter bird would be long-winged by any standards, but is well outside the range of any *R. diluta* identified according to modern standards (Cramp 1988, Loskot 2006: 217). Two of these specimens are held at NHM (Table 1, Plate 1) and the rest were, at least formerly, presumably at the Giza Zoological Museum, although at no point does Meinertzhagen (1930) make explicit the total number of Egyptian *diluta* specimens or where they are held. Given the extent to which Meinertzhagen endeavoured to falsify the ornithological record (many publications since Clancey 1984, then Knox 1993), it is even plausible that his mention of 'several' taken between 9 March and 19 April refers to nothing more than the two NHM specimens. Nevertheless, given that we suspect the present case to exemplify nothing more

than lack of knowledge, rather than deliberate fraud, it might initially appear strange that he should employ subterfuge to support his hypothesis that *diluta* occurs in Egypt. It merits emphasising that knowledge of *diluta*, then considered only subspecifically, was sufficiently weak at the time to make Meinertzhagen's claims entirely plausible, or at least difficult to question, especially given a lack of complete knowledge concerning the nature of plumage variation within the local race of *R. riparia*, *shellei*, which persists to the present day. Despite that we have been unable to trace or examine all of the specimens to which Meinertzhagen (1930) referred (including Nicoll's September specimen), we consider that the species should be removed from the Egyptian list given that those specimens that are available clearly concern *R. riparia* and because Meinertzhagen throughout his career failed, more or less consistently, to reliably differentiate *R. diluta* and *R. riparia* (see Saudi Arabia, Turkey and Discussion).

Other commentators have been content to maintain *R. diluta* on the Egyptian list, albeit proffering varying levels of support and occasionally misquoting the original source. Etchécopar & Hüe (1967) cited Egyptian records in March, April and September (repeated by Turner & Rose 1989) obviously following Meinertzhagen (1930). However, three years later the same authors made no mention of Egypt under the range of *R. diluta* in the Middle East (Hüe & Etchécopar 1970). Cramp (1988: 238) stated only that *R. diluta* had been collected in Palestine and Egypt (occurrence in Palestine was seemingly first mentioned by Meinertzhagen 1954; see below). Goodman & Meininger (1989) considered it to be a passage migrant through Egypt without proffering further details, although given the complete lack of records from further south in Africa (Keith *et al* 1992), it is unclear to where these birds might have been en route. Shirihi (1996: 377) mentioned East Africa as forming part of the wintering range of *R. diluta*, but no other author seems to admit this possibility (Urban & Brown 1971, Britton 1980, Nikolaus 1987, Zimmerman *et al* 1996, Ash & Miskell 1998, Ash & Atkins 2009, Redman *et al* 2009). In this respect, it merits mentioning that, among specimens of *R. riparia* from elsewhere in Africa held in the Chicago and Tring museums, we are unable to locate any misidentified *R. diluta*. In contrast to other



Plate 4. Pale Sand Martin *Riparia diluta*, Sohar Sun farms, Oman, March 2004; note the obviously dark lores/eye, contrasting with the rest of the head, ear-coverts grading into paler throat (lacking obvious demarcation) and breast-band obviously narrower and paler in its centre. © PA Lassey

authors, Keith *et al* (1992) stated that there was only one record from Egypt, while Turner (2004) mentioned that nominate *diluta* has been recorded from western Egypt. Most recently, Moldovan (2010) continued to list *R. diluta* for the country (as a 'passage visitor') in his 'provisional' checklist, claiming to have examined and validated the two NHM specimens, as well as mentioning that "some birds caught Hurghada sewage works [on the Red sea coast] as Sand Martin *R. riparia* likely to be Pale Martin". The latter statement is inadmissible without thorough documentation, and superficially appears to be based on an entirely retrospective consideration. Although Moldovan (2010, and MJ Blair therein) claimed to have examined the two specimens, their personal familiarity with *R. diluta* is unclear to us, and given that other NHM specimens of *R. riparia* are also mislabelled as *diluta* it would be easy for a relatively inexperienced worker to continue to promulgate the misidentification based on an uncritical examination and comparison with other incorrectly labelled material.

Iran

Occurrence in Iran has been mentioned in the literature on several occasions (*eg* Kumerloeve 1961, Énard & Etchécopar 1970), but *diluta* is not stated to occur in the country by many other keynote works (*eg* Turner 2004, Scott & Adhami 2006, Porter & Aspinall 2010). Vaurie (1951) seems to have been first to promulgate the hypothesis that *R. diluta* does occur in the country, claiming that birds found by Zarudny (1911: 221) breeding in Seistan and Kerman 'probably' belonged to this form. However, we have found nothing in Zarudny's own writings to suggest that he considered *diluta* to comprise part of the Iranian avifauna, which is significant given his own (partially flawed) contribution to the taxonomy of these swallows (Zarudny 1916). As subsequently demonstrated by Loskot (2006), Zarudny (1916) described a new (pale) race of *R. r. innominata* based on a mixed series of specimens of *R. riparia* and *R. diluta*. The two Iranian specimens from this series, taken at Dzhelalabad (Seistan) in late June, are both referable to *R. riparia* (Loskot 2006). Furthermore, Vaurie (1951: 8) listed no *diluta* specimens from Iran. The same author did, however, list 18 specimens, of all ages and sexes, taken by WN Koelz in western Iran (Luristan) on various dates between May and October, which Vaurie considered to be intermediate between *R. riparia* and *R. diluta*. All of these specimens are held at FMNH and AMNH, and were re-examined by GMK, John M Bates and J Engel, along with several other Koelz specimens of *R. diluta* from India (Plate 2). The results of this examination revealed that all of these specimens, which come from two localities, Borujerd (= Brujird; 33° 54' N, 48° 45' E) and Dow Rud (= Durud; 33° 29' N, 49° 04' E), can confidently be identified as *R. r. innominata* Zarudny, 1916 (Table 1, Plate 3), based on a combination of plumage characters, presence and pattern of tarsal feathering, and morphometrics (following Loskot 2006). As noted by the latter author, *R. r. innominata* possesses a breast-band quite equal in strength to that of *R. r. riparia*, thereby assisting to alleviate any potential confusion between what is otherwise a relatively pale form of *R. riparia* and *R. diluta*. Recently, A Ouwerkerk photographed what appears to be a single *R. diluta* near Minab, Hormuzgan, on 25 January 2007 (which we identified on the basis of underparts pattern and coloration of the upperparts). Given the recent revelation that *R. diluta* overwinters in the southeast corner of Arabia (see Discussion) that some birds migrate through Iran, and indeed presumably overwinter there too, at least in the far south, becomes unsurprising.

The Levant

There does not seem to be any record of *R. diluta* for Lebanon (Ramadan-Jaradi *et al* 2008), but Meinertzhagen (1954: 280) mentioned *diluta* for Syria, which claim was repeated by Turner & Rose (1989). However, this mention of Syria refers to Meinertzhagen's specimens from

Table 1. Mensural and other data for relevant *Riparia* specimens from Egypt, Iran, Saudi Arabia and Turkey, together with comparative data for several Indian specimens of Pale Sand Martin *Riparia diluta* (probably migrants from further north, rather than local breeders) collected by WN Koelz, who was also responsible for all of the Iranian specimens listed here. Wing (flattened chord) and tail-length measurements (mm) were taken using a standard metal wing rule with a perpendicular stop at zero. In addition to the pattern of any tarsal feathering, plumage characters (principally the general coloration of the upperparts, throat colour, and the breast-band pattern) were also used to identify each specimen to species, following Loskot (2006). All measurements by GMK, except for those specimens held in New York, which were measured by JM Bates. Note that age and sex information is based solely on label data. Museum acronyms: AMNH = American Museum of Natural History (New York); BMNH = The Natural History Museum (Tring, UK); and FMNH = Field Museum of Natural History (Chicago).

Museum registration no.	Age / sex	Collection locality	Collection date	Wing	Tail	Comments	Tarsal feathering
Sand Martin <i>Riparia riparia</i>							
BMNH 1965-M-8263	male	Wadi Natrun, Egypt	14.4.1923	107	57	labelled as <i>diluta</i> by Meinertzhagen	no perceivable tarsus feathering
BMNH 1965-M-8264	female	Wadi Natrun, Egypt	14.4.1923	111	58	labelled as <i>diluta</i> by Meinertzhagen	tuft of feathers above tarsal joint
BMNH 1965-M-8261	male	Lake of Antioch, Turkey	28.5.1933	106.5	56	labelled as <i>diluta</i> by Meinertzhagen	tiny tuft of feathers above tarsal joint
BMNH 1965-M-8260	male	Lake of Antioch, Turkey	28.5.1933	99.5	52	labelled as <i>diluta</i> by Meinertzhagen	no perceivable tarsus feathering
BMNH 1965-M-8240	female (not breeding)	Lake of Antioch, Turkey	17.5.1933	105.5	50	labelled as <i>riparia</i> by Meinertzhagen	tuft of feathers above tarsal joint
BMNH 1965-M-8239	male (not breeding)	Lake of Antioch, Turkey	17.5.1933	107	52.5	labelled as <i>riparia</i> by Meinertzhagen	tuft of feathers above tarsal joint
BMNH 1965-M-8262	male	Hadda, Jidda, Saudi Arabia	3.4.1948	113	62	labelled as <i>diluta</i> by Meinertzhagen	no perceivable tarsus feathering
FMNH 233289	juvenile male	Brujird, Luristan, Iran	19.7.1941	98	46	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	no perceivable tarsus feathering
FMNH 233290	juvenile female	Brujird, Luristan, Iran	1.10.1941	102.5	49.5	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	some tarsal feathering
FMNH 233291	ad female?	Brujird, Luristan, Iran	27.9.1941	111	56	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie, but obviously a <i>R. riparia</i>	tuft of feathers above tarsal joint
FMNH 233292	juvenile male	Brujird, Luristan, Iran	28.9.1941	101	58	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	no perceivable tarsus feathering
FMNH 233293	juvenile male	Brujird, Luristan, Iran	19.7.1941	99	51	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	no perceivable tarsus feathering
FMNH 233294	juvenile male	Brujird, Luristan, Iran	18.7.1941	98	46	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	tuft of feathers above tarsal joint
FMNH 233296	juvenile female	Brujird, Luristan, Iran	2.10.1941	100.5	55	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	tuft of feathers above tarsal joint

FMNH 233295	first-winter	Brujird, Luristan, Iran	2.10.1941	103	54	labelled as hybrid by Vaurie, but obviously a <i>R. riparia</i>	tuft of feathers above tarsal joint
FMNH 233297	juvenile female	Brujird, Luristan, Iran	16.8.1941	100	49	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	no perceivable tarsus feathering
FMNH 233298	juvenile female	Brujird, Luristan, Iran	18.7.1941	97	52	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	tuft of feathers above tarsal joint
FMNH 233299	juvenile female	Brujird, Luristan, Iran	30.9.1941	107	57	labelled as hybrid by Vaurie, but obviously a <i>R. riparia</i>	tuft of feathers above tarsal joint
AMNH 462505	ad female	Brujird, Luristan, Iran	27.9.1941	111	56	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	tuft of feathers above tarsal joint
AMNH 462506	juv female	Brujird, Luristan, Iran	30.9.1941	99.5	46	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	minimal tarsal feathering
AMNH 462507	ad male	Brujird, Luristan, Iran	1.10.1941	110.5	55.5	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	tuft of feathers above tarsal joint
AMNH 462508	ad female	Brujird, Luristan, Iran	2.10.1941	103	52	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	tuft of feathers above tarsal joint
AMNH 462509	female (ovary granular)	Durud, Luristan, Iran	16.5.1942	111	55.5	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	tuft of feathers above tarsal joint
AMNH 462510	female?	Durud, Luristan, Iran	16.5.1941	109	incom- plete	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	tuft of feathers above tarsal joint
AMNH 462511	ad female	Durud, Luristan, Iran	22.10.1941	106	50	labelled as hybrid <i>riparia</i> × <i>diluta</i> by Vaurie	tuft of feathers above tarsal joint

Pale Sand Martin *Riparia diluta*

FMNH 233288	male	Bheraghat, India	15.11.1946	101	48	labelled as <i>diluta</i> by Vaurie	some tarsal feathering in line above tarsal joint
FMNH 233287	female	Sind, India	25.01.1934	100	50	labelled as <i>diluta</i> by Vaurie	extensive tarsal feathering above tarsal joint
FMNH 233284	not sexed	Sind, India	7.12.1939	102.5	50	labelled as <i>diluta</i> by Vaurie	extensive tarsal feathering above tarsal joint
FMNH 233286	not sexed	Sind, India	5.12.1939	96.5	incom- plete	labelled as <i>diluta</i> by Vaurie	some tarsal feathering in line above tarsal joint
FMNH 233285	not sexed	Sind, India	6.12.1939	98	53	labelled as <i>diluta</i> by Vaurie	extensive tarsal feathering above tarsal joint
FMNH 233283	male	Sind, India	7.12.1939	102	54	labelled as <i>diluta</i> by Vaurie	extensive tarsal feathering above tarsal joint

the now-drained lake of Antioch (Amik Gölü), in the southernmost part of modern-day Turkey (see below), making subsequent checklists of Syrian birds correct to have ignored this statement (Baumgart *et al* 1995, Murdoch & Betton 2009). Hüe & Etchécopar (1970) noted that *R. diluta* had been recorded in Palestine presumably based on Meinertzhagen (1954: 280); neither offered details. The most detailed information concerning *diluta* in the Near East comes from Israel, where Shirihai & Colston (1992) and Shirihai (1996) described it as an uncommon passage migrant, mainly through the southeast of the country and almost exclusively in spring. *R. diluta* was considered by these authors to constitute up to c20% of Sand Martins passing through in spring, but more usually <10%, mid March–mid June, with most between late March and the first week of May peaking on 5–20 April. In autumn, Shirihai (1996) regarded *diluta* as considerably less numerous, comprising c5% of the Sand Martin passage. However, in stark contrast, Morgan & Shirihai (1997: 15) described the situation as follows “The major subspecies involved is the Central Asian *R. r. diluta*, and nominate *R. r. riparia* is uncommon and occurring almost only in spring.” Yet, the same authors go on to report that all of the ringing recoveries and controls at Eilat (admittedly only eight) involved the following countries, Estonia, Finland, Hungary, Lithuania, Russia and Tunisia (Morgan & Shirihai 1997: 16), *ie* all apparently from the range of nominate *riparia*, which seems decidedly curious if *diluta* really is so predominant, although it is conceivable that the range of nominate *riparia* is more likely to yield ring recoveries through greater human population densities, better knowledge of the significance of bird ringing, *etc.* This is in unexplained contradiction to Shirihai (1996), and given such a marked discrepancy (and the lack of any documentary evidence of *diluta* in the Middle East, away from the southeast corner of Arabia and Iran; see Discussion and below, respectively) suggests to us that more concrete proof of its occurrence in Israel is required, despite that Shirihai & Colston (1992) and Shirihai (1996) presented mensural data and plumage details supporting the identifications. We suspect that *R. r. shelleyi*, which is known to breed only in Egypt but may wander more widely, might be a complicating factor in analysing *Riparia* records in Israel. Loskot (2006) recently demonstrated that morphometrics alone certainly are insufficient for species identification in many cases. The Israeli Records & Distribution Committee continues to regard *diluta* as a subspecies of *R. riparia* to the present (A Cohen *in litt* 2011).

Saudi Arabia

In his magnum opus, *The birds of Arabia*, Meinertzhagen (1954: 280) mentioned collecting a *R. r. diluta* from a flock containing both nominate *R. riparia* and this form at Hadda, near Mecca, on 3 April 1948. The specimen (BMNH 1965.M.8262) is also held at Tring and is an obvious *R. riparia*, based on morphology (Plate 1) and measurements (*eg* very long wing, see Table 1). Perhaps strangely, this Arabian record of *diluta* appears to have been largely ignored in the subsequent literature, unlike most other Meinertzhagen specimens and claims of *diluta* discussed here.

Turkey

Meinertzhagen (1935) claimed that he found *R. r. diluta* breeding in late May at the lake of Antioch (the now-drained Amik Gölü), in southernmost Turkey, very close to the Syrian border, whilst nominate *riparia* were still on passage at the same site. Meinertzhagen mentioned taking two specimens of each form. We examined these four specimens (held at NHM) and found that all of them are clearly *R. r. riparia* based on plumage (Plate 1) and, to a lesser extent, measurements (Table 1). As there are no other claims of *R. diluta* in Turkey (Kirwan *et al* 2008) any notion that it has occurred there to date can be categorically

discounted. Kumerloeve (1961: 138), Roselaar (1995) and Kasperek & Bilgin (1996) all rightly ignored Meinertzhagen's (1935) mention of *diluta* in Turkey.

DISCUSSION

Perhaps the first Middle Eastern record of *R. diluta* to have been assessed, and accepted, by a records committee, is from Oman, where, on 8 February 2002, D & N Sargeant observed one of this taxon at Sohar Sun farms, in the north of the country (Eriksen *et al* 2003). Subsequently, AG, PA Lassey and BN Hill closely observed and photographed five individuals at the same locality on 26–27 March 2004 (Plate 4), and I Harrison and D Sargeant observed another bird in the same place on 16 February 2007, although this record has not been formally submitted. There is also a record from Qurum park, Oman, of a single bird on 1 November 2009 (I Tengklint), but this too has not been submitted. There is also another report in Oman, involving two, also at Sohar Sun farms, on 28 December 2004 (Balmer & Betton 2005), and Schweizer & Ayé (2007) published two photographs, by H & J Eriksen, of a bird, also at Sohar, simply dated 'January'. However, in the neighbouring United Arab Emirates, the species now appears to winter regularly, albeit in variable numbers: the first record is dated 14 January 2000 and the peak single-day count involved 80 in late December 2006 (Pedersen & Aspinall 2010). Reports appear to have been at least annual since the first (*cf* Schweizer & Ayé 2007), with most between December and early April, but there is at least one May report (Balmer & Betton 2002) and there was a veritable 'rush' in early 2005, when up to 30 individuals were present at Al Wathba lake alone (Balmer & Betton 2006). Several photographs of *R. diluta* from the United Arab Emirates have been published, most recently in Balmer & Murdoch (2010: 189). This pattern of exclusive or near-exclusive occurrence in the southeast corner of Arabia is mirrored by other vagrants and winter visitors from the Indian subcontinent region, *eg* Indian Pond Heron *Ardeola grayii*, Forest Wagtail *Dendronanthus indicus*, Wire-tailed Swallow *Hirundo smithii* and Bay-backed Shrike *Lanius vittatus*, amongst others. Elsewhere in the Middle East, these taxa are unknown or virtually so, even in comparatively well-watched Israel. So, while we certainly would not eliminate the possibility of vagrancy by *R. diluta* to, or even small numbers passing through, Israel, the presence of many thousands, if not tens of thousands on regular spring migration (as implied by Shirihihi & Colston 1992, Shirihihi 1996 and, especially, Morgan & Shirihihi 1997), seems improbable.

There may be other records of *R. diluta* from Arabia, especially its eastern seaboard, but because of its previous treatment as a race of *R. riparia*, observations may be effectively 'buried' from view, or even discounted as uninteresting by their observers. On Bahrain, Hirschfeld (1995) noted that *R. diluta* could occur, but did not seemingly encounter it during the three years he spent on the island. Elsewhere, other national avifaunal reviews have not attempted to discriminate between races of *R. riparia sensu lato* (*eg* Richardson 1990, Nightingale & Hill 1993, Gregory 2005).

Finally, we note that there are other Meinertzhagen specimens belonging to the *R. riparia/R. diluta* group that were either misidentified by their collector or are otherwise problematic. PC Rasmussen and R Prŷs-Jones (pers comm) have examined Meinertzhagen's two specimens of *R. r. ijimae* and one of *R. diluta* collected in Afghanistan: the latter proves to be *R. diluta* and the two *R. r. ijimae* are apparently fraudulent. These specimens will be discussed in detail by Rasmussen and Prŷs-Jones' forthcoming work on the Asian specimens of Richard Meinertzhagen. As a result of the type of problems described here, it seems that there is still comparatively much to learn concerning the relative distributions of these two species in Central Asia and related regions.

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