

The Tanzanian race of Swynnerton's Robin

Swynnertonia swynnertoni rodgersi

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Summary: The globally threatened Swynnerton's Robin *Swynnertonia swynnertoni* is restricted to a few widely separated, forested mountain blocks in Tanzania, Zimbabwe and Mozambique³. Three races have been described. This article clarifies and expands published information on the Tanzanian subspecies, *S. s. rodgersi*, and assigns the recently discovered lowland East Usambara population to this race.

The globally threatened Swynnerton's Robin *Swynnertonia swynnertoni* is restricted to a few widely separated, forested mountain blocks in Tanzania, Zimbabwe and Mozambique³ (see Fig 1). Three races have been described: the nominate discovered in 1905 in Chirinda forest, Zimbabwe¹⁸ and since found in other small forest patches in the Eastern Highlands of Zimbabwe; *S. s. 'umbratica'* (considered conspecific with the nominate race by Keith *et al*¹³) endemic to Mount Gorongosa, Mozambique²; and *S. s. rodgersi*, described on the basis of two male specimens taken in 1981 at Mwanihana in the Udzungwa Mountains, Tanzania (a range extension of 1,300 km)²⁰. There have been subsequent records from two other sites in the Udzungwas³: Chita, in the Udzungwa Scarp Forest Reserve¹², and the Ndundulu Mountains, in the West Kilombero Scarp Forest Reserve⁷.

The first records in the East Usambaras were in 1990, a further range extension of c400 km^{9,10}. There have subsequently been many records in the foothills of these mountains^{1,8}. This population was initially believed to represent another new race, since it differed from the type description of *rodgersi*^{1,9,10,11}. However, the type description and type-specimen of *rodgersi* were not wholly representative of the Udzungwa form, and it is apparent that both the Udzungwa and Usambara populations belong to *rodgersi*, whose characteristics, as now understood, are described below.

Material examined

Specimens and photographs of live birds in the hand were compared by the authors at the Natural History Museum, Tring, UK. More than 30 specimens of the nominate form were examined, including males, females and juveniles, from various localities. Table 1 shows the origin, age and sex class of all Tanzanian birds examined. J Fjelds  kindly took notes on two males in the Copenhagen collection, one each from Mwanihana and Chita, and these birds are included in the figures in Table 1. No specimens from the Ndundulu

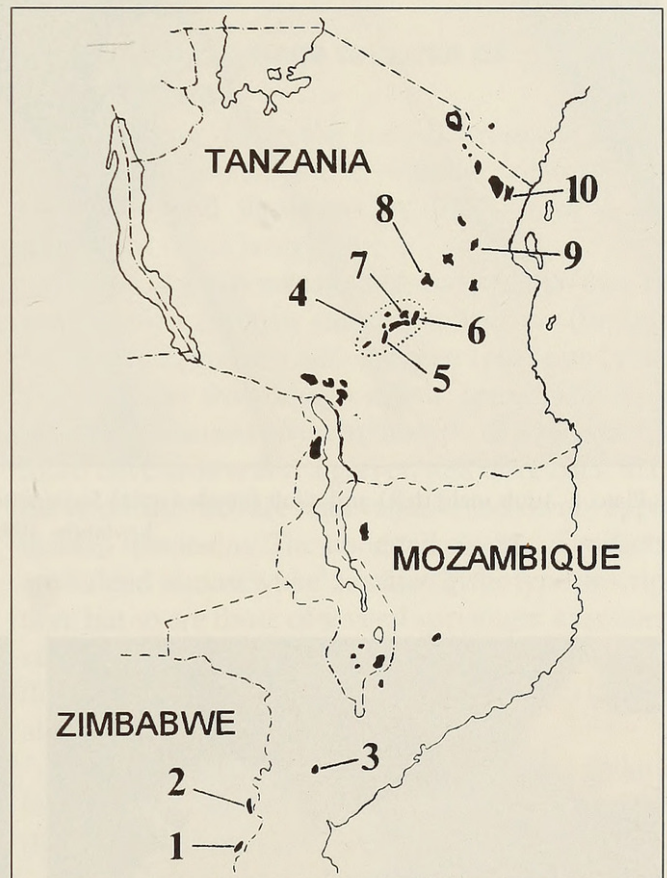


Fig 1. East Africa showing locations mentioned in the text. Shaded areas are forested mountain blocks.

1 = Chirinda, 2 = Vumba Highlands (Seldomseen), 3 = Mt Gorongosa, 4 = Udzungwa Mts., 5 = Chita, 6 = Mwanihana, 7 = Ndundulu Mts, 8 = Rubeho Mts, 9 = Ngurus, 10 = East Usambara Mts.

Table 1. Origin, age and sex class of all museum specimens and photographs of Swynnerton's Robin examined from the Udzungwas and East Usambaras, Tanzania (photographed birds in brackets).

Origin	Adult Males	Adult Females	Juveniles
East Usambaras:	0 (3)	1 (2)	0 (1)
Udzungwas: Mwanihana	2*	1	0
Udzungwas: Chita	4	1	2

*Including the holotype of *rodgersi*.



Plate 1. Adult male (left) and adult female (right) Swynnerton's Robin *Swynnertonia swynnertonii rodgersi*, East Usambara lowlands, 1992 (Laura Watson)



Plate 2. Adult male Swynnerton's Robin *Swynnertonia swynnertonii rodgersi*, showing grey upper-tail coverts and lower rump, East Usambara lowlands, 1992 (Laura Watson)



Plate 3. Adult female Swynnerton's Robin *Swynnertonia swynnertonii rodgersi*, showing pale chin and throat, East Usambara lowlands, 1992 (Laura Watson)

Mountains or of *S. s. 'umbratica'* were available for comparison.

Adults were taken as those which lacked any trace of juvenile spotting or scaling. Specimens were sexed according to the collectors' notes throughout. For live birds caught and photographed, all brighter, darker-headed individuals were assumed to be male and all duller, pale-headed birds female (for the latter assumption, see the caveat within the description of juvenile birds below). This consistent division fits the sexual dimorphism described for the nominate race¹³.

Racial status of the Tanzanian populations

No consistent plumage differences were found between the East Usambara and Chita birds of either sex, which are therefore considered to be the same subspecies, *S. s. rodgersi*. The one Mwanihana adult female specimen is also inseparable from the single adult females from Chita and the Usambaras.

However, the two male specimens (including the holotype) and type description of *rodgersi* from Mwanihana differ slightly from males from Chita and the Usambaras. Although it is conceivable that the Mwanihana birds are racially distinct from those of Chita and the Usambaras, this would be very unexpected for four reasons: (i) Mwanihana lies between Chita and the Usambaras, (ii) Chita and Mwanihana lie much closer to each other than either does to the Usambaras, (iii) Chita and Mwanihana are part of the same mountain range, and (iv) no other bird subspecies are known to differ between Mwanihana and Chita. The last point is in contrast with the Usambaras, where many subspecies and allospecies of montane forest bird differ from those present in the Udzungwas²¹. For these reasons it seems far more likely that only a single race is currently known from Tanzania. The two male specimens from Mwanihana may be slightly anomalous, or the main plumage difference (rump and uppertail covert colour) may be a variable feature in all known populations of *S. s. rodgersi*. A detailed examination of further individuals from the Usambaras and the Udzungwas is required, especially from Mwanihana.

The ageing of the holotype from Mwanihana is in doubt. It has fine olive fringes to the breast feathers, especially at the breast sides, a feature apparently characteristic of a young bird, as it appears on all immature/juvenile specimens of the nominate race (aged by the collectors). Thus the type specimen of *rodgersi* may not be a full adult, although it was described as such (the specimen label indicating that the testes were enlarged when collected, implying a

male in breeding condition⁶). It is possible that the type-specimen was a first-year bird, sexually mature but retaining subadult plumage. If it was not fully adult, it may be invalid to compare its other plumage features with adults from other populations. The second male specimen from Mwanihana does not show these fringes to the breast feathers (J Fjeldså *in litt*) and is thus a more typical adult.

The race of birds in the Ndundulu Mountains could not be reassessed, but was listed as *rodgersi* by the finders⁷. This seems likely as the Ndundulus are only 15 km from Mwanihana.

Distinctive plumage features of *S. s. rodgersi*

The following discussion contrasts *rodgersi*, in the broad sense justified above, with the nominate race (described and illustrated by Keith *et al*¹³) and *umbratica* (see Clancey²).

Males of the nominate race and *rodgersi* may be inseparable except by direct comparison. The best feature for diagnosing male *rodgersi* appears to be the yellow, rather than orange-yellow, breast. The other diagnostic features given in the type description,²⁰ a more olive crown and a greyer, less olive back than the nominate race are both variable and do not apply to most specimens. The undertail coverts of *rodgersi* are indeed 'almost white' as stated in the type description, but so are those of several specimens examined of the nominate race. A grey rump, if present, may be diagnostic in adult male *rodgersi* (see Plate 2) but not all individuals show this feature.

The type description of *rodgersi* does not include females, but, as described below, these are more distinctive than males, on account of their pale throats.

Although no direct comparisons were made with specimens of *S. s. 'umbratica'*, its type description² suggests that both sexes have darker and browner upperparts, and even richer orange on the breast than the nominate race (and thus also *rodgersi*).

The different age and sex classes of *S. s. rodgersi* show the following features:

Adult males (illustrated in plates 1 and 2):

- The head of *rodgersi* is slate-grey, with the face and ear coverts slightly paler than the crown and centre of the throat. Some specimens from the Udzungwas have an olive tint to the crown and nape, giving a slight 'capped' appearance. The head of the nominate race is pure grey, slightly darker in tone.
- The mantle, upper rump and scapulars of *rodgersi* are bright olive, contrasting with grey head, nape,

tail, uppertail coverts and lower rump (see Plate 2). The nominate race shows slightly less contrast between the duller mantle and head than *rodgersi*, and the uppertail coverts and rump are the same olive colour as the mantle. This grey rather than olive rump and uppertail coverts would form a valuable diagnostic feature of *rodgersi* except that, curiously, the two Mwanihana specimens have these feathers olive (with grey bases), like the nominate race.

- The wings of *rodgersi* are almost pure slate-grey, with paler fringing to the remiges, and slight olive-tinting on the coverts on some specimens. The nominate race shows very slight olive-tinting to all wing feathers.
- Below, *rodgersi* shows a rich yellow breast and yellow belly fading to pure white undertail coverts. A thin white gorget, bordered black on the lower edge, separates the yellow breast from the grey throat. The nominate race has a richer orange-yellow breast, paling over the belly to buff or white undertail coverts, and the black edging to the throat gorget is wider than on most *rodgersi*.

Adult females (illustrated in Plates 1 and 3):

- The crown, nape and sides of head of *rodgersi* are slightly paler and more olive-grey than in the nominate race, and the mantle is a slightly brighter olive. Unlike the adult male, the uppertail coverts and lower rump of female *rodgersi* are concolorous with the upper rump and mantle. In the latter respect they resemble females of the nominate race.
- On *rodgersi* the chin and throat above the gorget are creamy-white or buff, compared with slate grey (concolorous with the crown) on specimens of the nominate race. This gives *rodgersi* a much less well defined upper border to the throat gorget. The dark lower margin of the white gorget is thinner on *rodgersi* than on the nominate race and dark grey rather than black.

Juveniles:

- The single juvenile individual caught in the Usambaras resembled juveniles of the nominate race, which are variable according to exact age and sex. The only noteworthy difference is a contrast between the dull olive crown, scaled with black, and the slightly rufous, mid-brown forehead, lores, supercilium and ear coverts of the East Usambara bird. Juveniles of the nominate race have only the forehead slightly paler and more rufous than the crown, the rest of the face being pale olive-brown.

- Post-juvenile immature birds from Zimbabwe and Mozambique are described as having adult female-like plumage but with paler breast and belly¹³, and a paler grey throat². There is no published record or specimen of this plumage from Tanzania. If an equivalent plumage does exist for *rodgersi*, it is possible that one or more of the birds from the East Usambaras treated as an adult female may be an immature individual of either sex. However, the consistency of plumage of all adult female-type birds caught in the East Usambaras, and their common occurrence in a pair with an adult male-type individual (see section on the species' ecology, below) would suggest that these individuals are indeed adult females and that the plumage characteristics described above are valid.

Biometrics

Only limited biometric data are available from Tanzania (see appendix). Also, caution should be used in comparing measurements from specimens with those from live birds, as some shrinkage in bone material can occur in dry specimens. The data do not suggest any clear differences in wing length, tail length or weight between the populations. If slight differences in means exist, they are undetectable in such small sample sizes, and the overlap of values is clearly large. Birds of the nominate race appear, on average, to have smaller bills and larger tarsi than *S. s. rodgersi*, but since Manson¹⁴ did not specify the methods used to measure these, it is possible that the measurements are not equivalent.

Vocalisations

The call given by birds in the East Usambaras is a soft, ticking rattle, often in alarm. This matches the call described from other populations, reported as a 'descending squeaky trill or purr'¹³, a 'thin trill'⁷ and a 'high-pitched, monotonous, purring noise of no great volume'¹⁴. The song, most frequently heard around dawn and dusk in the East Usambaras, varies geographically¹³. In the East Usambaras it was a sweet, high, leisurely whistle of four notes with the first note or pair of notes higher in pitch and the last note sometimes omitted, or a fifth added¹. All permutations could be heard from a single individual in some cases. A recording has been deposited at the Wildlife Section, National Sound Archive, 29 Exhibition Road, London, UK. In Chirinda, Zimbabwe, the song has three or four notes¹³; in Seldomseen, Zimbabwe, three notes, sometimes two¹⁴; and in the Ndundulus three notes, occasionally four⁷.

Ecology

Swynnerton's Robin in the East Usambaras apparently only inhabits lowland evergreen forest from 130–550 m. Breeding at these altitudes is suspected¹². The species is almost certainly absent from submontane forests in the East Usambaras at 800–1,500 m, which have been intensively studied^{5,9,10,15,16,17}. This is in stark contrast to all other known populations, including the three Udzungwa populations, which are found at 850–1,750 m in montane forest³. This remarkable difference in habitat is currently unexplained.

Birds in the East Usambaras were seen singly or in pairs, keeping largely to the forest floor. On several occasions, pairs were mist-netted together. The species was found on both gently-sloping and very steep terrain, and in a variety of forest habitats from relatively undisturbed forest with canopy up to 40 m, to shorter, logged forest with an understorey dominated by the bamboo-like grass *Olyra latifolia*. However, it appears to occur principally in the least-logged areas where there is a high, closed canopy and a relatively open understorey without extensive thickets of *Olyra* or other species⁸. Accounts from other populations also indicate that they are principally ground-feeders favouring areas of leaf litter in evergreen forest with an open understorey^{7,12,14}.

Distribution and conservation status

The species is listed as Vulnerable because of the small, fragmented and declining extent of its habitat³. High densities occur in the very small areas of habitat occupied by the nominate race⁴. The status of forest birds on Mount Gorongosa is unknown⁴. *Rodgersi* is common at Chita¹² and in parts of the Ndundulus⁷, but scarcer at Mwanihana¹². However, neither the area of habitat at suitable altitudes, nor the degree of human pressure on the habitat in these areas are clear.

There are c140 km² of forest in the East Usambaras within the altitudinal range in the area from which Swynnerton's Robin is known (TDE, unpublished data). Almost all of this is within existing Forest Reserves, but virtually all has been degraded to some extent and large areas, including Manga Forest Reserve and the north part of Longuza Forest Reserve, may no longer support more than isolated pairs of birds. The excellent forests in Kwamgumi and Segoma Forest Reserves probably have much larger populations, and Marimba, Kambai, Semdoe and Mtai Forest Reserves are also important. Some clearance for agriculture occurs in the limited areas of forest outside Forest Reserves, but the greatest threat

to the Usambara population of Swynnerton's Robin is probably habitat degradation from illegal pitsaw logging, which continues apace in some areas^{1,8,10}.

Two major international conservation projects operate in the area. The East Usambaras Conservation and Development Project (EUACDP) is a governmental project focusing on agriculturists and village-run forests, which receives technical support from IUCN-The World Conservation Union. The East Usambaras Catchment Forest Project (EUCFP) concentrates on Forest Reserves, and is funded and technically advised by the Finnish aid agency, FINNIDA, and undertaken by the governmental Division of Forestry and Bee-keeping. A third venture, the Kambai Forest Conservation Project, is a smaller scheme, based in villages near the main lowland forest areas, and is supported by the Tanzania Forest Conservation Group. Potential alternatives to forest products are being developed and there are plans to plant habitat corridors to reduce the effects of forest fragmentation.

It seems possible that other populations of Swynnerton's Robin remain undiscovered, since there are a number of lowland and montane forest blocks which have yet to be surveyed.

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Appendix: Biometrics of mist-netted Swynnerton's Robins from the East Usambaras in 1990 and 1992, the Udzungwas in 1991 (Louis A Hansen *in litt*), Zimbabwe from 1977 to 1985¹⁴ and museum specimens from the Udzungwas. (Mean values only given for sample sizes greater than two.)

Age/Sex	Area	Live/Specimen	Wing (mm) ^a			Tail (mm) ^b			Tarsus (mm) ^c		
			Range	Mean	n	Range	Mean	n	Range	Mean	n
Male	Udzungwa	Live	69.5–72.0	-	2	44.0–47.0	-	2	24.0	-	1
	Udzungwa	Specimen	73.0–75.0	74.0	4	-	-	-	24.7–25.1	25.0	4
	Zimbabwe	Live	66.0–73.0	70.4	106	43.5–52.0	49.8	98	23.0–28.0 ^f	26.1 ^f	164 ^f
Adult	Usambara	Live	67.0–69.0	67.7	6	43.0–45.0	43.8	5	22.5–23.0	22.7	3
Female	Udzungwa	Live	67.0	-	1	45.5	-	1	24.0–25.1	-	2
	Udzungwa	Specimen	64.0–69.0	-	2	-	-	-	22.7–23.3	-	2
	Zimbabwe	Live	65.0–70.0	67.3	41	41.0–47.0	44.2	37	-	-	-
Juvenile	Usambara	Live	67.0	-	1	43.0	-	1	-	-	-
	Udzungwa	Live	67.0–69.5	-	2	42.0–46.5	-	2	24.0–27.7	-	2
	Udzungwa	Specimen	71.0–72.0	-	2	-	-	-	24.1–26.0	-	2
	Zimbabwe	Live	63.0–69.0 ^e	65.5 ^e	19 ^e	40.0–46.0 ^e	42.6 ^e	18 ^e	-	-	-
Age/Sex	Area	Live /Specimen [*]	Bill (mm) ^d Weight (g)								
			Range	Mean	n	Range	Mean	n			
Adult	Usambara	Live	16.5–17.0	16.7	3	15.2–17.1	16.3	6			
Male	Udzungwa	Live	16.3–17.3	-	2	14.4–15.9	15.4	3			
	Udzungwa	Specimen	15.7–17.4	16.7	4	-	-	-			
	Zimbabwe	Live	12.0–16.0 ^f	14.0 ^f	164 ^f	13.8–20.4	15.8	105			
Adult	Usambara	Live	16.0–17.0	16.4	4	14.9–18.0	15.9	5			
Female	Udzungwa	Live	17.7	-	1	14.8	-	1			
	Udzungwa	Specimen	16.0–17.3	-	2	-	-	-			
	Zimbabwe	Live	-	-	-	14.4–19.5	16.3	44			
Juvenile	Usambara	Live	-	-	-	16.8	-	1			
	Udzungwa	Live	16.0–17.0	-	2	15.0–16.5	-	2			
	Udzungwa	Specimen	16.8–18.4	-	2	-	-	-			
	Zimbabwe	Live	-	-	-	13.0–20.0	15.5	20			

^a 'Maximum chord' method used for Usambara and Udzungwa birds
^b Measured as base of tail feathers to tip of longest tail feather for Usambara and Udzungwa birds
^c Measured as distance from notch on tarsal joint to lowest fixed scale on tarsus for Usambara and Udzungwa birds
^d Measured as tip of bill to skull for Usambara and Udzungwa birds
^e Separate values for males and females from Manson¹⁴ pooled here
^f Manson¹⁴ pools all age/sex classes for these measurements



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