numbers at such time as the insect intermediary feeds on the blood. In the case of nocturnal mosquitoes this periodicity is at its maximum from 8.0 p.m. to 8.0 a.m. In the case of diurnal periodicity, in which certain biting flies of the genus, *Chrysops*, are concerned, the swarming takes place at the reversed times, 8.0 a.m. to 8.0 p.m. Although the mechanism which controls these migrations is not understood, it is, however, a scientific feature characteristic of, and inherent in, the species concerned. It is known, moreover, that this periodicity may be maintained, with mathematical regularity, for a very long time, as long as the life of the adult parent worms lasts. All this is a very astounding and wonderful adaptation which should appeal to every student of nature.

The best understood of the Filariae are, of course, those that attack man of which eight are known. Some are transmitted by mosquitoes, (*Culex*, *Mansonia*, *Anopheles*) ; others by gad flies (*Chrysops*), buffalo gnats (*Simulium*), or midges (*Culicoides*).

This brief introduction is necessary in order that we should be in a position to appreciate this subject. There are a great number of Filariae which are found in birds. Apart from the fact that their anatomy and location has been described, little or nothing is known about their life-histories or their pathological effects. Some indeed have been used on an experimental basis in order to elucidate the life story of the human parasites and the scant information is widely scattered through parasitological literature. Amongst the corvidae a number of species occur and there is one in the American crow (*Corvus megarhynchos*) in which the microfilariae are nocturnal, but whose activities can be influenced by light and dark.

Manson, in China in 1878, worked on the filaria (*Filaria picae mediae*) of the Chinese magpie, in which bird he found the sheathless microfilariae in the blood and the adult forms in the cusps of the aortic semilunar valves. He furthermore ascertained that the microfilariae were provided with a cephalic armature which he thought was designed to fix onto the vessel wall and to anchor themselves. He thought that this mechanism had something to do with "periodicity". Unfortunatley his investigation in this direction was brought to an abrupt end by the local Chinese who intimated to him that once upon a time the spirit of a dead Emperor had entered a magpie, so that by shooting this particular bird, he might kill the spirit of this great man as well and that would indeed be a disaster.

From a brief study of the literature it is quite clear that the corvidae are infested with several species of filaria, especially the jays (*Garrulus*) and the *Coracidae*, or rollers. Few of them have been actually named and described and it is almost incredible to relate that their life-histories are unknown.

A new race of Warbler from Northern Rhodesia

By Mr. C. W. Benson

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Seicercus laurae eustacei, subsp. nov.

Description: Similar to *Seicercus laurae* Boulton, Ann. Carnegie Mus., 21 (1), 1931, p. 54, but differing in having the abdomen and flanks white

washed pale yellow instead of greyish white without any such wash (in *S. l. laurae* the flanks are even more greyish than the abdomen), so that there is no sharp contrast, as there is in *S. l. laurae*, between the bright yellow of the throat and chest and the colour of the abdomen (in both forms the under tail-coverts are bright yellow, like the throat and chest); the upperside a much brighter, less dusky, green ; and the yellow of the underside slightly duller.

Type: Male, adult. Danger Hill, Mpika district, Northern Rhodesia, 11°32'S., 31°30'E., at 5,800 ft. a.s.l., 7th January, 1953. Collected by Major William Eustace Poles, M.C., of the Game and Tsetse Department, Northern Rhodesia; collector's No. 2704. In the National Museum of Southern Rhodesia, Bulawayo (N.M. reg'd No. 11606).

Measurements of Type: Wing 59, tail 42, culmen from base 13 (exposed 9), tarsus 19 mm.

Range: So far only definitely known from evergreen forest patches along streams (known locally as "mushitu") in the Northern Province of Northern Rhodesia, at Danger Hill, and in the Kasama, Abercorn, Mporokoso and Kawambwa districts at 4,300 – 5,500 ft. a.s.l.

Remarks: This new race is named after Major Poles, who has made valuable and extensive collections, amounting to nearly three thousand specimens, in the Mpika district and adjacent areas during the past five years. His collections are now in the National Museum, Bulawayo. Five specimens from the above mentioned localities have been presented to the American Museum of Natural History, and I am very grateful to Dr. Dean Amadon for comparing them with the type and co-type of *S. l. laurae*, loaned by the Director of the Carnegie Museum. The foregoing description is based entirely on Dr. Amadon's remarks, which he has very kindly allowed me to make full use of. I am also much indebted to Mr. R. H. N. Smithers, the Director of the National Museum, and to his assistant, Miss Mary Paterson, for every assistance in the consignment and loan of specimens.

Major Poles has collected altogether twenty-one specimens of this new race at Danger Hill, and myself a further nine elsewhere in the Province. Wing measurements of the twenty-five specimens in the National Museum are as follows:—

9 males.	55, 58, 58, 59, 59, 59, 60, 60, 60 mm.
12 females.	53, 54, 54, 55, 55, 55, 55, 55, 58, 58, 59, 61 mm.
4 unsexed.	55, 55, 56, 58 mm.

Possibly there has been mis-sexing in a few instances. In the closely related genus *Phylloscopus* males tend to larger size then females, see for example the measurements given by Witherby *et al.* in "The Handbook of British Birds", vol. 2, 1944.

Seicercus laurae has also been collected in the southern Belgian Congo, see Lynes *cit.* Chapin, "The Birds of the Belgian Congo," vol. 3, 1953, p. 475; Schouteden, Rev. Zool. Bot. Afr., 42 (1), 1949, p. 172 ; and Verheyen, "Exploration du Parc National de l'Upemba. Oiseaux", 1953, p. 492. The racial status of these specimens needs further investigation.

I agree with Chapin that this species is most nearly related to *S. ruficapilla*, of which *S. l. laurae* and *S. l. eustacei* could even be regarded as merely very richly pigmented races, on an extreme view.

Lynes, Rev., Zool. Bot. Afr., 31 (1), 1938, p. 79 records a male in breeding condition at Kayoyo in the Congo in September, *i.e.*, towards the end of the dry season. A male collected by me at Kawambwa on 16th September was considered to be about to breed. Twenty of Poles' specimens were collected in January (in the rains). Only one of these appears to have been at all close to breeding, and in a number of them skull ossification was incomplete. There is no certain evidence in any of our other specimens of skull ossification being incomplete or of any gonad-activity ; and see also Verheyen.

Since going to press, I have collected a male near Fwaka, Fort Rosebery District, Northern Rhodesia at 12°00'S., 29°08'E., 3,800 ft. a.s.l., 11th August, 1954, with gonads starting to enlarge; wing 60 mm.

Some Remarks on the individual variation of *Dendrocopos major* from Switzerland with special reference to *Dendrocopos major praealpinus* von Burg

By Dr. James M. Harrison

Received 8th July, 1954

It is recognised that species living in the comparative isolation afforded by reason of altitude often exhibit morphological characters sufficiently distinct to justify separation.

Recently the question of the races of the Great Spotted Woodpecker in Switzerland has been the subject of one or two communications.

Reichenbach [1] (1854) separated the Austrian *D. major* from Carinthia under the name *D. m. alpestris*, and of recent workers Johansen [2] (1922) and Voous [3] (1947), and Voous and Amann [4] (1951) all support the validity of Reichenbach's race.

It is perhaps advisable to restate briefly the broad position with regard to those races in northern and western Europe about which there is general agreement, *viz.* that the nominate form *D.m. major* is that inhabiting Scandinavia and the U.S.S.R., with *D. m. pinetorum* occupying central Europe and the major part of north-western Europe, and *D. m. anglicus* as the resident form of the British Isles, excluding Northern Ireland and Eire. The matter of intergrades of the above forms over the area defined, though recognised, is not relevant to this discussion, so need not be gone into in detail, while of course the last named race does not effect the problem under consideration.

The work by Johansen, Voous and Voous and Amann referred to above, based as it is both on taxonomic research and field observation, supports and substantiates the validity of the form *D.m. alpestris*, and extends our knowledge of its range westwards from Austria into the Lötschenthal district of southern Switzerland.

The population thus delineated is characterised by being slightly larger than *D.m. pinetorum*, in having very white undersides and in possessing a heavier bill—in other words, as Voous (*loc. cit.*) asserts, it is approaching