Birds and mammals of Mt Cameroon: an update of the state of knowledge and further fieldwork around Mann's Spring.

Final Report

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Birds and mammals of Mt Cameroon: an update of the state of knowledge and further fieldwork around Mann's Spring

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SUMMARY.

We spent 10 days on the southern slopes of the mountain in March 2001, based at Mann's Spring (2300 m) above Mapanja. Small mammals were studied with the use of 60 live Sherman traps; birds were observed directly as well as mist-netted (ringed and released). The scientific literature on birds and mammals of Mt Cameroon is fairly abundant but widely scattered and we present here for the first time a full list of all species recorded to date (Appendices 1 and 3). The avifauna is very diverse with some 360 species recorded, including most of the birds endemic to the chain of mountains in Cameroon and E. Nigeria. Of these, two are known only from Mt Cameroon: Francolinus camerunensis and the race melanocephalus of Speirops lugubris (sometimes treated as a species separate from nominate lugubris of Sao Tomé). Of other montane birds, the swift Schoutedenapus myoptilus was discovered during this survey (Mt Cameroon being only the second site on the West African mainland after Mt Manenguba) and appears very common. The mammal fauna includes three species apparently endemic to the mountain: two shrews (Crocidura eisenrauti, Sylvisorex morio), one rodent (Lophuromys roseveari) and the race of another (Otomys tropicalis burtoni). The status of larger mammals remains, surprisingly, poorly known and requires further study; Cercopithecus preussi at least is fairly common at high altitudes despite high hunting pressure.

The lack or scarcity of permanent water on this volcanic mountain means that the amphibian fauna is relatively poor. Information on this group is summarized; there is apparently one endemic Bufonidae, Werneria preussi.

Management aspects are discussed briefly.

INTRODUCTION

Mount Cameroon is one of the more important massifs of the Cameroon/E. Nigeria Afromontane subregion. It is known to hold a large number of montane species endemic to this chain, and some of them are restricted to the mountain itself (birds: Stuart & Jensen 1986; mammals: Eisentraut 1963, 1973; plants: Cable & Cheek 1998). Mt Cameroon is one of the key sites considered by the WWF Cross-Sanaga Forest Project, and WWF has started collaboration with the Mount Cameroon Project (Limbe) in the domain of scientific research. In this context, we were involved with fieldwork for a couple of weeks at the end of the dry season (March 2001), with special emphasis on the study of small mammals and birds. The Mount Cameroon Project provided logistical help throughout our stay, while Dr Atanga Ekobo, who initiated this collaboration, was our general research supervisor.

The scientific literature on the avifauna is fairly abundant but widely scattered, apart from a thorough review of the distribution of montane species by Stuart & Jensen (1986). But no current checklist of the birds exists, especially for lowland species, and we take the opportunity to remedy this by presenting a full list in Appendix 1, with the support of references. Of the mammals, more attention has been paid to rodents, shrews and bats (particularly by Eisentraut) than to other groups, even though some of the primates (e.g. Drill Mandrillus leucophaeus and Preuss's Monkey Cercopithecus preussi) are of restricted range in central Africa and obviously endangered. As for the birds, no annotated checklist of all the mammals of the mountain exists
and we present such a list in Appendix 3. As there is almost no permanent water above the altitude of 1000 m, the amphibian fauna is relatively poor; information on this group is summarized.

Our present visit was preceded by two very short ones in March 1997 and 2000 (including to the Bonakanda trail and the foothills of Mt Etinde), and of course our earlier observations (mainly on birds) are included here.

**Itinerary and timetable of fieldwork**

Mar. 1: drive to Limbe; meeting with James Acworth and E.M. O'Kah (Mount Cameroon Project) to arrange logistics for the expedition on the mountain.

Mar. 2-3: work in the local library and shopping in Douala (especially for chemicals for the preservation of small mammals).

Mar. 4: drive from Limbe to Mapanja (alt. 900 m, via Ekonjo) and walk from there to Mann's Spring (2300 m) at the upper limit of forest. The bad will of some of the porters meant that this expedition was nearly called off; the Chief seemed to have little authority with his people.

Mar. 5-12: work around Mann's Spring, selective trapping of small mammals and extensive bird mist-netting (by RJD), and general observations (to the west or north-west, down to 2000 m at the 1982 lava flow, and up to 2500 m in montane grassland).

Mar. 12-13: we break the journey down at Spider camp (1500-1600 m), and return to Mapanja on 13th. Transfer to Limbe midday.

Mar. 14: arrange logistics at Limbe, afternoon drive to Douala.


A gazetteer of localities is presented in Appendix 4.

**Weather.** By March, rains start again in the Mt Cameroon area, and we had a serious tornado in the early morning of 5th March, at Mann's Spring. Storms occurred most days on the western slopes, often just on the edge of Mann's Spring. Further field surveys would be more productive towards the first half of the dry season (December-January).

**METHODOLOGY**

**Birds.** In addition to direct observations (see Dowsett-Lemaire & Dowsett 2001), mist-nets were used in the vicinity of Mann's Spring; these were provided by the Mount Cameroon Project, and a length of 196 m proved very effective in this fairly open type of montane forest. Much information on the state of breeding and moult was obtained in this way.

**Mammals.** A total of 60 Sherman traps was used around camp (alt. 2250-2300 m). Most of the small mammals thus trapped were released alive after identification; some (15) were retained and preserved as specimens to confirm identification (these will be sent to foreign museums and definite identifications will be provided at a later date), and to provide training in preservation techniques to two assistants. The location of traps was changed usually after two days. Notes were also taken on any large mammals heard during the survey (none were seen!). Appendix 5 provides an aide-memoire for the preparation of small mammal specimens.

**RESULTS**

1. **Site description**

The mountain lies on the Atlantic Ocean coast and is a large volcanic dome of c. 1000 km$^2$, with its long axis (c. 45 km) aligned from south-west to north-east. The volcano is still active
and new, local eruptions happen about every 20 years (the last two being in 1982 and 1999). The western foothills near Debundsha (or Debundscha) experience the highest rainfall in the country (c. 10,000 mm/year); this decreases with increasing altitude and also from west to east, down to 2000 mm around Buea, in the rainshadow. The lower slopes used to bear a continuum of forest from sea-level up to c. 2250 m alt. (the upper limit of forest varying between 2200 and 2400 m), to be replaced higher by montane grassland, volcanoc rock and gravel, up to the peak at 4095 m. Encroachment from agriculture or from logging (Bambuko Forest Reserve on the north-western side) has been nibbling the lower levels of the forest in most places up to an altitude of a few hundred metres on the western and northern sides, but up to at least 1000 m on the southern and eastern sides. Severe and repeated human-induced bush fires in the drier eastern section have brought about serious degradation or even complete destruction of the forest cover in places (as along the Bonakanda trail). The montane grassland above that also gets burnt almost totally every dry season, and is very impoverished.

Mann's Spring (4°07'N, 9°08'E, at 2300 m) is almost the only permanent source of water on the mountain above the altitude of 1000 m, as rainwater seeps through the volcanic ash. It is close to the edge of the forest, which, at 2200-2300 m, is characterized by 30-m tall *Nuxia congesta*, Schefflera abyssinica, S. marnii, Syzygium guineense hamenda; *Maesa lanceolata*, *Ilex mitis*, Prunus africana and a medium-sized *Canthium* are also common. The edge is lined with tall bushes or small trees of *Gnidia glauca*, *Maesa* and *Senecio marnii*; *Myrica humilis* (syn. *M. arborea*, *M. salicifolia*) and *Agauria salicifolia*, both fire-resistant, are also found at edges and at higher altitudes in patches of scrub in ravines. The access road ends at Mapanja (850-900 m), but gardens are spreading way above the village and have replaced the forest locally to 1300 m; from there to Mann's Spring the forest is very open, with an abundance of tree ferns *Cyathea marniana* (at medium altitudes) then Acanthaceae shrubs in the understory. This Acanthaceae jungle, 3-4 m high, is impenetrable and one cannot walk anywhere without using a panga. The lowland forest on the south-western slopes has a very different structure, the canopy is mainly closed and the understory more open.

2. Faunistic surveys and conservation significance of the area

2.1. The avifauna

The mountain has been visited by a number of naturalists over more than a century; the information on birds is scattered in many papers (often dealing with other sites) and there is no single, updated source of information. We have attempted to remedy this by producing a "working checklist" for the Mount Cameroon Project (Dowsett et al. 2001). The single most important reference for the montane avifauna is clearly Stuart & Jensen (1986) who also provide an extensive review of the literature on montane species. The work of Serle (1950, 1954, 1965) is also useful. Other contributions are more incidental, and some records of specimens collected about a century ago (especially those listed in Reichenow 1911) are of species that have never been found on the mountain again; some of these may have been misallocated. Appendix 1 contains an annotated list of the species (194) we recorded personally on the mountain (away from Limbe), followed by a list of additional species (based on literature data), and, where needed, comments on possible misidentifications or misallocation of old specimens.

Mount Cameroon has a rich montane avifauna, including 16 of the species endemic to the Cameroon/E. Nigeria highlands (in addition to the race sjoestedt of the Rameron Pigeon *Columba arquatix*). Of these, the francolin *Francolinus camerunensis* is known only from Mount Cameroon, as is also the race *melanencephalus* of Speirops hugubris (treated as a separate species by some authorities). In addition, the mountain is the only Cameroon locality for the swallow *Psalidoprocne fuliginosa*. Given their restricted range all three species are of conservation concern (Birdlife International 2000) but appear at least locally common and the swallow is very common over a wide altitudinal range (see details in Appendix 1). We follow
Stuart & Jensen (1986) in considering that *Malacoctenus "monteiri perspicillatus"* is more likely an aberrant form of the local *M. gladiator*. *M. monteiri sensu stricto* is known only from Angola. Of lowland species of conservation concern, the mysterious Bates's Weaver *Ploceus batesi* (apparently endemic to Cameroon) was seen only once near Limbe by a visiting birder, but never found by anyone else, including Serle who investigated the area pretty thoroughly: in the light of this, we feel that its occurrence is probably in need of confirmation.

The list of accepted species for the mountain is about 331, with an additional 31 of purely coastal birds (mainly waterbirds, and this list is not exhaustive). We added five to the previous total during our latest visit, the most interesting being the montane swift *Schoutedenapus myoptilus*: we found it common over the altitudinal range of at least 900-2500 m. As on Manenguba Mt (where we discovered the species for the first time in Cameroon and mainland West Africa in 1999), previous observers had apparently confused it with *Apus batesi* (see also Dowsett & Dowsett-Lemaire 2000). Other records of note in March 2001 include the flufftail *Sarothrura elegans* netted at 2300 m, a new altitudinal record for west-central Africa, the owl *Tyto capensis* heard at Mann’s Spring (third definite locality in Cameroon, at the western limit of its range), the scopes owl *Otus ictorhynchus* singing in camp at 2300 m (also an altitudinal record), and a Chiffchaff *Phylloscopus collybita* (Mt Cameroon is the most southerly locality for this Palearctic migrant in this part of Africa).

By early March, the rains had started already; they can be accompanied by violent winds, thus it is not surprising that most birds had completed breeding before that. Details are given in Appendix 2: the only species still involved with egg-laying in February-March are those that nest close to the ground (*Saxicola torquata*, *Bradypterus lopesi*, *Ploceus melanogaster*). Individuals of several other species were still feeding fledglings (thus had laid in January), but the majority of birds had probably laid earlier, in November-December. Most of the adults netted in March were in moult (e.g. 21 of 24 *Andropadus tephroalaemus* examined). In contrast to the Yabassi moult sample, of 261 birds (of 26 species, see Appendix 2) examined on Mt Cameroon 5-10 Mar., no fewer than 104 were in active moult. These figures suggest that in general the breeding season for the guilds concerned (insectivores and frugivores-insectivores) was more concentrated at the higher altitude on the mountain. Of these 261, 7 were local retraps, originally ringed between 29 Nov. and 1 Dec. 1996 (Appendix 2).

A survey of the endemic *Francolinus camerunensis* over all sides of the mountain is desirable, but March is not the time to do it, as by then francolins are almost silent. In general, it seems that the first part of the dry season (December-January) is a key time for breeding activities, whereas the second half is already taken up with moult.

### 2.2. Mammals

We present in Appendix 3 an annotated checklist of all the mammals of Mt Cameroon, as there was none in existence so far. In the past more attention had been paid to the smaller species (bats, shrews and rodents) in a series of publications by Eisenraut (1963, 1973) in particular. Very little information is available on the status of the large mammals or the smaller endemics (particularly the shrews), and this needs to be remedied if conservation measures are to be effective. Most collections and observations so far have come from the more accessible parts of the mountain (south-west to south-east), and all localities are mentioned in the checklist.

Three species are apparently endemic to the mountain: two shrews (*Crocidura eisenrauti*, *Sylvisorex morio*), one rodent (*Lophuromys roseveari*, very common), and the race of another rodent (*Otomys tropicalis burtoni*, sometimes placed in *O. irroration*). In a recent compilation by IUCN of Red Data species (Hilton-Taylor 2000), the shrew *C. eisenrauti* appears as "Critically endangered", even though we know almost nothing of its status or abundance. It was collected on the southern slopes at the altitudes of 1850 to 2900 m, and there is no reason to
even suppose that it is endangered! The same goes for *S. morio*, listed as "Endangered", but collected from 1000 m to nearly 3000 m.

Of larger mammals considered "Endangered" with good reason (as, unlike shrews, they have been hunted) Elephants seem to be on the way out, and the current status of Chimpanzee and Drill is not well known. Preuss's Monkey is still common around Mann's Spring (also recorded recently from the slopes of Mt Etinde, all pers. obs.): this is probably due to the impenetrable thickets of Acanthaceae which render the operations of hunters difficult. As there is very little large game left hunting is decreasing in some areas, but the villagers from Bokwango (near Buea) are still very active and rather opposed to any idea of sustainability.

### 2.3. Amphibians

Because of the lack of water at high altitudes, the montane batrachofauna is poorly developed. Information on the few montane frogs occurring on Mt Cameroon is summarized by Gartshore (1986): *Kassina decorata*, *Leptopelis modestus* are found up to 1000 m, and *Werneria preussi* (a Bufonidae endemic to the mountain) up to 1200 m (see also Amiet 1972, Amiet 1976). *Didynamipus sjostedti* (Bufonidae) is a lowland species of limited distribution (Mt Cameroon, Kumba and Bioko). Information on some other lowland species can be found in Eisenraut (1963) and Perret (1976).

We did not record any frogs in the vicinity of Mann's Spring at 2300 m; the tiny pool formed by the spring (about 1 m across) does not seem to attract any, and is very far from any other source of water. One *Arthroleptis* (probably *variaibrilis*) was heard on the slopes between Mapanja and Spider Camp. On the slopes of Mt Etinde (900 m, near a spring), we heard *Leptopelis brevirostris* and *L. calcarius* and an *Afrixalus* sp. (19 Mar. 2000).

### 3. Management considerations

WWF is not directly involved with the management of the mountain and conservation aspects need be summarized only briefly. Despite the considerable value and uniqueness of the mountain (one of the most important centres of endemism for plants, birds and mammals in Cameroon), the provisional management plan by MINEF (2000) has proposed most of the area (including all the good forests left) as "Forêt de production"! This aberrant decision is likely to be modified, however. Several organisations (including the Mount Cameroon Project at Limbe) are working closely with the local communities to help them control the utilization of their forests. Mt Cameroon is surrounded by numerous villages, and population pressure is infinitely more serious than in some other forests of the region (such as the Yabassi area). Nothing can be achieved without the collaboration of the local people. Thus it is hoped that the area of richest forest on the western and south-western slopes (Etinde Forest, c. 30,000 ha) will be given formal protection, but most of it would stay under the management of the local communities. This would involve the creation of a new category of protected area, not presently included in the legislation: that of of a "Protected area under community management". Developments of this initiative should be followed with interest, as this type of management would also be appropriate for a number of other forests in the country much utilized by villagers.

The eastern side is unlikely to get protection status as it has been severely degraded by fires and agricultural encroachment. Bambuko Forest Reserve (24,500 ha) on the north-western side was heavily exploited in the past and has lost virtually all of its lowland forest; the Elephant Bush and montane forest at higher levels, however, are reasonably intact (J. Acworth, pers. comm.).

As far as hunting of large mammals is concerned, the Mokoko Wildlife Management Association has been invited by MCP to visit several villages and advise them about the control of hunting. This seems to be working already on the western slopes, and further visits by the Mokoko Association are planned. As game is largely exhausted, a more important source of
revenue has been for several years the exploitation of Prunus bark, which is sold to foreign pharmaceutical companies. Collection of bark went unchecked for some years, and many trees died from over-exploitation; as Prunus africana is one of the commoner tree species in montane forest, this has an impact on the whole environment. This problem has been remedied thanks to the setting up of a cooperative project, now run by the villagers: trees have been marked individually and bark is exploited in a more limited way, with long-term benefits. All this is directly controlled by the local people and the system seems to be working (pers. obs.).

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REFERENCES


Birds & Mammals of Mt Cameroon


