

The rediscovery of the Red-tailed *Newtonia fanovanae* in south-eastern Madagascar with notes on the natural history of the genus *Newtonia*

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Summary

The Red-tailed *Newtonia fanovanae*, previously known from a single specimen from the eastern rainforest of central Madagascar, was rediscovered in October 1989 in the Marosohy Forest in the south-east of the island. In the study area, *N. fanovanae* occurs in the middle and upper section of the canopy of humid forest between 300 and 1,300 m. Ecological relationships with the other two sympatric *Newtonia*, *amphichroa* and *brunnei-cauda*, are discussed. The main morphological differences between *fanovanae* and the other two sympatric species are that the former has relatively long wings and short tarsi. The song of *fanovanae* is described and compared to other members of the genus. Our observations on the morphology, behaviour and vocalisations of *N. fanovanae* confirm its validity as a species.

Le Newtonie à queue rouge *Newtonia fanovanae* jusqu'à présent uniquement connu d'un seul spécimen provenant de la partie orientale de la forêt tropicale du Madagascar central, fût redécouvert en octobre 1989 dans la forêt de Marosohy au sud-est de l'île. *N. fanovanae* fût rencontré dans les parties moyennes et supérieures du feuillage de la forêt humide entre 300 et 1,300 m d'altitude. Les relations écologiques avec les deux espèces sympatriques de *Newtonia*, *amphichroa* et *brunneicauda* sont discutées. Les différences morphologiques principales entre *fanovanae* et les deux espèces sympatriques sont que celle-ci a des ailes relativement longues et des tarsi courts. Le chant de *fanovanae* est décrit et comparé avec celui d'autres membres du genre. Nos observations sur la morphologie, le comportement et les vocalisations de *N. fanovanae* confirment sa validité comme bonne espèce.

Introduction

The genus *Newtonia* (placed in the Muscicapidae *sensu stricto* by Morony *et al.* 1975; Sylviidae by Mayr *et al.* 1986) contains several species of small insectivorous birds restricted to Madagascar. In 1933 Gyldenstolpe named a new species in this genus, *Newtonia fanovanae*, from the Fanovana Forest (18°55'S 48°34'E) in east-central Madagascar. The type description was based on a single, unsexed specimen collected in December 1931 and purchased by the Swedish Museum of Natural History, Stockholm, from the collector M. Herschell-Chauvin. The forest near the village of Fanovana is now cleared (Dee 1986). This species has been searched for repeatedly in the eastern humid forest of Madagascar (although primarily in a limited number of sites), but there has been no subsequent record of it (Collar and Stuart 1985, Turner and Dowsett 1988). It has long been suspected to live unnoticed in the canopy of eastern evergreen humid forests (Rand 1936, Benson 1980).

This complete lack of information has led some workers to question the validity of the species. Several authors have commented on the remarkable similarity in plumage pattern and colour between *Newtonia fanovanae* and the female of the Red-tailed Vanga *Calicalicus madagascariensis* (e.g. Gyldenstolpe 1933), and it has been speculated that the former might actually be an aberrant female of the latter (Forbes-Watson *et al.* 1973). It is for this reason that the discovery of a population of *Newtonia fanovanae* in late 1989, during an inventory we conducted of the birds of south-eastern Madagascar, is of particular interest. We were able to collect information on the ecology, morphology, and song of this bird that allows us to comment on its habits and possible range.

Study Area

On 31 October 1989 we conducted a reconnaissance of the forest along the trail leading from Enakara (24°37'S 46°54'E) to Antseva (24°31'S 46°48'E). This north-westerly route passes through the Marosohy Forest along the northern boundary of the Réserve Naturelle Intégrale (no. 11) d'Andohahela, parcel no. 1, and across the Anosy (= Anosyenne) range (Figure 1). The highest portion of this trail is the Col de Marosohy at about 1,300 m. There is undisturbed tropical evergreen rainforest along this trail from about 300 m on the east side of the

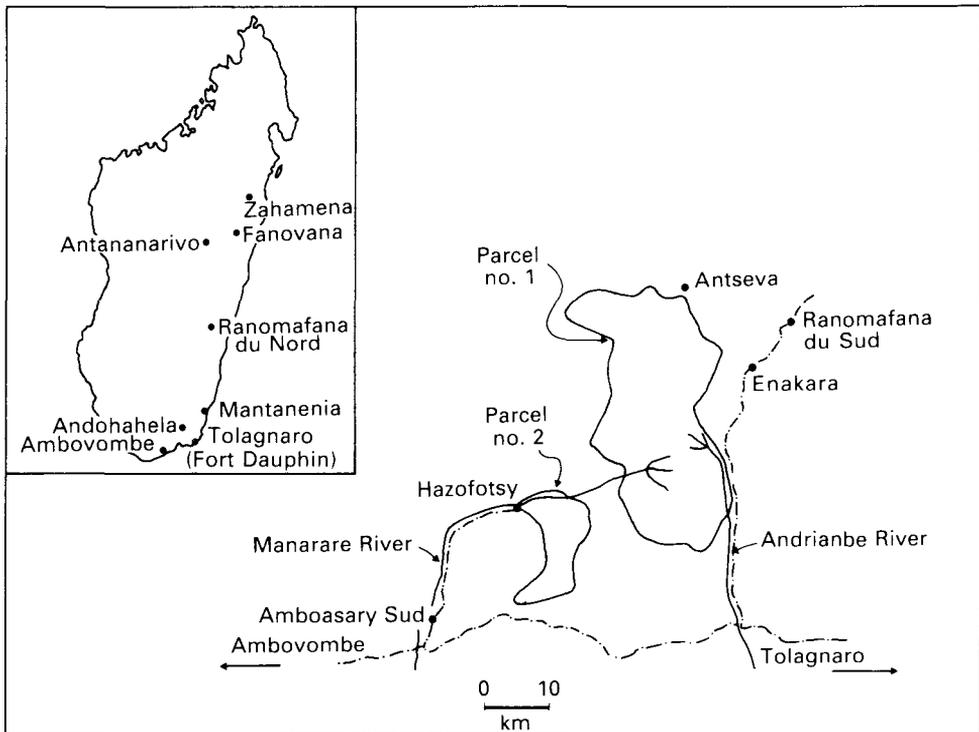


Figure 1. Map of study area in south-eastern Madagascar showing the boundaries of the Andohahela parcels, main roads (dashed line), major river systems, and localities. Inset is of the whole island.

range, up over the pass, and down to 900 m on the west side. That night was spent in the village of Antseva (at approximately 850 m). On 1 November we travelled along another trail through the forest of Marosohy, passing over the Col d'Ampamakiesiny (at about 1,375 m), and ending in the village of Ranomafana du Sud (24°34'S 46°57'E). All of these sites are within the Province of Toliara and the sub-prefecture (Fivondronana) of Tolagnaro.

Between 21 November and 14 December 1989, S.M.G. returned to the Marosohy Forest to conduct an ornithological survey. This work was performed out of two camps, both along the Enakara–Antseva trail. The first camp was located along a tributary of the Tsitongatona river, 24°34'S 46°48'E, and at 750 m. The second camp was located a further degree east along the same river, and at 450 m. The forest was surveyed within ± 150 m altitudinal range of each camp site.

The canopy height in the Marosohy Forest and the adjacent parcel of the Andohahela Reserve is about 25 m, with occasional 40 m tall buttressed trees. Canopy tree genera characteristic of this forest, which rests on lateritic soils, include *Sloanea*, *Dilobeia*, *Weinmannia* and *Symphonia*. The families Lauraceae, Moraceae, Rubiaceae, Melastomataceae, Sapotaceae, Orchidaceae, and Cyathaceae are often dominant or conspicuous components of the local flora. Much of the forest has a lush growth of epiphytic plants, particularly at higher elevations, where mosses, liverworts and lichens are also commoner (Humbert 1941, Paulian *et al.* 1973, O'Connor *et al.* 1987). The mean annual temperature is about 23°C and mean annual rainfall is between 1,700 and 2,400 mm (Donque 1972).

Notes on the morphology and natural history of *Newtonia fanovanae*

Description of Newtonia fanovanae

In view of the controversy over the validity of *Newtonia fanovanae*, and the great distance between Marosohy and Fanovana, we believed that it was important to obtain a specimen to confirm field identification; given the existence of a substantial population in the survey area (see below), this would not adversely affect the local population.

A single specimen, now in the Field Museum of Natural History (FMNH 345890), was therefore taken on 8 December 1989, at 375 m in relatively closed-canopy lowland forest. The bird was captured about 1 m above the ground in a mist net. The section of the net the bird was caught in was in direct alignment with a naturally open understorey corridor leading from a river about 70–80 m away. The bird was an adult male with a fully ossified cranium and enlarged testes (left testis 10 × 5 and right testis 8 × 4 mm). The neck, breast, back and outer tail rectrices were in moult; the balance of the plumage was worn. The bird's stomach was virtually empty and contained a few insect parts, most likely of Orthoptera.

Through the kindness of Dr C. Edelstam and Dr E. Åhlander, Swedish Museum of Natural History, we have been able to compare the type with the FMNH specimen. The plumage patterns of the two birds closely match one another. The only feature that we would add to Gyldenstolpe's (1933) fine description of the type is that both birds have a very distinct buff-brown band

transversing the lower throat and the uppermost breast. The measurements (in mm) of the type and FMNH specimens are (respectively): wing (flattened) 60, 60; tail 43, 43; bill from base of skull 14.5, 14.8; exposed culmen 10.7, 12.1; bill from anterior edge of nostril 7.9, 9.0; width of bill at anterior edge of nostril 3.0, 2.8; gonys 8.3, 7.9; tarsus 16.3, 16.9; and weight –, 12.9 g.

Soft part coloration of the FMNH bird was recorded as: legs slate grey, claws light grey, eye reddish-brown, maxilla black, mandible horn-grey at base merging to light grey at tip, and mouth-lining horn-grey.

Breeding season and territories

We believe that the male collected on 8 December 1989 was in breeding condition, given the size of the testes. We heard singing *N. fanovanae* on 15 occasions between 31 October and 1 November and between 21 November and 14 December 1989, the dates we visited the Marosohy Forest. Only once was more than a single singing bird heard in an area at one time. This exception was on 9 December at approximately 350 m, when two birds were vocalising high in the canopy, within 10–20 m of one another, and in an area of relatively open forest with exceptionally large trees. The only other information we have on the breeding season, other than from inference of the period birds were singing, is that on 3 December at about 750 m elevation, three *N. fanovanae* were noted 20–25 m up in the canopy, one of which appeared to be a fledgling and was seen being fed by both of the other two birds.

Occurrence in mixed-species foraging flocks

Although most of our observations of *N. fanovanae* were of solitary individuals singing in the mid- to upper-canopy of the forest, we have three apparent records of it in mixed-species foraging flocks. On 31 October, at about 350 m, one *N. fanovanae* (of an apparent pair) was heard singing in or near a mixed-species flock containing one Madagascar Bulbul *Hypsipetes madagascariensis*, one tetraka *Phyllastrephus* sp., one Nelicourvi Weaver *Ploceus nelicourvi*, and two *Calicalicus madagascariensis*. It was not clear if the *Newtonia* were actually members of the flock or just coincidentally in the same area as the group was passing through; it should also be noted that this flock was probably larger than is here indicated, but that all observations on the flock itself ceased when the *N. fanovanae* was detected.

On 28 November at about 850 m, one non-singing *N. fanovanae* was observed moving through the forest as a member of a mixed-species foraging flock. At the head of the group were two female Rufous Vangas *Schetba rufa*, followed by a Blue Vanga *Cyanolanius madagascarinus*, Tylas Vanga *Tylas eduardi*, female *Ploceus nelicourvi*, *N. fanovanae*, and three Madagascar White-eyes *Zosterops maderaspatana*. The *Newtonia* was noted in the mid-canopy, gleaning what were presumed to be small insects from the upper surfaces of leaves.

On 24 May 1990 at about 560 m elevation and on the southern slope of the Col de Marosohy three *N. fanovanae* were observed moving through the forest at heights from 6 to 15 m above the ground with one male *Calicalicus*, a pair of Madagascar Cuckoo-shrikes *Coracina cinerea* and between eight and ten other

species of small birds. Two Blue Couas *Coua caerulea* were seen nearby to the mixed-species flock and it is not clear if they were members (O. Langrand and S. O'Connor *in litt.*).

The altitudinal distribution of Newtonia spp.

Three species of *Newtonia* are found in the Marosohy Forest: Common *Newtonia* *N. brunneicauda*, Dark *Newtonia* *N. amphichroa*, and *N. fanovanae*. A fourth species, Archbold's *Newtonia* *N. archboldi*, occurs in spiny desert habitat, and we found it living sympatrically with *brunneicauda* at Hazofotsy, approximately 40 km south-west of the Marosohy Forest. *Brunneicauda* was the most widespread of the humid forest species, both in relative abundance and altitudinal distribution. We found this species from the lower edge of the forest at 310 m to the Col d'Ampamakiesiny at 1,375 m. *Amphichroa* is a montane species and was only noted between 1,100 and 1,310 m. Our records of *fanovanae* (18 separate sightings) are from 300 m (the lower edge of the forest) to 950 m. In addition, O. Langrand, S. O'Connor and M. Pidgeon (*in litt.*) recorded singing individuals at 1,150 and 1,300 m on 22 and 23 May 1990. Therefore *brunneicauda* and *fanovanae* both occur throughout the elevational gradient in the Marosohy Forest, although *brunneicauda* is the commoner of the two; both species overlap in elevational distribution with *amphichroa*.

There appears to be some habitat separation between the three forest-dwelling *Newtonia* spp. *Brunneicauda* occurs in the upper and middle tiers of the canopy and occasionally on the ground or in forest undergrowth. *Fanovanae* tends to be found in the upper and middle sections of the canopy and rarely descends into the lower section of the forest. Thus, in the zone of altitudinal sympatry between *brunneicauda* and *fanovanae*, there is considerable overlap in the use of the forest strata. For example, on 9 December at about 350 m, two adult *fanovanae* and one adult *brunneicauda* were singing from perches about 15 m above the forest floor and within 20 m horizontal distance of one another. This apparent overlap differs from the situation between *brunneicauda* and *amphichroa*, since the latter species tends to be found mostly in the lower sections of the forest, including areas with dense undergrowth, and rarely in the middle canopy (Thompson 1987, pers. obs.). Another important difference is that *brunneicauda* is commoner in mixed-species foraging flocks than *fanovanae* or *amphichroa* (Rand 1936, pers. obs.).

Morphological variation in Newtonia spp.

Since there is considerable geographical overlap in the ranges of *Newtonia* spp. and since in several cases at least two species coexist in the same habitat, we conducted an analysis to determine if there are morphological differences between these species. Only museum specimens of *amphichroa*, and *b. brunneicauda* that were taken in the eastern humid forest south of Andapa (14°39'S 49°40'E) were used in this analysis; those of *archboldi* came from the south-western corner of the island. Eight measurements were taken from adult specimens (Table 1).

We found no statistical difference between the sexes in any *Newtonia* sp., so in

Table 1. Measurements of *Newtonia* spp.

Measurement	<i>N. b. brunneicauda</i>				<i>N. amphichroa</i>				<i>N. archboldi</i>			<i>N. fanouanae</i>		
	n	Mean	Range	SD	n	Mean	Range	SD	n	Mean	Range	SD	Type specimen	FMNH specimen
Wing length	132	54.5	49-58	1.65	34	56.7	53-61	2.36	9	49.1	47-51	1.7	60	60
Tail length	128	42.6	39-46	1.49	33	44.0	41-47	1.51	9	45.2	42-50	2.33	43	43
Bill length from base of skull	127	14.2	13.2-15.6	0.46	32	14.8	13.4-15.8	0.53	7	13.5	12.7-14.0	0.49	14.5	14.8
Length of exposed culmen	124	10.8	9.3-12.1	0.47	32	11.5	10.5-12.5	0.47	7	10.5	9.7-11.3	0.63	10.7	12.1
Bill length from anterior edge of nostril	127	8.0	7.1-8.9	0.42	32	8.1	7.5-8.9	0.31	7	7.8	7.2-8.2	0.36	7.9	9.0
Width of bill at anterior edge of nostril	129	3.5	3.0-4.2	0.23	33	3.6	3.2-4.0	0.21	8	3.6	3.4-3.9	0.19	3.0	2.8
Gonyx length	126	7.8	6.9-9.1	0.44	33	8.2	7.7-8.9	0.31	8	7.4	6.7-8.2	0.45	8.3	7.9
Tarsus length	126	20.3	18.1-22.4	0.86	32	24.1	22.7-25.7	0.76	9	19.9	18.5-21.0	0.85	16.3	16.9

all statistical analyses reported herein male, female and unsexed specimens have been combined. *N. b. brunneicauda* is morphologically similar to *amphichroa* in most measurements except the tarsus, which is distinctly longer in the latter species (Table 1). *N. b. brunneicauda* and *archboldi* are morphologically similar to one another, although the former averages slightly larger in most measurements. Proportionally *fanovanae* is different from both *brunneicauda* and *amphichroa*, all of which occur in the Marosohy Forest. *Fanovanae* has slightly longer wings, a narrower bill, and distinctly shorter tarsi than the other two species.

The importance of differences in tarsal measurements between the four *Newtonia* spp. is apparent in a plot of tarsus against wing (Figure 2). *Amphichroa* forms a cluster with its slightly longer wings and distinctly longer tarsi. *Brunneicauda* has on average a slightly longer wing than *archboldi*, but the latter species has distinctly shorter legs. The two *fanovanae* specimens also form a distinct group, particularly well separated from the other species by their combination of long wings and extremely short tarsi.

Vocal behaviour of *N. fanovanae*

The song of *Newtonia fanovanae* is loud, rich and distinctive. A series of songs from two different individuals was recorded on 31 October. Of the 61 songs that

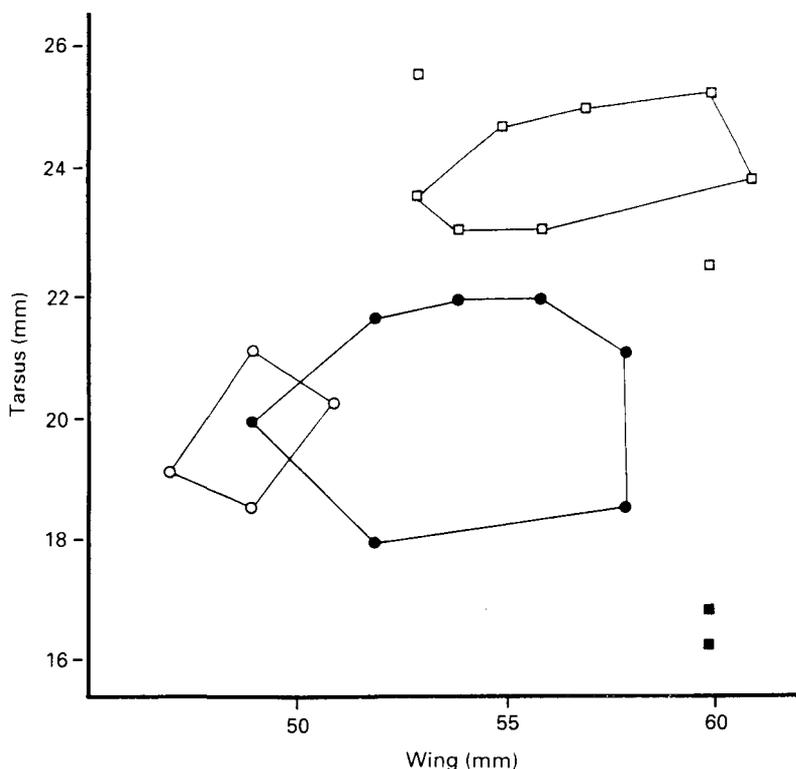


Figure 2. Plot of tarsus against wing lengths in four species of *Newtonia*. Key to symbols: closed squares *fanovanae*, open squares *amphichroa*, closed circles *b. brunneicauda*, and open circles *archboldi*.

were recorded, all but one were recorded in response to tape playback. These songs can be divided into two general types, A and B (Figure 3a and b). Both song-types contain a series of separate slurred whistles. In Type A songs each such whistle is immediately followed by a shorter, slightly higher note that is all but inaudible to the human ear. Type B songs, in contrast, are characterised by the addition of a short, broad-amplitude whistle, and the song consists of a repeated series of a two-note motif. The one "natural" song (i.e. recorded prior to tape playback) is of Type B. We have no further recordings or notes on natural songs, and cannot comment on the relative frequencies of the two types in that situation. After playback, both song-types were uttered with approximately equal frequency. Of the 30 recorded post-playback songs of the first *N. fanovanae*, 14 were of Type A and 16 of Type B; of the 30 recorded post-playback songs of the second *N. fanovanae*, 16 were of Type A, 13 of Type B, and one song contained elements of both types (Figure 3c). Both of these birds regularly alternated between the two song-types, rarely singing more than two songs of the same type in succession.

The songs of *N. fanovanae* are quite distinct from the songs of its congeners. As in *fanovanae*, the songs of *N. brunneicauda* are dominated (generally following a few introductory notes) by the repetition of a two-note motif (Figure 4a and b). Frequently, but not always, this motif includes a very short, broad-amplitude

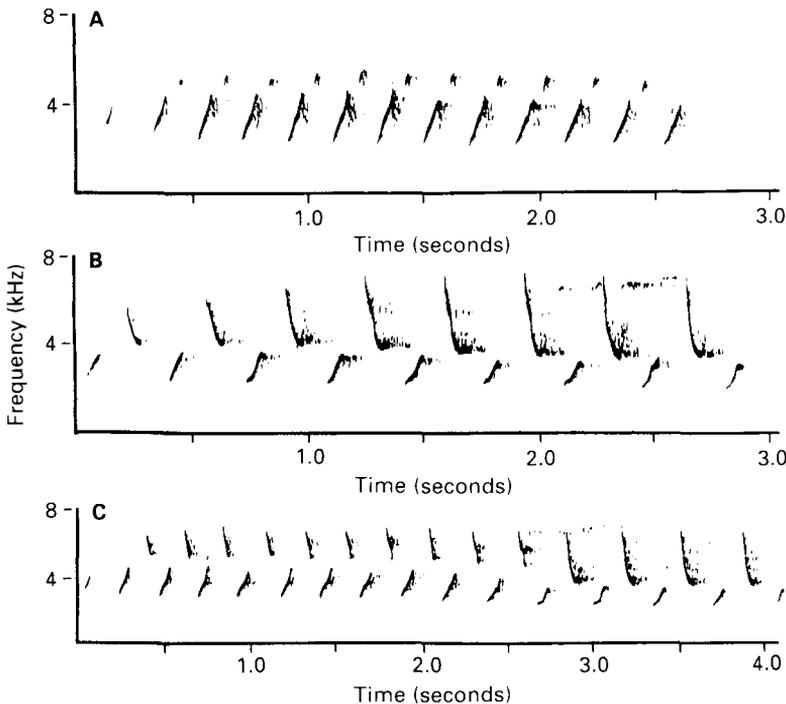


Figure 3. Sonograms of songs of *Newtonia fanovanae*. (a) Type A song. (b) Type B song. (c) Song showing elements of both song-types. All songs depicted were recorded in response to conspecific tape-playback. Sonograms were prepared using a wide-band (150 Hz) filter.

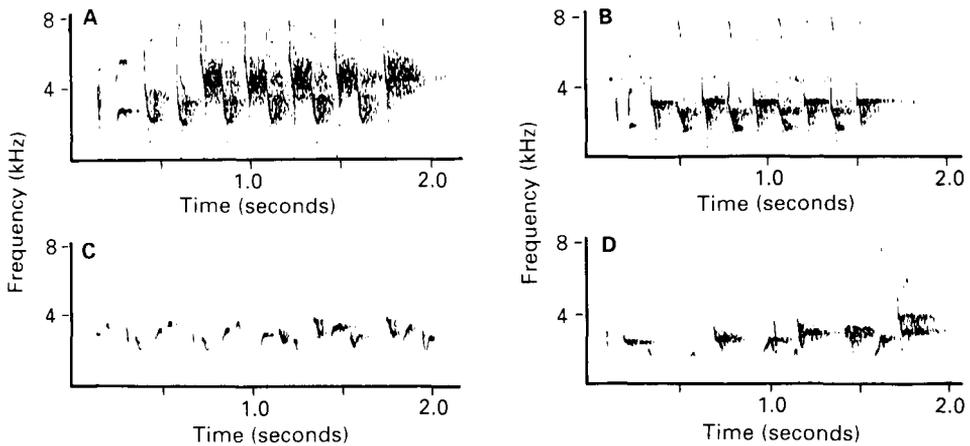


Figure 4. Sonograms of songs of *Newtonia* spp. (a) *N. b. brunneicauda*. (b) *N. b. brunneicauda* (different individual). (c) *N. amphichroa*. (d) *N. archboldi*. All songs depicted were recorded in response to conspecific tape-playback. Sonograms were prepared using a wide-band (150 Hz) filter.

whistle. The songs of *brunneicauda* are staccato, quite unlike *fanovanae*. Typical songs of *N. amphichroa* and *N. archboldi* differ from the songs of the other two species in that the motifs are more varied, and the song is more warbling (Figure 4c and d). Songs of *amphichroa* and *archboldi* are also typically dominated by lower-pitched whistles, although songs of both can also contain broad-amplitude whistles similar to those of *fanovanae* and *brunneicauda*.

Both of the *N. fanovanae* recorded on 31 October were very responsive to tape-playback. In the first instance, a singing bird, apparently in the canopy, was heard as a mixed-species foraging flock (with which the bird may have been associated; see above) was passing overhead, and one song of this bird was recorded. In response to playback, a *fanovanae* quickly approached to about 2 m above the ground, and was soon joined by a second, silent bird. In the second instance, a singing *fanovanae*, also in the canopy, was lured to within 10 m of the ground in response to playback. Several individuals found singing in the Marosohy Forest in late May 1990, during the non-breeding season, were not responsive to tape playback, however (O. Langrand *in litt.*).

Discussion

On the basis of plumage, morphology and song, *Newtonia fanovanae* is a species distinct from any other *Newtonia* spp. As pointed out by Gyldenstolpe (1933) the feather coloration and pattern of *N. fanovanae* and female *Calicalicus mada-gascariensis* are remarkably similar. The only plumage differences between these two species are that *Calicalicus* has more buff-brown on the underside, which sometimes extends to the vent, a broader white eye-ring, buff-brown underwing coverts (compared with white in *fanovanae*) and distinctly darker brown tibial feathering. Further, *Calicalicus* has longer wings, tail and tarsi than *N. fanovanae* (Table 2). The bill measurements of the two species are similar, although *Calicali-*

Table 2. Measurements (in mm) of *Newtonia fanovanae* and female *Calicalicus madagascariensis*.

Measurement	<i>N. fanovanae</i>			<i>C. madagascariensis</i>		
	Type	FMNH 345890	<i>n</i>	Mean	Range	SD
Wing length	60	60	11	67.7	65–69	1.27
Tail length	43	43	11	48	45–50	1.78
Bill length from skull	14.5	14.8	11	14.5	14.0–15.0	0.38
Length of exposed culmen	10.7	12.1	11	11.2	10.9–11.7	0.35
Bill length from anterior edge of nostril	7.9	9.0	11	7.9	6.8–8.6	0.45
Width of bill at anterior edge of nostril	3.0	2.8	11	3.3	3.1–3.5	0.14
Length of gonys	8.3	7.9	11	7.5	7.1–7.7	0.18
Tarsus length	16.3	16.9	11	21.0	19.7–21.9	0.65

cus tends to be broader at the anterior of the nostril. Few weights of *Calicalicus* are available; three individuals from the central eastern forest weighed 16 g (Benson *et al.* 1977) and one in the southern eastern forest weighed 16.5 g (FMNH 345780), all clearly heavier than the 12.9 g FMNH *fanovanae* specimen. Edelstam (in Collar and Stuart 1985) suggested that the similarity in plumage between *fanovanae* and *Calicalicus* “must be a case of mimicry”. If so, then presumably the rarer and less widespread species, *fanovanae*, would be a mimic of the commoner and more widespread model, *Calicalicus*. Such a hypothesis is difficult if not impossible to test. Too little is known about the natural history of either species even to begin to speculate on what, if any, adaptive force(s) would facilitate such mimicry. It should be noted that on only one of the two occasions we observed *fanovanae* in mixed-species flocks was *Calicalicus* present (although flock composition and dynamics may be different in the non-breeding season). There are two other examples on Madagascar of remarkable plumage similarities between two non-congeneric bird species, that of the raptors *Accipiter henstii* and *Eutriorchis astur* (Sheldon and Duckworth 1990) and the vangas *Tylas eduardi* and *Xenopirostris polleni* (Benson *et al.* 1977); however, in both cases the species pairs are members of the same family, and the similarities may be the result of phylogenetic history rather than convergence.

N. fanovanae is now known from three localities on Madagascar, all in the eastern humid forest (for the third site, see M. I. Evans in this issue). The first two sites, Fanovana and the Marosohy Forest, are about 640 km apart; the former locality is now deforested (Dee 1986). Between them there remain several remnant tracts of relatively pristine eastern humid forest. One such site, Ranomafana du Nord (21°16'S 47°28'E) has been ornithologically surveyed, and the only *Newtonia* recorded there are *amphichroa* and *brunneicauda* (Nicoll and Langrand 1989). The eastern edge of the Special Reserve of Analamazaotra-Périnet (18°56'S 48°25'E), covering only 810 ha (Dee 1986), is located 5 km from Fanovana village. Although this reserve is regularly visited by scientists and birdwatching tourists, *N. fanovanae* has yet to be found there (Collar and Stuart 1985, Nicoll and Langrand 1989). It is also suspected to occur in the “Sihanaka Forest” which is (was) apparently centred around 13°00'S 18°45'E (Salomonsen

1965, Dee 1986). This species may indeed be found in the nearby Réserve Naturelle Intégrale (no. 3) Massif de Zahamena, a forested area of about 73,160 ha (Dee 1986); however, an expedition to the reserve in 1985 failed to find this species (Thompson 1987). Now that the song of *N. fanovanae* has been recorded and this species is known to be responsive to playback (at least between October and December), it will be possible to determine if it is truly absent from other tracts of intact eastern humid forest – which seems unlikely – or just hitherto overlooked.

We visited a number of other forested sites in south-eastern Madagascar and failed to find any evidence of *N. fanovanae*. These included the littoral forest on sandy soils between sea-level and 40 m elevation at Manafiafy (24°47'S 47°12'E), Mandena (24°58'S 47°01'E), and Petriky (25°05'S 46°51'E); coastal lowland forest on lateritic soils, approximately 40 m elevation, at the Analalava Forest, 7 km north of Mantanenia (24°13'S 47°19'E); and the Bezavona Forest, at the extreme southern end of the eastern humid forest, between 75 and 200 m elevation, 7.5 km NNW of Tolagnaro (24°58'S 46°58'E). Thus, it appears that in south-eastern Madagascar *fanovanae* is restricted to montane humid forest above 300 m. *N. b. brunneicauda* was found at all of these sites with the exception of Mandena.

The Marosohy Forest is contiguous with Parcel no. 1 of Andohahela Reserve and is gazetted as "forêt classé", giving it some protected status. The total area of Parcel no. 1 is 63,100 ha, a large portion of which remains forested and biologically unknown. We presume that *N. fanovanae* occurs throughout the forested areas of Parcel no. 1 of Andohahela. Thus, this reserve and the adjacent areas represent the only tract of forest where a population of *N. fanovanae* is known to occur. Collar and Stuart (1988) have identified this parcel as one of the key forests in Africa for threatened birds. With the discovery of the local population of *N. fanovanae* reported here and a rich endemic avifauna (pers. obs.) the conservation of the remaining forests of the Andohahela region becomes even more imperative.

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Malgache summary

Ny fahitana indray ny vorona *Newtonia fanovanae* tao amin' ny faritra atsimo-atsinanan' Madagasikara – Ny vorona atao hoe trette trette na antsoina hoe: *Newtonia* amin' ny teny siantifika dia irony voronkely mpihinana bibikely irony. Maro karazana izy ireo ary tsy fahita raha tsy eto Madagasikara tamin' ny taona 1933, i Gyldenstolpe no namome anarana azy hoe: *Newtonia fanovanae*, salria tany amin' ny alan' ny Fanovana ala ao amin' ny faritra afovoany-atsinanan' i Madagasikara no nahitana azy. Ny alan' ny Fanovana moa amin' izao fotoana izao di efa mihasimba ary na dia efa maro aza ny fikarohana natao tao amin' io ala io dia tsy nisy mihitsy firaketana an-tsoratra mikasika io vorona io kanefa dia efa fantatra fa niaina tamin' io ala atsinanana io ny *Newtonia fanovanae*.

Kinanjo tamin' ny taona 1989, nandritry ny fikarohana natao tany amin' ny atsimo – atsinanan' i Madagasikara dia nisy andian-ny *Newtonia fanovanae* nonina tao ka nanome lanja ny fisian' io vorona io. Noho izany dia betsaka ny zava-baovao azo mikasika ny *Newtonia fanovanae* toy ny fomba fiainany ny toetoetrany, ny feony ka ahafahana mamariparitry ny fahazarany sy ny toerana tokony honenany. Tamin' ny 31 Oktobra 1989 no nanaovanay ny fitsidihana ny alan' ny Marosohy, nanaraka ny lalankely mianavaratra – andrefana mampitohy an' i Enakara sy Antseva izay mamakivaky ny alan' ny Marosohy. Ny alan' ny Marosohy dia ao anatin' ny ola tahiry nanahary faha-11, Andohahela, faritra voalohany, ary manapaka ny Tandavan' Anosy (sary 1). Teo anelanelan' ny 21 Novambra sy 14 Desambra 1989, dia niverina indray tao amin' ny alan' ny Marosohy ny mpikaroka S.M.G. Santionany iray no azo tamin' ny 8 Desambra tany anaty ala, tany amin' ny faritry ny 375 m. Ny karandohany dia efa mitambatra tsara ary ny voampilahiany dia lehibe tokoa satria. Noho ny halehiben' ny voampilahian' ilay vorona azo tamin' ny 8 Desambra dia nino izahay fa iny vorona iny dia azo tao anatin' ny fotoana ahazoany manaranaka. Nandritry ny fitsidihana ny alan' ny Marosohy (31 Oktobra–1 Novambra, 14 Novambra–14 Desambra) dia in – 15 izahay no naheno.

Telo karazana ny *Newtonia* hita ao anatin' ny alan' ny Marosohy: *N. brunneicauda*, *N. amphichroa*, and *N. fanovanae*. Ny *N. brunneicauda* no tena miely ao anatin' ny alan' ny Marosohy raha ny habetsahany sy ny fitsinjaran' ny haabon' ny faritra ahitana azy no jerena. *Amphichroa* kosa dia hita any amin' ny faritra avo amin' ny tendrombohitra, eo anelanelan' ny haabo 1,100 m–1,310 m. *Fanovanae* dia monina aty amin' ny faritra ambany amin' ny tendrombohitra: 300–950 m.

Ny alan' ny Marosohy moa dia mifampitohy amin' ny faritra voalohany amin' ny tahirin' alan' Andohahela ary dia efa nampahafantarina ny olona rehetra tamin' ny alalan' ny gazety fa "ala voatokana" katsy maintsy arovana 63,100 ha no velaran' io faritra no. 1 io, maro ny ampahan' io velaran-tany io no rakotr' ala kanefa dia tsy mbola fantatra loatra izay zava-manan' aina ao. Mihevitra izahay fa ny *Newtonia fanovanae* dia hita ao amin' io ala faritra voalohan' Andohahela io. Noho izany, io ala tahiry io sy ireo izay manodidina azy dia inoanay fa toerana iray iainan' ny andian' ny *Newtonia fanovanae*.

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