

Identification of the Pale Sand Martin *Riparia diluta* in Central Asia

MANUEL SCHWEIZER & RAFFAEL AYE

The Common (Collared) Sand Martin *Riparia riparia* and Pale Sand Martin *Riparia diluta* have long been treated as conspecific until the work of Gavrilov & Savchenko (1991) and Goroshko (1993) demonstrated a wide zone of overlap between the two and suggested their being separate species. This treatment was adapted in the more recent literature (e.g. Grimmet *et al.* 1998, del Hoyo *et al.* 2004, Rasmussen & Anderton 2005) and Dickinson & Dekker (2001) judged that “the case for recognition of two widely sympatric species is entirely convincing”.

The Pale Sand Martin breeds over a wide area from western Asia to southwest Siberia and Mongolia, as well as over Tibet to central and eastern China (del Hoyo *et al.* 2004, Rasmussen & Anderton 2005). Six subspecies are recognised (see Table 1). The northern populations are migratory, but their wintering sites are poorly known. The nominate subspecies probably winters mainly in northern India (del Hoyo *et al.* 2006). However, Pale Sand Martin of an unknown subspecies has been a rare to uncommon migrant and winter visitor in the UAE, at least since 2000

(Pedersen 2007) and a vagrant in Oman (<http://www.birdsoman.com/obl6-update.html>, accessed 20 May 2007). The subspecies *R. d. fohkienensis* winters in S China, but the Pale Sand Martin could be more widespread in winter in southeast Asia, although its exact distribution remains unknown due to confusion with Common Sand Martin (del Hoyo *et al.* 2006).

This article concentrates on the identification of the nominate subspecies of the Pale Sand Martin breeding in Central Asia. It is based on field observations of breeding birds in southeast Kazakhstan and migrating birds, most probably of this subspecies, in Kyrgyzstan, Tajikistan, Uzbekistan and the UAE. Additionally we have studied skins of different subspecies in the collections of the Zoological Institute in Almaty, Kazakstan, the Zoological Institute of Tashkent, Uzbekistan, Musée National d’Histoire Naturelle, Paris, and the Natural History Museum in Tring, England.

The identification of subspecies, other than the nominate, is only briefly mentioned in the discussion. This article is therefore incomplete, as is our knowledge of the identification of Sand Martins. However, we hope that it will encourage birders to take a closer look at Sand Martins so that we can learn more about the distribution and identification of the different forms. As the Pale Sand Martin of the subspecies *diluta* is said to be an uncommon passage migrant in spring in southeast Israel (Shirihai 1996), being recorded as far



Photo 1. Pale Sand Martin *Riparia diluta*, probably of subspecies *diluta*. Note the dark lores and eye contrasting with the paler rest of the head, the diffuse border between the ear-coverts and the throat, and the diffuse lower border of the darker breast sides. The breast band seems to be broken in the middle. © Hanne & Jens Eriksen, Sohar, Oman, January.



Photo 2. Pale Sand Martin probably subspecies *diluta*. Same bird as Photo 1. The breast band seems to be more conspicuous and not broken in the middle from this angle. © Hanne & Jens Eriksen, Sohar, Oman, January.

west as Egypt (del Hoyo *et al.* 2006), and as the breeding ranges of its subspecies *gavrilovi* and *transbaycalica* overlap with those of species occurring regularly as vagrants in Europe, its identification should be of great interest to Western Palearctic birders.

Identification of the Nominate Form in Central Asia.

Size and Structure

In direct comparison, *R. d. diluta* is smaller and slimmer than Common Sand Martin (*R. r. riparia* from Europe and Central Asia) and has a shallower tail-fork, however, there is overlap in tail-length and wing-length (Loskot 2006).

The depth of the tail fork is significantly shorter in *R. d. diluta* than in *R. r. riparia* in adults, but there is a wide overlap in the extreme values and in juveniles, the differences are not so strongly pronounced (Loskot 2006). Due to the



Photo 3. Pale Sand Martin. This individual shows a complete breast band, however, the middle of the breast is much paler than the breast-sides, which is normally not the case in Common Sand Martin. Note the diffuse lower border of the breast band, the dark eye and lores contrasting with the paler head and the diffuse border between the ear-coverts and the throat. © Oleg Belyalov, Maleboy, Kazakhstan, July.



Photo 4. Pale Sand Martin *Riparia d. diluta*. The rather pale ear-coverts merging with the whitish throat and the dark eye and lores contrasting with the paler rest of the head are typical. The breast band is rather thin, but the centre is typically paler than the sides and the lower border is rather diffuse. © Oleg Belyalov, Maleboy, Kazakstan, July.



Photo 5. Pale Sand Martin *Riparia d. diluta*, juvenile. Note the rufous-buff fringes especially to the upperwing-coverts, tertials, rump and uppertail-coverts. The ear-coverts are pale and the dark eye and dark lores contrast with the rest of the paler head. Juveniles of Pale and Common Sand Martin are extremely difficult to separate under field conditions. © Oleg Belyalov, Maleboy, Kazakstan, July.

wide overlap and due to tail feathers often lying out-of-place, the depth of the tail fork is of limited use when identifying individuals in the field. However, when a flock of birds is seen perched, the depth of the tail fork may help to identify a few of the most typical individuals.

Plumage of Adults

All forms of Sand Martin are most clearly distinguished by the pattern and colour of their plumage (Loskot 2006).

The upperparts are paler and more greyish-brown in *R. d. diluta* than in *R.*



Photo 6. Pale Sand Martin *Riparia d. diluta*. The hindpart of the tarsus is almost completely feathered in the Pale Sand Martin. In Common Sand Martin, the feathering is limited to the angle of the hind toe and the tarsus. © Oleg Belyalov, Maleboy, Kazakstan, July.

r. riparia, the breast-band is paler as well and more grey-brown. However, there are paler individuals of *R. r. riparia* especially near the southern boundary of the breeding range, which cannot readily be distinguished from the darkest individuals of *R. d. diluta* by their plumage col-

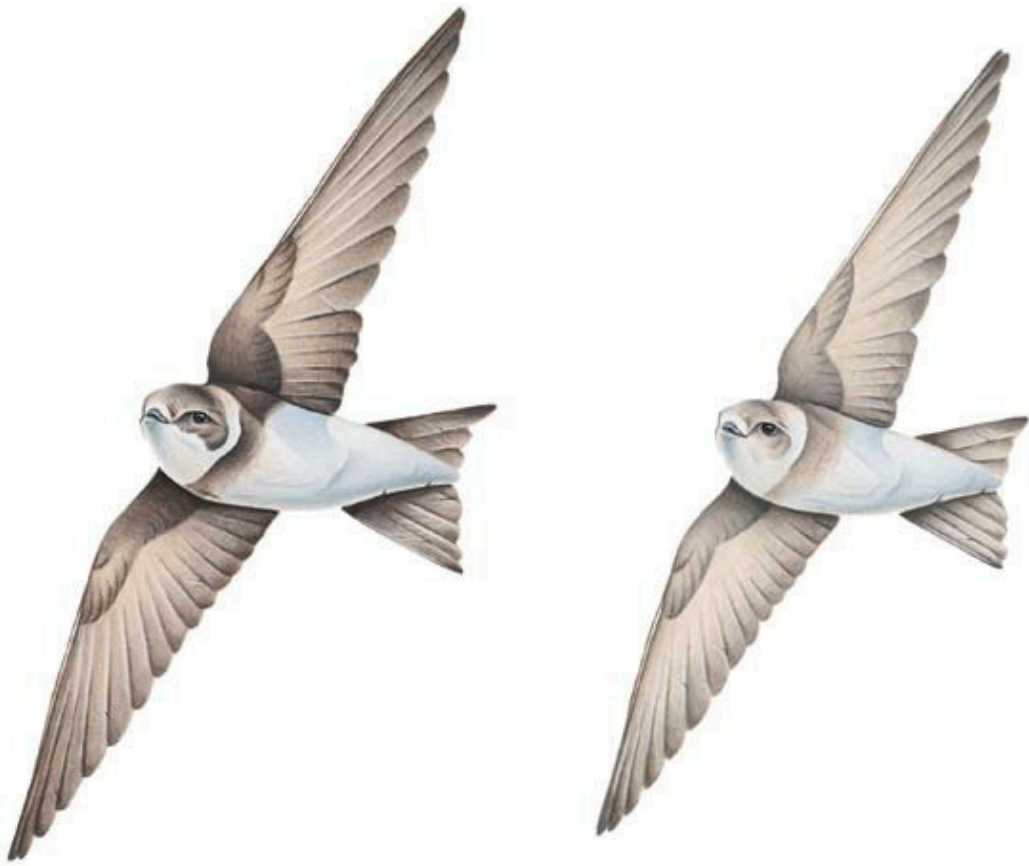


Plate I. Adult Common Sand Martin left, adult Pale Sand Martin of the subspecies *diluta* right. Pale Sand Martin is slightly smaller, paler and more greyish-brown overall. Compare the pattern of the ear-coverts, which have a clear-cut lower border in Common Sand Martin unlike Pale Sand Martin where there is only a diffuse border between the ear-coverts and the throat. Note also that the head looks more uniform in Common Sand Martin whereas the dark eye and lores contrast to the paler head in Pale Sand Martin. The breastband of Pale Sand Martin is less conspicuous and clear-cut, paler in the middle and has a diffuse lower border. In adults, the depth of the tail-fork is shorter in Pale Sand Martin. © Manuel Schweizer.

uration (Loskot 2006). The percentage of birds that cannot readily be separated by plumage features is unknown, but is thought to be small.

Although variable, the pattern of the breast-band differs from that of Common Sand Martin. It is very difficult to judge the pattern of the breast-band in flight especially against the light background of the sky, but it can more easily be seen on perched birds. It is usually not only paler (see above), but also less clear-cut than in Common Sand Martin and therefore less contrasting with an especially diffuse lower border. In some birds, the breast-band is complete in the middle, in others however, the middle of the breast is only slightly darker than the rest of the underparts and gives the impression of a broken breast-band with the paler centre merging in the darker sides.

The head is also clearly paler than in Common Sand Martin, with especially

the crown and ear-coverts being much paler and contrasting with the dark eye and the darker lores. This contrast is much less pronounced in Common Sand Martin. There is only a diffuse border between the ear-coverts and the paler throat. In Common Sand Martin, the ear-coverts are much darker with a clear-cut border and a strong contrast with the pale (often almost pure white, sometimes buffish) throat. These differences are not pronounced when paler birds of *R. r. riparia* are compared with the darkest individuals of *R. d. diluta* (see above). Usually the differences in head pattern are far easier to assess and more useful for identification than those in the breast-band.

Juveniles

Individual variation is greater in juveniles of Common and Pale Sand Martins than in adult birds (Loskot 2006).

Grimmet *et al.* (1998) even state that the two are probably indistinguishable in the field. Both have pale to rufous or buff fringes on upperparts and especially on upperwing-coverts, tertials and from the lower back to the uppertail-coverts. In *diluta*, these fringes can be conspicuously rufous and sometimes almost chestnut when fresh. The throat is less pale and whitish, more greyish to ochre in both; however, Common Sand Martin on average shows a paler throat and a complete and a more distinct breast-band according to Loskot (2006). We doubt the value of the paler throat for the identification of juvenile *R. riparia*. In fact, the throat of juvenile *R. riparia* can be anything from almost white to obviously speckled brownish due to dark brown feather centres. These markings are quite often darker than the markings on the throat of at least typical, possibly any, *R. diluta* and may obscure any contrast between the

ear-coverts and throat in some juvenile *R. riparia*. In *R. d. diluta* and *R. r. riparia* (from Central Asia and Europe) the juvenile tail is shorter than in adults but only in *R. r. riparia* the tail fork and the wing are shorter in juveniles than in adult (Loskot 2006). Therefore the shape of the tail is of no use when identifying juveniles. When trying to identify juveniles of these two species in the field, observers should keep in mind that many individuals will probably be impossible to identify. The darkness of the cheeks and the degree to which the dark eye contrasts with these, as well as the breast-band are the most important criteria. While a strong contrast between cheeks and throat points to *R. riparia*, the absence of such a contrast is not conclusive in juveniles.

Identification in the Hand

R. diluta is smaller than *R. riparia*, with shorter wings and tail and a shallower tail fork. However, the measurements overlap widely and are of limited use when identifying single individuals – especially outside the usual range, where different subspecies would have to be taken into account. We refer to Loskot (2006) for measurements of Central Asian and European birds.

The plumage characters used in the field are also useful in the hand. Additionally, Loskot & Dickinson (2001) pointed out that the feathering of the hind-tarsus is a useful criterion. While extensively described for skins, this criterion has less often been used on live birds and apparently has not been illustrated for the wider public in photographs. We have examined this criterion on skins, as well as on juvenile and adult live birds, of both species in a colony in Kazakhstan and, despite some variation, find it rather useful. In *R. diluta*, the tarsus is more feathered, often continuously from the hind toe up to the tibia. If feathering is not continuous, there is a rather narrow gap (or two to three very narrow gaps) around mid-tarsus (Fig 6). In *R. riparia*, feathering may be virtually absent and if present is usually very limited in the angle of the hind toe and tarsus. Only a few individuals of *R. riparia* have more extensive feathering approaching the feathering of poorly-feathered *R. diluta*.



Photo 7. Common Sand Martin *Riparia riparia*, Note that the breast band can also appear smaller in the middle in Common Sand Martin. However, it is more clear-cut than in Pale. The ear-coverts are typically dark with a clear-cut border and a strong contrast with the pale throat. © Jari Peltomäki, Liminka, Finland, May 2006.

Separation from Grey-throated Sand Martin *Riparia chinensis*

In the southernmost part of Central Asia, the nominate form of Pale Sand Martin *Riparia diluta* must also be separated from the Grey-throated Sand Martin *Riparia chinensis*. Moreover, the latter is sympatric with the subspecies *R. d. indica* of Pale

Sand Martin on the Indian Subcontinent, where nominate *R. d. diluta* is a wintering bird.

Adult Grey-throated Sand Martins always lack a clear breast-band and show a brownish-grey throat and breast merging into the remaining, paler, underparts. They are additionally darker on the underwings (especially on the coverts) and on the upperparts compared

Table 1. Distribution of the different subspecies after del Hoyo et al. (2004) adapted with Rasmussen & Anderton (2005), Loskot (2006) and own observations.

Species	Subspecies	Distribution
<i>Riparia diluta</i>	<i>gavrilovi</i>	Central Siberia, Cisbaikalia
	<i>transbaikalia</i>	Transbaikalia
	<i>diluta</i>	South & Southeast Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan
	<i>indica</i>	Northeast Afghanistan, Pakistan & N India
	<i>fohkienensis</i>	Central & East China
	<i>tibetana</i>	Southwest China
<i>Riparia riparia</i>	<i>riparia</i>	Europe, Middle East, Central Asia (at least N parts), North America
	<i>innominata</i>	Iran, and probably southern parts of Middle Asia (but not Kazakhstan)
	<i>ijimae</i>	Lake Baikal, Central Mongolia East to Sakhalin, North Japan and Kuril Island
	<i>shelleyi</i>	Egypt (Nile Valley)
	<i>eilata</i>	Breeding range unknown, recorded on passage in Israel

Discussion

In Central Asia, Pale Sand Martin *Riparia d. diluta* can readily be separated from the local subspecies of Common Sand Martin *Riparia riparia* based on a combination of structural and plumage characters. Observers lacking experience with these two species should initially focus on perched adult birds, which are most easily identified by their head pattern. Further criteria are upperparts colouration, breast-band and depth of the tail fork – the latter is especially useful when a number of birds can be compared, for instance in a mixed flock on a telephone wire. The value of the breast-band as a single identification feature should not be overestimated, however, as it is highly variable. Identification in flight requires prolonged views and good light conditions to assess the contrasts on the head and the pattern of the breast-band. Identification of juvenile birds requires a critical eye. The most important criteria are the breast-band and the ground colour of the ear-coverts, while the throat and the tail fork are of limited use in this plumage.

The identification of Pale and Common Sand Martin is even more difficult, when taking into account the number of subspecies described for the two species. There has been considerable confusion about the subspecies of *R. riparia* and only recently has this been somewhat clarified (Dickinson & Dekker 2001, Loskot & Dickinson 2001, Loskot 2006). Subspecies of Pale Sand Martin from



Photo 8. Common Sand Martin, Note the dark clear-cut breast band. The head is rather uniformly coloured and the ear-coverts are typically dark with a clear-cut lower border and a strong contrast to the pale throat. © Jari Peltomäki, Liminka, Finland, May 2006.

to Pale Sand Martin and have an obviously paler rump and a more uniform head (lacking the paler throat) and the tail is square-ended or slightly forked unlike *R. d. diluta* but similar to *R. d. indica* (Grimmet *et al.* 1998, Rasmussen & Anderton 2005).

Juvenile Grey-throated Sand Martins have a pinkish-buff wash on the throat and breast and some birds have a suggestion of a breast-band and can thus be similar to juvenile Pale Sand Martins. The latter lacks the pinkish wash and the breast is less buff according to Rasmussen & Anderton (2005). However, the juvenile *R. diluta* that we have seen quite often had an apricot hue to their throats and we doubt that such minor differences in colour are of much use in the field.

Voice

Goroshko (1993) has detected significant differences in the voice of *R. diluta* [*transbaykalica*] and *R. riparia ijimae*. He states that the two can easily be distinguished by voice with experience. The voice of the Pale Sand Martin is described as soft and burbling compared to the rather vocal calls of the Common Sand Martin.

Goroshko (1993) describes the alarm calls of *R. diluta* as a fast “chi-chi-chi” or “kzhi-tsi”, the normal call of *R. diluta*

as a tinkling “chzi” or a rarer type, jerky “chi”. *R. riparia ijimae*’s alarm call is a piercing “kzee-kzee” or fast “kzh-kzh-kzi”. The normal call is given as “kzhzi”, somewhat more rarely a nasal, jerky “kzh” can be heard. We found that in Central Asia the calls of *R. d. diluta* often sound more burbling and *R. riparia* more vocal – however there is much variation. It certainly takes much experience and whether all calls can be positively identified is questionable.



Photo 9. Common Sand Martin, the upperparts are darker and less greyish-brown than in Pale Sand Martin. The head is typically rather uniformly coloured and the ear-coverts have a clear-cut border and contrast to the pale throat. © Tomi Muukkonen, Greece, April 2006.

Eastern Asia can be even more similar to Common Sand Martin than the nominate form: *R. d. tibetana* approaches *R. riparia* in size and upperpart colouration, but the breast-band is similar to *R. d. diluta*, while *R. d. fobkienensis* is closer to *R. d. diluta* in upperpart colouration and tail fork, but has a well-developed breast-band. *R. d. indica* on the other hand is similar to the nominate, but even smaller with almost no tail fork (cf. Robson 2000, Rasmussen & Anderton 2005). Further studies will be needed to further clarify their identification and evolutionary relationships.

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Photo 10. Common Sand Martin, juveniles, note that the throat pattern of juvenile Common Sand Martin is very variable even within one single brood. It ranges from pale buff to speckled with brownish. The dark ear-coverts have a clear-cut lower border and contrast with the paler throat. As in adults, this is a good feature of juvenile Common Sand Martin, however, the absence of such a contrast is not conclusive in juveniles. © Jari Peltomäki, Liminka, Finland, July 2005.

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Manuel Schweizer, Gartenstrasse 2, CH-3176 Neueneegg, Switzerland. Email: schw(x)bluewin.ch

Raffael Ayé, Project Sino, pr. Rudaki, proyezd 5, dom 1, Dushanbe, Tajikistan. Email: raffael.aye(x)birding.ch