From the Rarities Committee's files

Identification of eastern Woodchat Shrike

Adam Rowlands

Abstract This paper reviews the identification features of Woodchat Shrikes *Lanius senator* of the eastern race *niloticus*. A number of young birds seen in autumn in Britain have apparently shown extensive moult of the juvenile body feathers, a feature associated with *niloticus*. The equivalent moult in the nominate race occurs on the wintering grounds after migration, and this difference is central to the identification of young birds in autumn. The criteria and guidelines presented here should help observers to identify a potential *niloticus*, a taxon that is not yet on the British List.

The occurrence of Woodchat Shrike *Lanius senator* of the eastern race *niloticus* (hereafter simply *niloticus*) in Britain has been suggested on several occasions. However, despite a request for informal reports (Kehoe 2006), no claims have been submitted to BBRC or BOURC (*contra* Slack 2009). There are accepted records of vagrant *niloticus* in northern and southwest Europe, so its occurrence in Britain is a distinct possibility, but at present it is not yet on the British List.

This paper presents outline identification criteria to help observers identify a potential vagrant *niloticus*. These were drawn up following the analysis of photographs of migrant *niloticus* from Kuwait and Saudi Arabia (including 13 first-winters), together with images and field experience of other forms of Woodchat Shrike and a study of the Woodchat Shrike specimens at the Natural History Museum (NHM) at Tring. The NHM collection includes eight first-winter and a number of adult *niloticus*, plus examples of the nominate race *senator* (hereafter *senator*) and the poorly differentiated Iberian form *rutilans* (treated here as synonymous with *senator*). 'Balearic Woodchat Shrike' *L. s. badius*, which breeds on islands in the western Mediterranean, is quite distinct from *senator* and *niloticus* and it is not discussed further here (see Small & Walbridge 2005 for further details). Although the sample size of first-winter *niloticus* for this study was relatively small, the characters outlined below proved consistent and it seems worthwhile to set them out here for wider examination and perhaps refinement.

Distribution and vagrancy

Of the three principal races of Woodchat Shrike (see above), *niloticus* is the easternmost, breeding from eastern Turkey through Syria and Israel, Georgia and Armenia to Iran (fig. 1). It migrates through the Levant to winter predominantly in East Africa, with small numbers occurring in southwest Arabia. Spring vagrants have been recorded in Spain (three) and Italy (one), all in April. There is also a May record from Finland (where there were just 15 accepted records of Woodchat Shrike between 1975 and 2005). *BWP* mentions a spring record from the Moroccan–Algerian border, although this was described only as showing characteristics of populations breeding east of the Adriatic (Smith 1968). There are three records of first-winter *niloticus* in Sweden (where there were just 56 accepted records of Woodchat Shrike from 1952 to 2007). Table 1 summarises all accepted European records of *niloticus*.

There is some evidence to suggest clinal

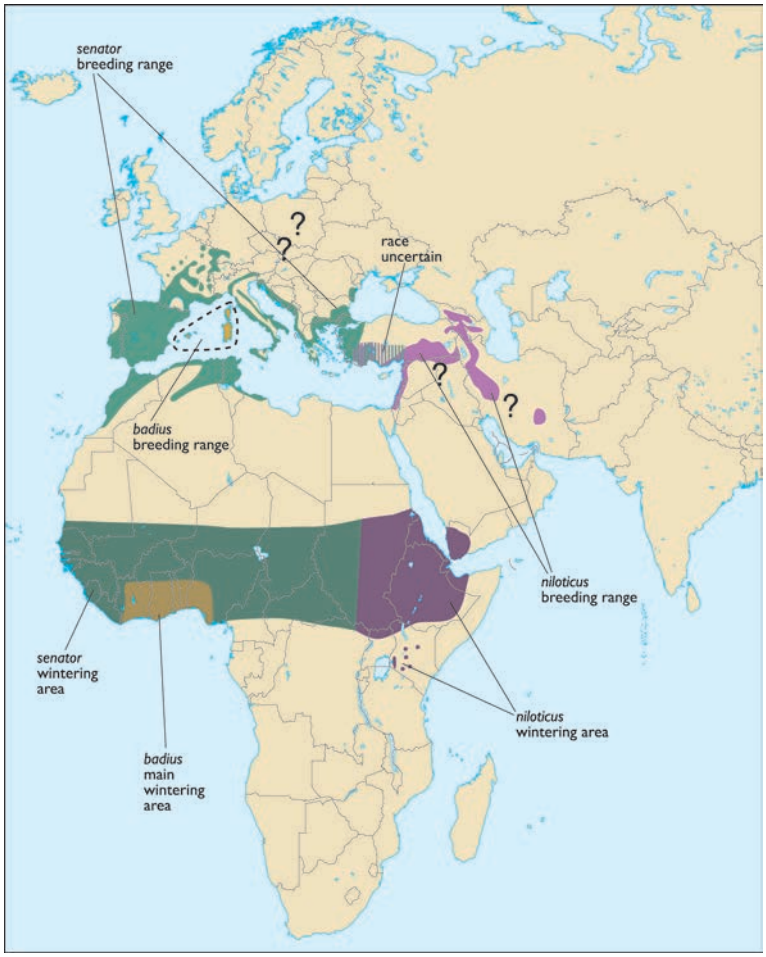

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Fig. 1. Breeding range of Woodchat Shrike *Lanius senator* showing the distribution of the three recognised races, based on Lefranc & Worfolk (1997). The hatched region in southern Turkey represents the approximate boundary between nominate *senator* and *L. s. niloticus* and it is uncertain which form breeds here (Kirwan *et al.* 2008).

variation in the key features separating adult *senator* from *niloticus*; both *BWP* and Kirwan *et al.* (2008) noted that some *senator* in the Balkans and western Turkey show a greater extent of white in the tail base, approaching (but not matching) that of *niloticus*. Kirwan *et al.* described the Turkish range of *senator* as extending from Thrace and elsewhere in Marmara south through the Aegean and around Bodrum, with *niloticus* found east of a line from the Hatay north to Kars province (fig. 1). They described the situation in the eastern Mediterranean and southwestern Aegean as unclear, given that *senator* is likely to occur in the region on passage. As a

Table 1. Accepted European records of eastern Woodchat Shrike *Lanius senator niloticus*.

	Date	Location	Comment
Finland	13th May 1989	Pornainen Laukkoski	Flew into a window and died, skin retained at Porvoo museum (*Lintumies* 1991: 241–262)
Italy	21st April 1915	Messina, Sicily	Collected (*Sturniolo* 1923)
Spain	4th April 1992	Aire Island, Menorca	Female, trapped and ringed (*Ardeola* 41: 114–115)
	21st–23rd April 1995	Columbretes Islands, Castellón	Male, trapped and ringed (*Ardeola* 47: 156)
	18th April 2002	Aire Island, Menorca	Male, trapped and ringed (*Ardeola* 52: 204)
Sweden	9th October 1991	Falsterbo, Skåne	First-winter (*Vår Fågelvärld* 51: 7–8, 30; *Fågelåret* 1994: 145)
	13th–21st October 1997	Västergarn, Gotland	First-winter (*Fågelåret* 1997: 166)
	3rd–10th November 2007	Missjö, Östergötland	First-winter (*Fågelåret* 2007: 143)

consequence of this uncertainty, it is proposed that only individuals showing a full suite of characters diagnostic of *niloticus* should be considered acceptable in a vagrant context.

Adult *niloticus* could quite easily be overlooked in the field, since the key identification characters can be difficult to observe. At present, it is considered that identification of a vagrant *niloticus* in adult plumage would need to be confirmed in the hand (as with all European records so far; table 1). However, in 1CY *niloticus*, the moult from juvenile to first-winter plumage occurs distinctly earlier than in *senator* (see below). Differences in moult strategy, combined with some distinctive plumage characteristics, should enable first-year *niloticus* to be identifiable in a vagrant context.

Moult

In late summer, adult *niloticus* undertake an earlier post-breeding moult than *senator*, which is presumably related to the fact that *niloticus* breeds earlier than *senator*. Typically, *niloticus* renews all the primaries on the breeding grounds; moult is then suspended and recommences in the winter quarters, where a few or all secondaries are renewed. In *senator*, the adults replace only the body plumage before autumn migration, and wing and tail feathers are then replaced on reaching the wintering grounds (Svensson 1992).

There are also important differences in the timing of moult in young birds. The post-juvenile moult of *niloticus* takes place mainly on the breeding grounds, while that of *senator* takes place in the winter quarters. This moult sees the juvenile body plumage replaced by a first-winter plumage that is distinctive and rather adult-like; and the fact that it occurs before autumn migration in *niloticus* but not in *senator* is the reason that vagrant *niloticus* in their first autumn should be readily identifiable. Young birds of both races retain juvenile remiges and rectrices until reaching the wintering grounds.

Among *niloticus* specimens at the NHM,

Mike Pope

199. First-winter eastern Woodchat Shrike *Lanius senator niloticus*, Kuwait, 17th August 2007. This race moults earlier than nominate *senator*, which retains juvenile plumage until arriving on the wintering grounds. By mid August this individual has replaced most of the juvenile feathering, including all the median coverts and two innermost greater coverts. Note the extensive unbarred white area in the scapulars; the dark, unbarred mantle; and unmarked white underparts. Together, these are diagnostic of first-winter *niloticus* in autumn. The identification as *niloticus* is further supported by the pure white patch at the base of the primaries: at least as long as the length of the exposed primary coverts and well defined at the distal edge.

Bryan Thomas

200. Juvenile Woodchat Shrike *Lanius s. senator*, St Mary's, Isles of Scilly, September 2006. Compared with *niloticus*, note the relatively narrow band of pure white at the base of the primaries, merging into a broad area of buff with a diffuse distal margin, producing a more extensive pale area. The retained juvenile forehead, crown and mantle feathers, with dark crescent-shaped subterminal marks, are also typical of *senator* in autumn, as is the extensive dark barring on the flank feathers.

the only juveniles retaining extensive barring on the crown, nape and mantle were those collected in early June. Photographs of autumn migrants from the Gulf States and the Arabian Peninsula showed that the great majority (over 90%) of young birds have replaced virtually all their juvenile mantle and scapular feathers by late August/September. Unusually late individuals may retain juvenile scapulars in late September and show a greater proportion of retained juvenile mantle feathers than a typical first-winter at that time, but such individuals can still be identified as *niloticus* by the pattern of the primaries and the underparts.

Identification features of *niloticus* 1. all ages

Central tail feathers

The extensive white base to the central tail feathers of *niloticus* is diagnostic. This feature can be obscured by the longest uppertail-coverts and is best examined in the hand. Adult *niloticus* from Iran showed 25–35 mm of white at the base of the central tail feathers, but some from Transcaucasia showed as little as 14 mm (*BWP*); typically there is no white in *senator*. In first-winter *niloticus* the white may be obscured completely by the uppertail-coverts and is very difficult to see confidently in the field, but examination of skins confirms that this is a consistent feature at all ages.

Rump and uppertail-coverts

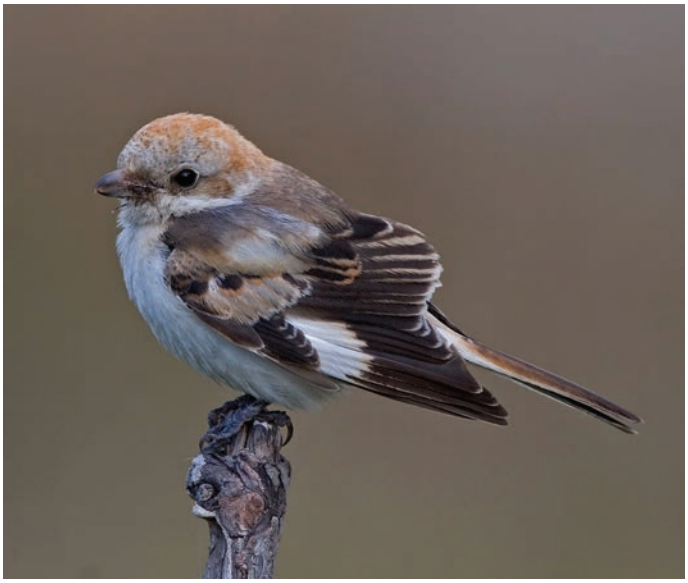
Adult *niloticus* typically gives the impression of having a larger white rump patch than *senator*, as it is extended by the white base to the tail. First-winter *niloticus* also gives the impression of having an extensive area of unmarked white across the uppertail-coverts and rump compared with *senator* of the same age, in which the rump and uppertail-coverts, if unmarked, are typically extensively sullied buff. Although *niloticus* may show dark subterminal (crescent-shaped) barring on just the longest uppertail-coverts, *senator* typically (but not exclusively) shows dark barring right across the uppertail-coverts and rump.

White patch at base of primaries

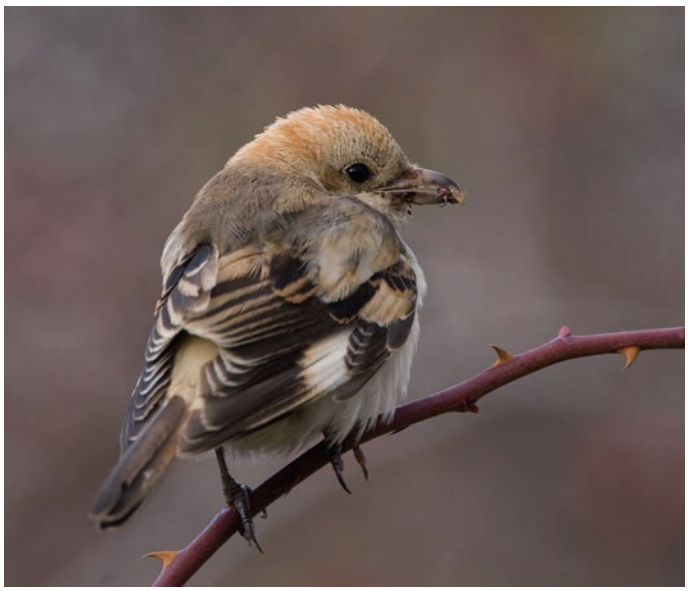
Typically, the white patch at the base of the primaries is more extensive in adult *niloticus* than adult *senator*. Vaurie (1955) recorded the difference as 17–21 mm beyond the tip of the longest primary covert on the closed wing in *niloticus* and as 10–16 mm in *senator,* but Svensson (1992) gave 10–18 mm for *niloticus* compared with 4–13.5 mm for *senator*, thus indicating a greater degree of overlap than suggested by Vaurie. This feature is difficult to determine precisely in photographs, although the extremes may be separable, but is easily measured in trapped individuals. The overlap is clearly genuine, as

demonstrated by the individuals shown in plates 214–217. It is therefore essential that the tail pattern is checked on any putative vagrant *niloticus* to confirm the identification (see above).

First-winter *niloticus* shows a broad band of pure white across the primary bases, approximately equal to, or slightly greater than, the length of the exposed primary coverts. The distal margin of the white area is clearly defined, set against dark brown primaries with only very fine buff/white fringes. At the same age, *senator* shows a narrower band of pure white across the base of the primaries; on many individuals the white grades into buff at the distal edge, which then merges diffusely into broad buff fringes to the primaries – all of which combine to give an apparently *more* extensive pale area across the base of the primaries (as a whole), compared with *niloticus*. This extensive pale area can mistakenly be taken as pro-*niloticus*; the critical feature, however, is the extent of clearly defined, *pure* white at the base of the primaries, which is consistently larger on first-winter *niloticus* than *senator*.



Tomas Lindquist



Tomas Lindquist

201 & 202. First-winter eastern Woodchat Shrike *Lanius senator niloticus*, Sweden, 4th November 2007. Note the extent of moult on this individual, which has replaced all the juvenile body feathers, and shows a virtually uniform orange crown and nape, grey-brown mantle, unmarked white underparts and almost unmarked buffish-white rump. Note also the well-defined and extensive white patch at the base of the primaries, replaced median coverts and contrast between the newly replaced adult-type and retained juvenile greater coverts. This bird illustrates just how distinctive a first-winter eastern Woodchat Shrike can be in a vagrant context.

Other features

Yosef & Tryjanowski (2000) found no significant difference in wing length or weight between *niloticus* and *senator* migrating through Eilat, Israel, in spring; but note that, on average, *niloticus* arrived in Eilat two weeks before *senator*. It has been suggested that *niloticus* has a less heavy bill than other forms of Woodchat Shrike (*BWP*). This is certainly true in the case of the large-billed *L. s. badius*, but differences between *niloticus* and *senator* are subtle and probably not significant.

John Phillip Lee

203. First-year Woodchat Shrike *Lanius s. senator*, Devon, 5th November 2006. Compared with the Swedish *niloticus* in plates 201 & 202, this rather late bird in Devon has moulted the median coverts but has still to replace the greater coverts and body plumage. The pattern of the underparts, primaries and uppertail-coverts all point clearly to nominate *senator*.

Micky Maher

204. Juvenile Woodchat Shrike *Lanius senator*, probably nominate *senator*, Shetland, September 2003. This interesting individual has already begun to replace some of the juvenile body feathers, suggesting that it could be *niloticus*. However, the white bases to the primaries bleed into the buffish primary fringes and this points to it being *senator*, as does the rich rufous tone to the mantle and scapulars, which appear too warm for *niloticus* at this age. Note also the extent of barring on the underparts, the retained juvenile median coverts and the retention of all but two of the juvenile greater coverts (on the left side; just one was replaced on the right); these are all features more indicative of *senator*, albeit one moulting prematurely.

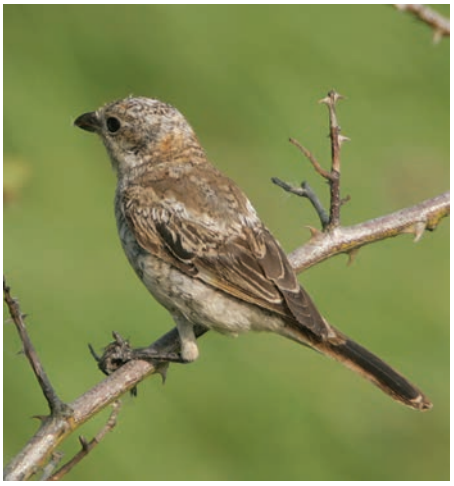
Identification features of *niloticus* 2. adults

Head pattern of females

A proportion of 2CY or older female *niloticus* show a pale brown mask extending around the eye and across the ear-coverts, which appears almost the same colour as the crown (plates 209 & 210). These birds are particularly striking after the post-breeding moult and this plumage may not be matched by *senator*. In a vagrant context, such individuals may be identifiable in the field (though it might still be necessary to examine the tail and primary pattern in the hand to confirm the ID).

Underpart coloration

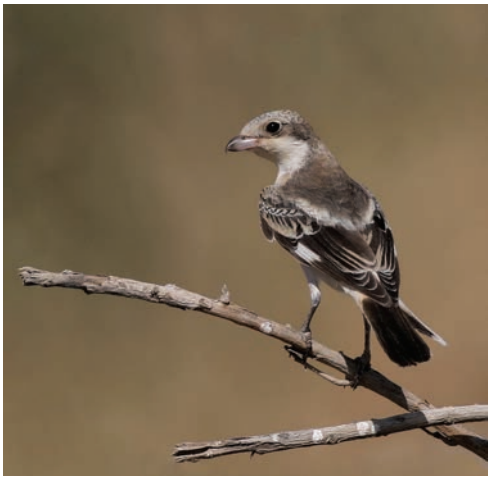
It has been suggested that adult *niloticus* show whiter underparts than *senator* (Lefranc & Worfolk 1997). On the basis of specimens examined at the NHM, this does not appear to be a consistent difference: although no adult *niloticus* appeared as richly coloured as a few of the most strongly marked *senator*, the majority of *niloticus* showed sullied underparts and there was considerable overlap. The presence of extensive warm colour on the underparts may eliminate *niloticus*, but its absence is not indicative. A contrasting peachy-buff wash to the flanks appears to be a consistent feature of *niloticus*, but is also shown by some *senator*.



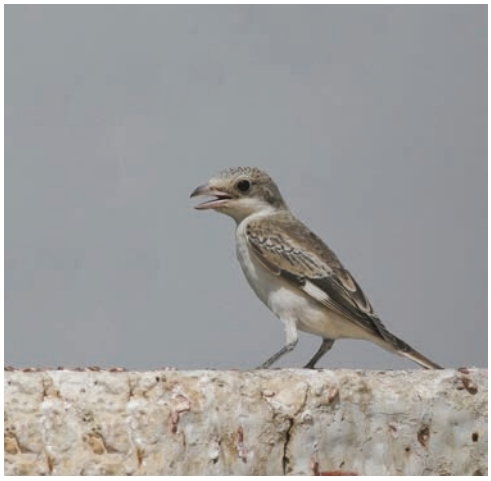
Steve Keightley

Steve Keightley

205 & 206. Juvenile Woodchat Shrike *Lanius s. senator*, Cleveland, 18th September 2008. Like the Shetland bird in plate 204, this individual showed an asymmetric moult in the greater coverts (one replaced on the left wing, none on the right) but otherwise no suggestion of moult. The primary pattern, dark barring on the underparts, and brown-washed rump and uppertail-coverts all point clearly to nominate *senator*.



Rashed Al-Hajj



Rashed Al-Hajj

207 & 208. First-winter eastern Woodchat Shrikes *Lanius senator niloticus*, Kuwait, 1st September 2009 (left) and 28th September 2008 (right). The bird in plate 207 has retained its juvenile scapulars and also has a full complement of juvenile median and greater coverts. However, the subspecies identity is confirmed by the primary pattern and lack of any retained juvenile feathers in the mantle, together with apparently unmarked white throat and upper breast. The bird in plate 208 is a relatively retarded individual that still has all its juvenile median and greater coverts, and some mantle feathers, in late September. However, note the clean white underparts and well-defined, broad white band across the base of the primaries, crisply defined at the distal edge, which points clearly to the eastern form.

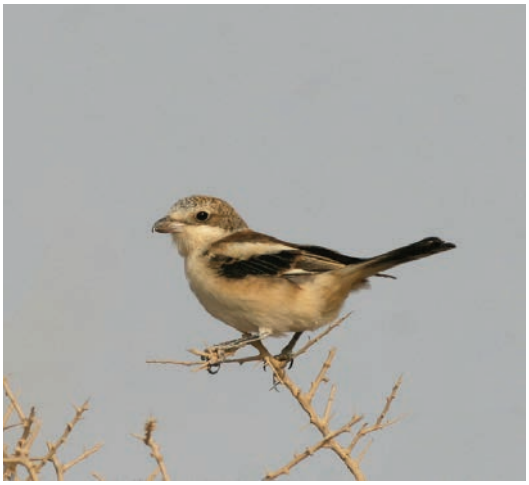
Identification features of *niloticus*

3. first-winters

Upperparts

In autumn, first-winter *niloticus* is likely to show more extensively uniform (unbarred) feathering on the crown, nape and ear-coverts than 1CY *senator*, owing to the more advanced moult. Moreover, the mantle is relatively uniform, varying from dark blackish-brown to mouse-brown, lacking the extensive juvenile feathering (with crescent-shaped dark subterminal barring) retained by most 1CY *senator* (but note that there is a single example of a 1CY *senator* at the NHM, col-

Rashed Al-Hajj



Rashed Al-Hajj

209 & 210. Presumed female eastern Woodchat Shrikes *Lanius senator niloticus*, Kuwait, 3rd September 2009 (left) and 18th August 2009 (right). These images illustrate the tendency for some female *niloticus* to show paler brown ear-coverts than would be expected in nominate *senator* in autumn. The wing-coverts indicate that they are 2CY or older, but the head pattern suggests immaturity, with a hint of barring in the fore-crown and an absence of solid black in the ear-coverts. This plumage state does not seem to be matched by nominate *senator* in August/September and appears to be characteristic of *niloticus*.

Rashed Al-Hajj

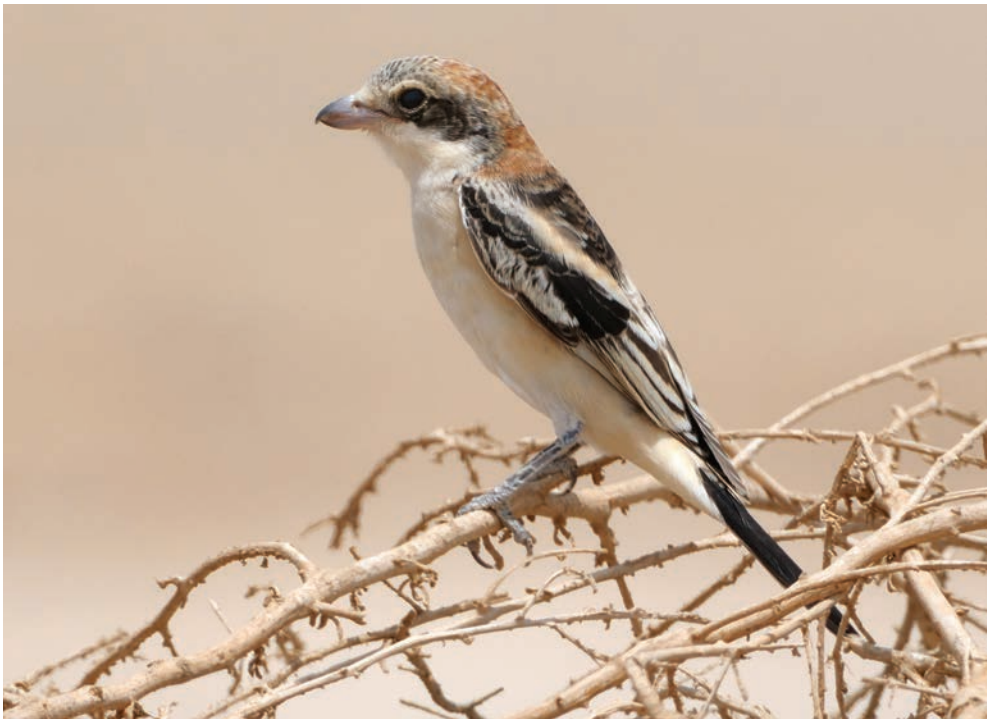
Eduardo Amengual

211 & 212. Adult Woodchat Shrikes *Lanius senator*; left *L. s. niloticus*, Kuwait, February 2008, right *L. s. senator*, Sa Dragonera, Balearic Islands, Spain, April 2005. Note that the more extensive white in the central tail feathers of *niloticus* leads to the impression of an evenly broad black subterminal band across the tail. By comparison, the black forms more of a wedge shape in *senator*, more extensive on the central tail feathers. This feature would be virtually impossible to determine with confidence in the field, but high-quality images may help to support the identification of an adult vagrant *niloticus*. Ideally the identification would be confirmed by examination in the hand.

lected in November, which shows rufous on the nape and a more uniform mantle than is typical). Many first-winter *niloticus* show more extensive white in the scapulars in autumn than *senator* of the same age.

Upperwing-coverts

The extent of moult in 1CY *niloticus* is variable; although a majority retain all their juvenile greater coverts until the end of September, a proportion replace 1–3 inner greater coverts prior to autumn migration. These freshly moulted inner greater coverts are contrastingly black-centred. Some 1CY *senator* may also moult one or two inner greater coverts by September but this appears



Dileep Kumar

213. Eastern Woodchat Shrike *Lanius senator niloticus*, Kuwait, 14th August 2009. A remarkably advanced first-winter that could, at first sight, be mistaken for an adult given the date. However, the predominantly juvenile greater coverts and tertials reveal the true age.

to be unusual. Greater-covert moult is thus a pointer to *niloticus*, but is not diagnostic.

This study found that almost 50% of 1CY *niloticus* replaced all their median coverts before leaving the breeding grounds. Second-generation median coverts have black centres and narrow rufous fringes, whereas juvenile median coverts are extensively pale greyish-white with black subterminal crescents. In contrast, *senator* typically retain their juvenile median coverts, at least during autumn migration, although late vagrants in November may show evidence of moult in this feather tract.

Underparts

In their first autumn, *niloticus* frequently show completely unmarked white underparts, sometimes with a sandy-buff wash, although some show fine barring across the breast and a hint of barring at the side of the throat. By comparison, *senator* show variably extensive barring across the underparts, particularly on the breast, but also extending down the flanks in a majority, and across the throat in some. There was no evidence of overlap between races in this character, and it seems to be a consistent feature for distinguishing 1CY *niloticus* and *senator* in their first autumn.

Undertail pattern

The pattern of white and grey in the outermost tail feather, which may be possible to see well from below, differs between 1CY *niloticus* and *senator*. Thus, typical *niloticus* show a significant area of dark grey, though of variable extent, on the inner web of that feather, while most *senator* show limited or no dark markings on the inner web. This feature is also supportive rather than diagnostic, however, and should be used in conjunction with features outlined above.

Conclusions

Vagrant first-winter *niloticus* encountered in autumn should be identifiable. Adults closely resemble *senator* and are more likely to be overlooked in the field, but may be separable if seen well and should prove identifiable if trapped. A proportion of adult females may also show a diagnostic head pattern.

Appendix 1 summarises the key features for separating birds in their first autumn.

BBRC encourages observers to submit claims of *niloticus* for assessment. A search of published images of juvenile/first-winter Woodchat Shrikes seen in Britain for this paper failed to identify any potential candidates, but any past records that meet the criteria presented here would be particularly welcome.

Acknowledgments

I would like to thank members of BBRC, in particular Brian Small, and David Pearson for useful discussion of the features for separating these forms; the many photographers who have published their images in journals or on the internet, providing a valuable resource for the development of this paper; and in particular Rashed Al-Hajj, Abdulrahman Al-Sirhan, Eduardo Amengual, Hans Bister, Adrian Drummond-Hill, John Phillip Lee, Tomas Lindquist, Micky Maher, Steve Keightley, Howard King, Dileep Kumar, Juhani Kyyrö, Mike Pope, Chris Rowland and Bryan Thomas, who assisted with images for the paper; the staff at NHM, Tring, for access to the skin collection; Ian Dawson, RSPB Librarian, for providing references; and Andrew Harrop, who confirmed that no claims of *niloticus* have been considered by BOURC.

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Appendix 1. Key features for separating 1CY eastern Woodchat Shrike *Lanius senator niloticus* from nominate *senator* in autumn.

	niloticus (1W plumage)	*senator* (juvenile plumage)
Central tail feathers	Show white at the base (diagnostic)	Entirely dark
Rump and uppertail-coverts	Typically unmarked white, occasionally sullied buff and with dark subterminal (crescent-shaped) barring restricted to longest uppertail-coverts	Brown or sullied buff, typically with extensive dark, crescent-shaped barring
Base of primaries	Extensive white band, approximately equal to or longer than the exposed primary coverts, clearly defined with very narrow or no buff/white fringes along outer web of primaries	Narrower white band, becoming buff distally and extending further towards feather tips as broad buff or white fringe along outer webs of primaries
Upperparts	More uniform than *senator*, typically with very few juvenile feathers in mantle or scapulars	Frequently with many retained juvenile feathers in mantle and scapulars, giving more barred appearance
Underparts	Unmarked white, although occasionally showing fine dark barring restricted to the breast and sides of throat	More extensive dark barring on the underparts

Juhani Kyyrö

Juhani Kyyrö

214 & 215. First-summer eastern Woodchat Shrike *Lanius senator niloticus*, Bahrain, 24th March 2006. Aged by the retained juvenile primary coverts and innermost primary. Compared with the first-summer *senator* in plates 216 & 217, this individual demonstrates the potential overlap in the extent of white at the base of the primaries between the two forms. In the hand, the diagnostic extensive white at the base of the central tail feathers confirms the identification, however.

Eduardo Amengual

216 & 217. First-summer Woodchat Shrike *Lanius s. senator*, Cabera, Balearic Islands, Spain, 25th April 2010. This individual was not straightforward to age, but the primary moult indicates that it is a 2CY bird rather than an adult showing suspended moult. The extent of white at the base of the primaries beyond the tips of the primary coverts measured 11.5 mm, and a visual comparison with the *niloticus* in plates 214 & 215 confirms that these two individuals would be difficult to separate on this feature alone. This bird's identification was further complicated by the fact that it had lost one of its central tail feathers, but the remaining feather showed no white at the base, confirming that this is a nominate *senator*.

Eduardo Amengual