Notes on the structure and plumage of Beesley’s Lark
Chersomanes [albofasciata] beesleyi

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Summary. Beesley’s Lark Chersomanes [albofasciata] beesleyi, a very rare and declining taxon confined to northern Tanzania, was separated in Vol. 9 of Handbook of the Birds of the World (2004) from the largely southern African Spike-heeled Lark C. albofasciata on account of unpublished genetic differences, a higher degree of sexual dimorphism, heavier breast streaking, different behaviour (tail-cocking) and smaller size. We examined five specimens (four male, one female) of beesleyi and many more of various races of C. albofasciata from across southern Africa. Breast streaking was consistently marked in beesleyi but matched in some instances by southern African taxa, particularly in the northern part of that range, while size was small but within the overall range of albofasciata in all of the characters measured. Moreover, tail-cocking has been recorded in albofasciata. We urge fuller assessment of the status of beesley but suggest that, whatever the outcome, the conservation of this biogeographically interesting and highly threatened taxon merits high priority.

Spike-heeled Lark Chersomanes albofasciata is largely confined to southern Africa, from Angola and Botswana south through Namibia to the Cape. The species is variable in size and plumage, and many subspecies have been proposed—up to 16 in Clancey (1980) — although this number was reduced to ten in Birds of Africa (Keith et al. 1992). The same ten subspecific divisions were followed by Handbook of the Birds of the World (HBW; de Juana et al. 2004) and Roberts (Hockey et al. 2005). There is a single specimen record (omitted from Birds of Africa but included in HBW), a bird collected from the Kundelungu plateau in Congo-Kinshasa, currently unassigned to subspecies (Schouteden 1969, Lippens & Wille 1976), and a debated sight record from Amboseli, Kenya (HBW; Turner 1985). The various subspecies range from dark-backed races with rich rufous-brown underparts and ear-coverts, such as C. a. obscurata of Angola, to pale-backed races that have the underparts only faintly suffused pale buff, such as C. a. kalahariae of southern Botswana (Fig. 1). Such conspicuous variation in plumage tones within a relatively small area is not unusual in certain larks, which respond to local variation in the colour of the substrate they occupy (HBW). Roberts notes that Spike-heeled Lark ‘exhibits considerable fine-scale geographic variation in plumage colouration linked to soil colour and vegetation density’, that differences among many contiguous subspecies are ‘broadly clinal’ and that more study might further reduce the number of recognised subspecies.

On 2 November 1965, J. S. S. Beesley collected a lark from the Masai Plains (Angyata Osugat), some 40 km north of Arusha, northern Tanzania, nearly 2,000 km outside what was then the known range of Spike-heeled Lark. The specimen was described by Benson (1966) as a new subspecies, Chersomanes albofasciata beesleyi.
in honour of its discoverer. In his description, Benson noted ‘upperside most similar to C. a. obscurata (Hartert), but much less dark, blackish-brown rather than near jet-black . . . nape and margins on crown whitish rather than reddish; the uppertail coverts slightly paler red. On underside, dusky streaking on chest more pronounced than in any other subspecies; in tone of russet on lower chest to abdomen much paler than obscurata, nearest to C. a. kalabariae (Ogilvie-Grant) and eriksoni (Hartert).’ Benson further noted that his specimen ‘seems also to be unusually small (wing 80 mm only), White (1961) giving the wing-length of the male of two other subspecies, obscurata and C. a. boweni (de Schauensee), as respectively 81–89 and 81–91 mm’. This furnished the basis of the form’s description in Birds of Africa, in which C. a. beesleyi was retained as a subspecies.

However, the account of the family Alaudidae in HBW elevated beesleyi to a full species, Beesley’s Lark C. beesleyi, an arrangement also adopted by at least one field guide (Sinclair & Ryan 2003) and one world checklist (Clements 2007). The rationale for treating beesleyi as a full species was given in HBW as (1) hitherto unpublished work showing it to be genetically distinct from C. albofasciata, (2) a degree of sexual plumage dimorphism (not apparently shown in other races of C. albofasciata), females being ‘more richly rufous on belly’ and having ‘fewer, bolder breast streaks’, (3) heavier breast streaking, (4) different behaviour and (5) smaller size. The last of these characters is reflected in the alternative common name given in HBW, ‘Pygmy Spike-heeled Lark’ although, as HBW was the first authority to separate beesleyi as a species, it is unclear where this name was previously used. Almost immediately, doubts were expressed about the validity of elevating beesleyi to species level (Irwin 2005) and BirdLife International continues to recognise beesleyi as a subspecies of Spike-heeled Lark, so the form is not listed separately on the IUCN Red List. Careful assessment of the taxonomic status of beesleyi is important because it is extremely rare, occupies a very small range (confined to the ‘Longido Game Controlled Area’: Baker & Baker 2002), and is apparently declining in numbers, making it one of Africa’s most threatened bird taxa (HBW); yet nothing so far has been published that quantifies and/or verifies the characters itemised in HBW as supporting its specific status.

**Specimen evidence**

We examined specimens of Chersomanes larks in the Natural History Museum (NHM), Tring, UK. Only five skins of beesleyi were available to us, four males (including the type) and a female; those specimens other than the type were collected by A. D. Forbes-Watson in April 1966. Larger numbers of specimens of most subspecies of Spike-heeled Lark recognised by Birds of Africa and HBW were available for comparison. Of the five characters listed in HBW for regarding beesleyi specifically, we comment on three. The genetic work is currently unpublished, and the presence of only a single female beesleyi in NHM made quantitative assessment of sexual plumage dimorphism impossible, although this bird did not appear to differ greatly in breast streaking or underpart coloration from the males (Fig. 2).

**Breast streaking**.—Benson (1960) correctly pointed out that beesleyi shows more pronounced breast streaking than any other subspecies, and this is given as a salient feature in HBW. All five specimens of beesleyi in the NHM show clear breast streaking, which is generally less obvious or completely absent in specimens of the southern races of C. albofasciata examined. However, variation is high and individuals of...
some subspecies, such as *C. a. alticola*, *C. a. kalahariae* and *C. a. obscurata*, can occasionally exhibit breast streaking comparable in extent to that of *beesleyi* (Fig. 3). In December 2010, PFD observed a number of Spike-heeled Larks, presumably of the race *boweni*, in Etosha National Park, northern Namibia, and recorded prominent breast streaking in several of them (Fig. 4). These more heavily streaked races are among the more northerly of the southern African populations, suggesting that the degree of breast streaking might be related to latitude: while breast streaking is most frequent and pronounced in *beesleyi*, it is certainly not unique to this form and may be clinal. If, as seems likely, *beesleyi* represents a relic from a time when *C. albofasciata* or its ancestors were more widespread in Africa, originally clinal variation in a feature like breast streaking might misleadingly appear, with the disappearance of the intermediate forms, as a step change.

**Size.**—Benson (1960) again correctly pointed out that *beesleyi* is small, noting that the type is smaller than *C. a. obscurata* and *C. a. boweni*. With only four male *beesleyi* specimens available, and equally small sample sizes for several other taxa, statistical testing of differences in size was not appropriate. Nevertheless, visual plots of the measurements taken provide no evidence that *beesleyi* falls outside the size range of *C. albofasciata* (Fig. 5). In all measurements (bill to skull, wing-chord, tarsus, tail and the length of the spike on the hindclaw, all measured with dial callipers to 0.1 mm by PFD), *beesleyi* overlaps one or more...
Figure 5. Boxplots of measurements of nine subspecies of Spike-heeled Larks *Chersomanes albofasciata* and *C. [a.] beesleyi* of northern Tanzania, arranged alphabetically. Only males were included because of significant sexual size dimorphism. All measurements are in mm. The horizontal line in each box represents the median, the box itself represents the interquartile range, the ‘whiskers’ the highest and lowest data values within the upper and lower limits, and the asterisks outliers. Sample sizes are 12 (*albofasciata*), 3 (*alticola*), 11 (*arenaria*), 4 (*beesleyi*), 7 (*boweni*), 6 (*bradfieldi*), 8 (*erikssonii*), 8 (*garulla*), 9 (*kalahariae*) and 6 (*obscurata*), respectively.

of the southern races of C. albofasciata or falls entirely within the overall range of that species. Bill length and tarsus length of beesleyi fall towards the centre of the range of variation shown by the southern subspecies of C. albofasciata. Wing length of beesleyi is similar to that of C. a. alticola (north-east South Africa) and overlaps with C. a. boweni (north-west Namibia and Angola) and C. a. erikssonii (north-east Namibia and Angola). The hindclaw spike length of beesleyi falls towards the upper end of variation in Chersomanes larks, although spike length is a character known to vary with the nature of the preferred vegetation (Green et al. 2009) and therefore may not be a useful taxonomic feature. Only on tail length does beesleyi stand out as being particularly small, but even this character overlaps with C. a. obscurata. In bill, tail and spike length, beesleyi is most similar to C. a. obscurata, the most northerly of the southern subspecies of C. albofasciata and the closest geographically to beesleyi.

While beesleyi is clearly not uniquely small in the range of variation exhibited by C. albofasciata, it certainly falls towards the lower end of the range of sizes exhibited, particularly in tail length. Such a pattern would be expected under Bergmann’s Rule, which states that intraspecific body size increases with latitude, probably as a response to decreasing temperatures. Bergmann’s Rule has considerable empirical support (e.g., Ashton 2002) and would predict that beesleyi should fall towards the lower end of the variation in size. Body size, therefore, does not necessarily lend support to the specific treatment of beesleyi since other reasons for its variation are possible.

**Behaviour.**—Claimed differences in behaviour between beesleyi and southern forms of C. albofasciata appear to be limited to tail-cocking, reported to be frequent in beesleyi and absent in all forms of C. albofasciata (HBW). However, these differences have not been quantified nor have any details been published, and C. albofasciata does at least occasionally cock its tail, particularly during sexual display (C. N. Spottiswoode in litt. 2009). Until field studies have been undertaken to quantify any difference, it should perhaps best be disregarded in assessments of the taxonomic status of beesleyi.

**Conclusion**

The rationale for elevating beesleyi to specific status therefore appears to require a more thorough presentation of the evidence. This should include an assessment of variation in songs and calls (HBW suggests that these are at least similar to those of Spike-heeled Lark), detailed behavioural observations and published estimates of genetic distances between beesleyi and all of the various races—especially obscurata—of C. albofasciata (although genetic distance alone may be deemed insufficient to diagnose specific status: Tobias et al. 2010). Whatever the outcome, every effort should be made to conserve the small and highly threatened population of beesleyi in northern Tanzania, since it unquestionably represents a distinctive and biogeographically interesting taxon (although it is also worth mentioning that renewed surveys in adjacent areas may produce new populations, as the region is generally poorly known ornithologically: M. P. S. Irwin in litt. 2010).

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