

a following evening. An analysis of the weights of these birds now being undertaken (Nikolaus, in prep.) could provide clues about their energy requirements and fuel consumption, in relation to the journey already taken and for that which lies ahead. Evening departure times at 34–57 minutes after sunset at Wadi Halfa conform with times found by several other observers in north Africa and the eastern Mediterranean summarized in Biebach *et al.* (1991) as 30–90 minutes after sunset. However, birds departing after +60 would not be visible at Wadi Halfa. Other aspects of our 1986 observations in relation to those in Biebach *et al.* (*loc. cit.*) are being discussed elsewhere.

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Northern White-tailed Bush Lark *Mirafra albicauda*, Singing Bush Lark *M. cantillans* and Friedmann's Bush Lark *M. pulpa* in Ethiopia

by J. S. Ash

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There has been some confusion over the occurrence and distribution of certain *Mirafra* larks in Ethiopia, notably the Northern White-tailed Bush Lark *M. albicauda*, the Singing Bush Lark *M. (javanica) cantillans* and Friedmann's Bush Lark *M. pulpa*. The following remarks attempt to clarify the situation.

Records of *Mirafra albicauda*

Benson (1946) collected four larks in southern Ethiopia which he presented to the British Museum (Natural History) identified as *Mirafra albicauda*. These birds were apparently never referred to in the literature as *M. albicauda*, except by Benson himself (*loc. cit.*); at a later date Benson reidentified these birds as *M. cantillans marginata*, and the names on their labels were corrected. Prior to Benson's records above of *albicauda* the Childs Frick Expedition to Ethiopia collected four specimens (Friedmann 1937) in March 1912 (Appendix) in an area of black cotton soil at the

southeast end of Lake Abaya (see notes below Appendix) and the north-east corner of Lake Chamo in the southern Rift Valley. This area is known as the Nechisar Plain and is now contained within the Nechisar National Park. White (1961) listed the species for Ethiopia on the basis of Friedmann's birds from the Nechisar area, but did not refer to Benson's reidentified "*albicauda*". Furthermore he included *cantillans* with *javanica* and presumably included Benson's birds there when he described the distribution of *M. javanica marginata* as being in "Eritrea (except west), Ethiopia, south-east Sudan, dry areas of Uganda, Kenya and northern Tanganyika". He also includes the subspecies *chadensis* of West Africa, which Urban & Brown (1971) state extends into western Ethiopia. Other than the recent rediscovery at 1100 m of *albicauda* from Friedmann's locality (Safford in prep.) there are no other records from Ethiopia, and it is possible that the species is confined to the black cotton soils there—an area very poorly known ornithologically (Duckworth & Telfer 1991). Initially only photographs of the new bird were available, which I identified as *albicauda*. This identification was confirmed by Dr P. C. Lack and Dr D. J. Pearson, both of whom know *pulpa* well and were able to eliminate it as a possible alternative; and independently R. G. Safford had also come to the same conclusion. Later the specimen was presented to the British Museum.

In order to confirm the identification of the earlier birds Dr Storrs L. Olson checked the two specimens of *albicauda* identified by Friedmann and still held at the Smithsonian Institution, the other two now being at the American Museum (AMNH) and the Philadelphia Academy. He had only three other specimens of *albicauda*, also identified by Friedmann, with which to compare them, but was able to say that they were certainly not the same as *pulpa*, and were likewise different from the Smithsonian's holding of *M. (j.) cantillans marginata*. He assumed that because *albicauda* is regarded as being somewhat like *cantillans* in overall size and bill shape, Friedmann's specimens were probably correctly identified. Olson kindly arranged the loan of one of the Friedmann specimens (USNM 246208), and I was able together with Dr D. J. Pearson to check it, along with the recent specimen from Ethiopia (Safford in prep.), at the British Museum (Natural History). Together we, and Safford on another occasion, confirmed the identification of both specimens as *M. albicauda*, which thus represent the first and second records from Ethiopia (*vide* Appendix), and the species can now be added to the Ethiopian check-list on the basis of being "twice recorded on black cotton soil at the same site in the southern Rift Valley".

Record of Mirafra pulpa

M. pulpa is known from Ethiopia from one specimen (the type) collected by Friedmann (see Appendix) at the Sagan River only c. 93 km south of the Nechisar Plain. Following Hall & Moreau (1970) this species is included in the Ethiopian Checklist (Urban & Brown 1970), whereas previously it had been included with *M. cantillans marginata* by Mackworth-Praed & Grant (1960). Subsequently, Lack (1977) provided a history of its taxonomy and showed clearly that it is distinct from *cantillans* on account of its characteristic song.

Distribution of *Mirafra cantillans*

The Ethiopian Checklist (Urban & Brown 1970) recognizes two races of *Mirafra cantillans*, *M. c. marginata* which they confine to northeastern Ethiopia, including eastern Eritrea, and *M. c. chadensis* in western Ethiopia. White (1961) gives the distribution of *marginata* as Eritrea (except west), Ethiopia etc., and *chadensis* as across Africa eastwards to western Ethiopia. Widespread records from further south (Ash pers. obs., Benson 1946, Berlioz 1922, Friedmann 1937, Hall & Moreau 1970, Mackworth-Praed & Grant 1960, etc.) show that its distribution extends down the Rift Valley into southern Ethiopia and beyond. This distribution of *marginata* in Ethiopia is an extension of the range of this race eastwards from southern Sudan (Nikolaus 1987) and north from Kenya (Lewis & Pomeroy 1989); *chadensis* extends eastwards in a band across central Sudan almost to Eritrea (Nikolaus 1987), from where there is probably one record only. As apparently the most easterly *chadensis* very closely approaches in distribution the most northerly *marginata*, birds in northern Ethiopia should perhaps be examined more closely. Hall & Moreau (1970) provide the most accurate description of the distribution of the species in Ethiopia.

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APPENDIX

Records, all of which are specimens, of *Mirafra albicauda* and *M. pulpa* in Ethiopia.

Mirafra albicauda

21 Mar 1912	1♂	Lake Abaya, SE	c. 6°05'N, 37°55'E	Friedmann 1937
22 Mar 1912	2♂♂	Lake Abaya, S	c. 6°01'N, 37°50'E	Friedmann 1937
24 Mar 1912	1♂	Black Lake Abaya	c. 5°59'N, 37°46'E	Friedmann 1937
20 Sep 1990	1o	Nechisar Plain	6°00'N, 37°47'E	Safford in press

Mirafra pulpa

19 May 1912	1♂	Sagon (= Sagan) River	5°10'N, 37°37'E	Friedmann 1937
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Notes:

(a) The first 4 localities are within a few kilometres of each other and are best regarded as being the same and within the bounds of the Nechisar Plain. There is confusion over localities in Friedmann (1937): in his detailed list of collecting localities he states he was at North or "Black" Lake Abaya on 17–22 March 1912 and at South or "White" L. Abaya on 24–26 March (p. 8). I assume that the Black Lake mentioned on 24 March in the details of specimens collected (p. 17 in Part 2) is an error for White Lake, for the expedition was moving south then. Thus: Black Lake Abaya = L. Margherita = present day L. Abaya, 6°20'N, 37°55'E; White Lake Abaya = L. Ruspoli = present day L. Chamo, 5°50'N, 37°40'E; Nechisar Plain is centred on 6°00'N, 37°47'E.

(b) Berlioz (1922) records a ♂ specimen of *M. cheniana chadensis* = *M. cantillans chadensis* in May 1902 at 820 m on the Plaine Netch-sar ("rive gauche de l'Omo"). This could be the same as Safford's locality, although this is at 1100 m, because the collector was in the L. Abaya area in May and did not arrive at the Omo until later. However, there may be an error of locality or date, and there are others in the paper, so that in addition to the need to confirm the identification of this specimen there is another element of doubt involved.

Parapatric species of birds

by Jürgen Haffer

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Parapatric species of birds occupy contiguous or narrowly overlapping ranges. They exclude each other geographically with no or only restricted hybridization along their contact zones, their abrupt replacement in many cases traceable over hundreds of kilometers. When hybridization occurs at the contact zone, the representatives are considered as species if each parental phenotype comprises at least 5% of the population along the contact zone (Short 1969, 1972). In these cases, the occurrence of parental phenotypes is indicative of impediments to gene flow. By contrast, a hybrid zone between subspecies consists exclusively or almost exclusively of variously intermediate individuals (hybrids), each parental phenotype comprising less than 5% of the population at the contact zone. Smith (1955, 1965) added 'parapatry' to the group of terms designating the geographical relationships of allied populations of organisms (allopatry, sympatry; see Mayr 1978). Parapatric species are more common than previously suspected, particularly in the tropics. Very few field studies



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