BIRDS FROM CANLAON VOLCANO IN THE HIGHLANDS OF NEGROS ISLAND IN THE PHILIPPINES

By S. DILLON RIPLEY and D. S. RABOR

Several ornithological collectors have worked on Negros Island, which is the fourth largest of the 7090 islands that form the Philippine Archipelago. However, John Whitehead, the famous English naturalist, was the only person who collected extensively in the highlands of this island. Whitehead worked on the slopes of Canlaon Volcano, in the north-central section in March and April, 1896. Since that time no other collector has visited this volcano until April and May, 1953, when one of us, Rabor, collected in practically the same places in which Whitehead worked. This study of the birds of the highlands of Negros Island was carried on chiefly through the aid of the Peabody Museum of Natural History of Yale University.

TOPOGRAPHY AND GEOLOGY OF THE COLLECTING LOCALITIES

The principal central mountain chain traverses Negros Island from its northeast corner south to the southern end. This range lies closer to the east side than to the west and forms a divide throughout the extent of the island. A dormant volcano, Canlaon, with an elevation of about 8200 feet, is the most prominent peak in the north-central section of the mountain chain, and it is easily the dominant landmark of the western coastal plain.

Many of the mountains of Negros Island are volcanic (Smith, 1924). The northwestern region, where most of the sugar cane is grown, is mainly of volcanic origin, whereas the southeastern portion consists of folded and faulted plutonic rocks, slates, and jaspers, probably of Mesozoic Age, and some Tertiary extrusives, all more or less dissected and worn down by erosion. The southeastern tip of Negros Island is also regarded as a highly volcanic area with Cuernos de Negros forming the southern counterpart of Canlaon Volcano (Smith, *op. cit.*).

The areas around Canlaon Volcano are without doubt volcanic, as shown by extensive layers of tuff and volcanic boulders cropping out from the otherwise level and rolling cultivated countryside at the base of the slope. The present cone of the volcano forms a southern bald, pointed peak which dominates the whole north-central region of Negros Island. A little to the northeast of Canlaon Volcano another peak rises which is known locally as Makawili. This mountain is about 8100 feet above sea level and has a luxuriant forest which extends to its top. Canlaon Town, a small village, is located in a plain at the base of the volcano.

The Margaha Valley, which is about 7000 feet above sea level, is situated between the present crater of Canlaon Volcano and Makawili Peak. It is a deep and roughly circular valley, surrounded by sheer rock walls, lying about 1200 feet below the cone of Canlaon Volcano. The total bottom area of this valley is about 40 hectares. The southern end is generally flat and level, comprising an area of approximately eight hectares, about two hectares of which are so flat as to appear levelled by a giant roller. This condition has been produced by layer upon layer of sediments which are deposited there by the water that floods and covers this area to a depth of one meter or more during the rainy months of July, August, September, October, and November. A small lake, about two hectares in area, develops in this southern end of the valley every year and disappears in the dry months from March to May.

The northern end of Margaha Valley consists of low hills covered with dwarfed vegetation similar to that found at the higher elevations of Makawili Peak. The valley is adjoined by vertical rock walls. The vegetation on the low hills must have come down

with the walls as they crumbled and has developed there over a long time. Makawili Peak and the present Canlaon Volcano cone represent the highest prominences on the vertical sides of Margaha Valley, and they are opposite each other. Due to erosion of the cone, this side of the valley presents a relatively gradual slope. Presumably a prehistoric explosion produced Margaha Valley, which is accordingly a remnant of an old crater of an immense volcano.

VEGETATION

On Canlaon Volcano collecting was carried on mainly from the following stations: Barrio Pula, elevation about 2600 feet; Sitio Pulapantao, elevation about 3600 feet, where the main camp was established; Sitio Danawan, elevation about 6500 to 7500 feet, where a small subcamp was established; and on the slopes of Makawili to the top of the peak. Some collections were also made in Masolog, elevation about 2200 feet, and on the slopes of Canlaon Volcano to about 7500 feet, or where the vegetation disappears.

The collecting areas may be divided into the following elevational zones based mainly on the types of vegetation and on the dominant bird species found in them:

Zone 1. 2500 to 4500 feet. Transition dipterocarp mid-mountain forest type.

Zone 2. 4500 to 6500 feet. Typical mid-mountain forest type.

Zone 3. 6500 to 8200 feet. Typical mossy forest type.

Actual collections were made starting from an elevation of about 2000 feet above sea level and proceeding to the tops of the mountains.

In the lists of birds collected in each zone, an asterisk before the name indicates the bird was not encountered by Whitehead; a dagger indicates the species was first described from Canlaon Volcano.

Zone 1.—On Canlaon Volcano this zone is first well represented at Pulopantao, 3000 feet above sea level. Below this elevation, the mountain slopes have been entirely cleared, cultivated and planted with tobacco, corn, rice, and vegetables. Between the patches of forests, new clearings have been made so that actually the virgin forests begin about 3500 feet above sea level.

The forests of the lower elevations of this zone, especially at the 2500- to 3500-foot level, are halfway between the genuine lowland dipterocarp forest type with its typically three-stories tree growths and the real mid-mountain forest type which occurs typically from about 4500 to 6500 feet above sea level. In this transitional type of forest, there is an abundance of very tall dipterocarp trees; these often reach heights of 120 feet, with the characteristic straight and unbranched boles ending in dense crowns at the top. There are, however, more of the second-story type of trees which are about 50 to 60 feet in height. The undergrowth is dense and consists mostly of ferns, small palms, and many species of shrubs.

At the 3500- to 4500-foot level, the very tall trees of the first-story disappear and the two-story character of the vegetation begins to assert itself. The trees now belong more to the real mid-mountain forest type. The taller story consists of trees from 50 to 60 feet in height which are equivalent to the second story of the real dipterocarp forest. The lower story consists of the third-story trees of the dipterocarp forest type which are 20 to 30 feet in height. The vegetation at this level is luxuriant and unbroken and forms a dense covering on the mountain slopes. The forest here is a moist, tropical rain forest. The crowns of the taller tree story do not produce as dense a canopy as the one formed by the crowns of the dominant tree story of the typical dipterocarp forest. The undergrowth is much more dense than that found at the 2500- to 3500-foot level; this is especially true of the rattan vegetation and epiphytic growth. Tree ferns are more abundant here than at the 2500- to 3500-foot level. Moss is noticeable on the main trunks and branches of the trees.

Vertebrate animal life is scarce, becoming more so with increase in elevation. Bird life is not as abundant as in the lowlands. It is strange that on Canlaon Volcano mixed feeding flocks of birds seemed rare. Also the feeding flocks had few individuals.

**Pernis celebensis steerei.*
**Accipiter trivirgatus extimus.* Thirty-five hundred feet above sea level.
**Accipiter virgatus confusus.*
Spilornis cheela panayensis.
**Megapodius freycinet pusillus.* First specimen recorded from Negros (see Rabor, 1952).
Phapitreron leucotis nigrorum.
Phapitreron amethystina maculipectus.
Leucotreron occipitalis occipitalis.
†**Ptilinopus arcanus.* Described in 1955.
Ducula poliocephala poliocephala.
Ducula carola nigrorum.
Macropygia phasianella tenuirostris.
**Streptopelia bitorquata dusumieri.* A lowland species found in cultivated areas and ranging only to 2500 feet.
Chalcophaps indica indica.
†*Prioniturus discurus whiteheadi.*
Loriculus philippensis regulus.
**Cuculus fugax pectoralis.*
**Cacomantis variolosus sepulcralis.*
**Centropus viridis viridis.*
**Ninox scutulata randi.*
**Batrachostomus septimus menagei.*
**Collocalia esculenta marginata.*
Hemiprocne comata major. Up to 3500 feet.
Halcyon smyrnensis gularis. Up to 3500 feet.
Halcyon chloris collaris. A lowland species, found to 2500 feet.
Halcyon lindsayi moseleyi. An unusual record at 3500 feet for this lowland species.
Eurystomus orientalis orientalis.
Penelopides panini panini.
Megalaema haemacephala intermedia.
Dendrocopos maculatus maculatus.
Chrysocolaptes lucidus xanthocephalus.
**Motacilla cinerea cinerea.*
**Motacilla flava simillima.*
**Anthus novaeseelandiae lugubris.*
Coracina striata panayensis.
Coracina ostenta.
Pericrocotus flammeus novus.
**Pycnonotus goiavier goiavier.* Found only near cultivation; rare above 2500 feet.
Microscelis philippensis guimarasensis.
†*Brachypteryx montana brunneiceps.* Not found below 3500 feet.
Copsychus saularis mindanensis. Found up to 2500 feet. [Grant (1896) described *Cittocincla nigrorum* = *Copsychus luzoniensis superciliaris*. It is not clear whether the type came from Canlaon or merely Negros Island, but the species was not encountered on the present trip.]
Monticola solitaria philippensis.
**Stachyris speciosa.*
**Megalurus timoriensis tweeddalei.*
**Cisticola exilis rustica.*
**Locustella fasciolata.* A single specimen of this migrant taken at 3700 feet is the first record for Negros Island.

Phylloscopus trivirgatus nigrorum. Not found below 3500 feet.
**Phylloscopus cebuensis*. Not found below 3500 feet.
Phylloscopus borealis kennicotti. One specimen of this migrant was taken at 2600 feet.
Orthotomus atrogularis castaneiceps. Ranges up to 3000 feet.
Rhipidura cyaniceps albiventris.
Rhinomyias gularis albigularis. A lowland species ranging up to 3600 feet.
†*Muscicapa hyperythra nigrorum*.
Muscicapa westermanni rabori.
Muscicapa griseisticta. A winter visitant ranging up to 3500 feet.
Muscicapa panayensis panayensis.
Culicicapa helianthea panayensis.
Pachycephala plateni winchelli.
Parus elegans visayanus.
Sitta frontalis aenochlamys.
**Rhabdornis inornatus rabori*.
**Dicaeum agile aeruginosum*. A first record for Negros Island.
Dicaeum bicolor inexpectatum.
**Dicaeum pygmaeum pygmaeum*. A lowland species rarely reaching 3500 feet.
Dicaeum trigonostigma dorsale.
Dicaeum papuense haematostictum. Common to 2500 feet, occasionally as high as 3500 feet.
**Aethopyga flagrans guimarasensis*. This bird ranges normally from 2500 to 4500 feet. It stays usually in or close to forest. Delacour and Mayr (1946) write that the species is "fairly common in coconut plantations." On Negros Island this species has not been observed in this habitat.
Aethopyga siparaja magnifica.
†*Zosterops montana pectoralis*. Not found below 3500 feet.
**Zosterops nigrorum nigrorum*. A lowland species occasionally reaching 3500 feet.
Sarcops calvus melanonotus.
Lonchura leucogaster everetti.
Lonchura ferruginosa jagori.
Dicrurus balicassius mirabilis.
Oriolus xanthonotus steerei.
Corvus macrorhynchus philippinus. Ranges as high as 3000 feet.

Six species seen but not collected in this zone:

Gallus gallus	**Chaetura gigantea*
Ninox philippensis	**Chaetura picina*
**Collocalia troglodytes*	*Lanius cristatus*

Zone 2.—The vegetation in this zone is typical mid-mountain forest type, showing a slight change in character upon reaching the 6000- to 6500-foot level. The two-storied character of the vegetation is very apparent from 4500 to about 5500 feet above sea level. Tree ferns are abundant at these elevations. Gymnosperms belonging to the mountain yew group, *Podocarpus* sp., occur about 5500 feet above sea level and become more abundant in the higher limits of this zone. *Pandanus* sp. are common, both as vines and ground growth.

Starting about 6000 feet, the forests begin to lose this distinctly two-storied character. The difference in height between the dominant trees and the lower growths is no longer as well marked as in the lower region of this zone. Beginning at 6000 feet, on both Canlaon and Makawili, *Podocarpus* sp. occurs singly, whereas at the summits of both peaks there is a good population of *Podocarpus*. Above 5500 feet the trees develop heavy growths of moss suspended from their branches, but there is not much moss on the trunks of the trees or on the forest floor. In some places, on the summits of the two peaks, moss forms a carpet on the ground. Water erosion has produced extensive cracks

which may be totally covered with moss; these cracks are sometimes of dangerous depths.

In this zone bird life is scarce.

Macropygia phasianella tenuirostris.
**Cacomantis variolosus sepulcralis.* Rarely as high as 5000 feet.
**Collocalia esculenta marginata.*
Microscelis philippensis guimarasensis.
†*Brachypteryx montana brunneiceps.*
†*Turdus poliocephalus nigrorum.* Not found below 6000 feet.
Phylloscopus trivirgatus nigrorum. Most abundant between 4000 and 6500 feet.
**Phylloscopus cebuensis.*
Phylloscopus borealis kennicotti.
Rhipidura cyaniceps albiventris.
†*Muscicapa hyperythra nigrorum.*
Muscicapa westermanni rabori.
Pachycephala plateni winchelli.
Parus elegans visayanus.
†*Zosterops montana pectoralis.*

Zone 3.—This zone is well developed on Canlaon Volcano. Sitio Danawan, on the way to Makawili has a similar type of vegetation. The trees definitely lose their two-storied character. *Pandanus* is still plentiful and dominant. *Podocarpus* is very common and seems to be the dominant species from about 7000 feet to nearly the top of Makawili Peak. The trees are heavily coated with moss both on the trunks and on the branches. The forest floor is thickly carpeted with moss.

At about 8000 feet and above, on Makawili, the trees become stunted and twisted. Even the *Podocarpus* which grew taller at lower elevations, becomes stunted and is only about as high as a man of average height. In Margaha Valley the trees are very stunted. This seems strange because the vegetation in the valley is not subjected to the stunting effects of very strong winds.

At the top of Canlaon, vegetation stops at about 7500 feet. The last 600 to 700 feet of the slope are bare rocks and gravel with a few grasses and weeds at the 7600- to 7700-foot level.

Ducula carola nigrorum. A single bird was taken at 7200 feet, indicating that this species is highly migratory locally since it is common near sea level during September, October, and November.
Macropygia phasianella tenuirostris. Taken at 7500 feet.
**Collocalia esculenta marginata.* Up to 7500 feet.
Coracina ostenta. A specimen was taken at 7100 feet.
†*Brachypteryx montana brunneiceps.* Up to 8100 feet.
†*Turdus poliocephalus nigrorum.*
Turdus obscurus. A migrant, one specimen of which was collected at 6700 feet.
Phylloscopus trivirgatus nigrorum. More common in Zone 2.
†*Muscicapa hyperythra nigrorum.* Up to 7000 feet.
Muscicapa westermanni rabori.
Pachycephala plateni winchelli. Up to 7500 feet.
Parus elegans visayanus. Less abundant above 6500, but reaches 7500 feet.
†*Zosterops montana pectoralis.*
Falco peregrinus. Seen, but not collected, immediately around the Canlaon Crater at 7500 feet; noted also by Whitehead (*fide* Grant, 1896:529–530).

SPECIES SHOWING BREEDING ACTIVITY, ENLARGED GONADS OR DEVELOPED OVA IN THE PERIOD FROM APRIL 11 THROUGH MAY 21

Phapitreron leucotis nigrorum
Phapitreron amethystina maculipectus
Leucotreron occipitalis occipitalis
Ducula poliocephala poliocephala
Ducula carola nigrorum
Macropygia phasianella tenuirostris
Prioniturus discurus whiteheadi
Cuculus fugax pectoralis
Collocalia esculenta marginata. Nest taken (for notes on nesting see Rabor, 1954).
Megalaema haemacephala intermedia
Chrysocolaptes lucidus xanthocephalus
Coracina striata panayensis
Microscelis philippensis guimarasensis
Brachypteryx montana brunneiceps

Turdus poliocephalus nigrorum. On May 5, in the Margaha Valley, a nest of this thrush with two eggs in an advanced state of incubation was found in a low tree about four feet above the sloping hillside. It was securely placed in a fork of the branches of the tree. The nest was a thick cup made of mosses, roots, and twigs, and it was lined inside with grass. It measured: outside diameter 180 mm.; inside diameter 100 mm.; depth outside 100, inside 50 mm. The two eggs agreed very closely with Grant and Whitehead's description (1898), being regular ovals, with the shell well mottled and blotched with reddish on a very light-green ground color.

Stachyris speciosa
Phylloscopus trivirgatus nigrorum
Phylloscopus cebuensis
Orthotomus atrogularis castaneiceps
Rhipidura cyaniceps albiventris
Muscicapa hyperthra nigrorum
Muscicapa panayensis panayensis
Culicicapa helianthea panayensis
Parus elegans visayanus
Sitta frontalis aenochlamys
Rhabdornis inornatus rabori
Dicaeum agile aeruginosum
Dicaeum bicolor inexpectatum

Dicaeum trigonostigma dorsale. A nest of this species of flowerpecker was found on April 11 at Pulopantao. The nest was an oval structure suspended at its upper end from the underside of a frond of a tree fern. It was close to the end of the frond and was about eight feet from the ground. It had a circular opening on one side of its upper half and measured: top to bottom 135 mm.; middle external diameter 73 mm.; diameter of cavity inside 25 mm. The bottom of the nest was very thick and the whole structure was composed of the very fine powdery down which coats the stems and petioles of the tree ferns. Three nestlings left the nest after a week.

Dicaeum pygmaeum pygmaeum
Dicaeum ignipectus apo
Aethopyga flagrans guimarasensis

Zosterops montana pectoralis. A nest of the Mountain White-eye with two eggs was found in the Margaha Valley in a stunted tree. It was placed securely in a fork about four feet from the sloping hillside. The nest was cup-shaped and was composed of fine roots and plant fibers. It was coated with moss on the outside and was lined with very fine hair-like roots, possibly from epiphytic ferns found in the area. The nest measured: outside diameter 73 mm.; inside diameter 49 mm.; depth outside 55 mm.; inside 27 mm. The eggs were long and oval, creamy-white in color, with one slightly pointed end. They measured 17×12 mm., and 18×12 mm.

Zosterops nigrorum nigrorum
Sarcops calvus melanonotus

Lonchura ferruginosa jagori. Several nests were found in the tall grass along creeks in well-cultivated areas between Barrio Pula and the town of Canlaon. In some gardens, in the locality where orange trees were growing, as many as 6 to 12 nests were found in one tree. Most of these were in use at the same time.

Dicrurus balicassius mirabilis. The presence of young birds of different ages indicated that breeding must have started as early as February.

Oriolus xanthonotus steerei.

Corvus macrorhynchus philippinus. A nest was seen in a fork near the top of a tall dipterocarp which was left standing at the edge of a cornfield near a gully at Pulapantao.

MIXED FLOCKS ON CANLAON

Wandering mixed flocks were very noticeable on Mount Canlaon. The species composition of these flocks differed with altitude. The lower altitude mixed-flock association

was predominant in virgin forest from 1000 to 3500 feet, with a few species ranging higher to 5000 feet. The highland mixed-flock association was found primarily above 5000 feet, although a few species descended to 3500 feet. Thus the zone from 3500 to 5000 feet was a marginal one of ecological overlap.

The lowland group consisted of the following species: Rough-templed Tree-Babbler (*Stachyris speciosa*), Arctic Willow Warbler (*Phylloscopus borealis,* winter visitant), Blue-headed Fantail (*Rhipidura cyaniceps*), Elegant Titmouse (*Parus elegans*), Yellow White-eye (*Zosterops nigrorum*), and Balicassiao (*Dicrurus balicassius*). *Rhipidura* is the "leader" of such mixed flocks. It is a curious species, usually not afraid to fly and perch on a branch very close to an observer. When this occurs, the remaining members of the flock continue with their feeding activities as if nothing were happening and later they may move on. *Rhipidura* is the last to move on but subsequently it usually flies on ahead of the group, singing all the while, and again leads the flock. *Dicrurus* is also a very curious bird and it often disturbs the flock with its alarm calls. At times it seems as if this species takes over the leadership and direction of a flock from *Rhipidura.*

At 3500 feet, the following species appear for the first time and join the mixed flocks: Mountan Leaf Warbler (*Phylloscopus trivirgatus*), Thicket Flycatcher (*Muscicapa hyperythra*), Westermann Flycatcher (*Muscicapa westermanni*), and Mountain White-eye (*Zosterops montana*). All these species continue to the highest level of the forest. Of them, *Zosterops* seems the most plentiful numerically; no conspicuous leadership was noted.

NOTES ON CALLS

A few notes on calls were made which may be of interest.

Phapitreron amethystina. Amethyst Brown Fruit Dove. The Negros race of this species possesses a characteristic loud honking call that closely resembles the *honk-honk-honk* sound of an old automobile horn. More rarely it calls rather like the common Philippine Coucal (*Centropus viridis*).

Macropygia phasianella. Slender-billed Cuckoo Dove. This bird calls with a mournful *tok-wao, tok-wao,* repeated several times with a moderate interval between.

Streptopelia bitorquata. Philippine Turtle Dove. This species has a very clear call, *tuk-m-m-m,* repeated several times after moderate intervals.

Centropus viridis. Philippine Coucal. The call of this bird is a characteristic loud *co-co-co-co* in a mournful monotone, the syllables being repeated after equal intervals. When excited, it makes low, harsh, repeated *chabbook-dot* calls, usually as it retreats into the dense tangles of grass or mixed vegetation nearby.

Penelopides panini. Taractic Hornbill. An appropriately named bird, as its notes sound roughly like *te-rik-tik-tik-tik*; the *tiks* follow each other rapidly.

Turdus poliocephalus. Island Thrush. When disturbed, this thrush flew off rapidly in thick forest, uttering, on the wing, a peculiar note, *tr-r-r-r-r-eek,* as it flashed by.

Orthotomus atrogularis. Common Tailor-bird. This species has a loud unmistakable call, *tr-r-r-r-r-, tag-wa-tit, tag-wa-tit, tig-wa-to-tit,* repeated over and over.

Muscicapa hyperythra. Thicket Flycatcher. A shy and secretive bird which has a soft characteristic note sounding like *ps-s-s-s-t* uttered in a hissing manner.

SYSTEMATIC NOTES

Leucotreron occipitalis occipitalis (G. R. Gray). Yellow-breasted Fruit Dove. The form *brevipes* Hachisuka (1930) from Mount Apo is synonymous with *incognitus* Tweeddale. The type of *brevipes* is in the Ripley collection and proves to represent a distinctively small race. Four adult *incognitus* from Mindanao measured: wing, 144 (type of "*brevipes*"), 140, 144, 147; tail, 99 (type), 94, 104, 104; culmen, 15 (type), 15–17 mm. Eleven adult *occipitalis* from Negros measured: wing, 155–166; tail, 104–124; culmen, 15.5–18.0 mm. The race *incognitus* has about the same amount of gray on the crown as in *occipitalis* (contra Hachisuka, 1932), but it is somewhat more bronzy on the back and more dull yellowish on the throat.

Ducula poliocephala poliocephala (G. R. Gray). Pink-bellied Imperial Pigeon. A specimen of Hachisuka's *nobilis* from Davao in the Ripley collection is inseparable from typical *poliocephala.*

Phylloscopus borealis kennicotti (Baird). Arctic Willow Warbler. The small size of two females taken in spring would seem to align them with the Alaskan population. These birds have no trace of a yellowish wash on the underparts. Wing, 61.0, molt; tail, 43.5, molt; culmen, 12.0, 12.5 mm.

Rhabdornis inornatus rabori Rand. Plain-headed Creeper. The series taken agrees well with Rand's original description (1950), although five out of 12 specimens do not show the pronounced black blotches on the hind neck. In size the tail appears longer and the culmen shorter than in his type series.

	Wing	Tail	Culmen
5 ♂ ♂	93.0–99.0	63.0–67.5	17.0–19.0 mm.
6 ♀ ♀	91.5–95.5	58.5–64.0	16.0–18.0 mm.

Dicaeum ignipectus apo Hartert. Fire-throated Flowerpecker. Three specimens agree with typical *apo* from Mindanao in having the sides of the head glossy, greenish-black instead of slaty as in *luzoniense.* The vent and under tail coverts are not always brighter in *apo* as stated by Hartert (1904). The flanks and sides of the abdomen are richer, more olive grayish-green. The single female is duller than females of *apo* but it matches that population far better than *luzoniense,* although it indicates as might be expected a somewhat intermediate position. In size these birds agree with *apo.*

	Wing	Tail	Culmen
2 ♂ ♂	53.0, 53.5	28.0, 28.0	9.5, 10 mm.
♀	51.0	26.5	9.5 mm.

Aethopyga flagrans guimarasensis Steere. Flaming Sunbird. These birds support Rand's comments (1951) on the differences between *guimarasensis* and *flagrans.*

Zosterops montana pectoralis Mayr. Mountain White-eye. Delacour and Mayr (1945:116) described *Zosterops montana pectoralis* from Canlaon, pointing out that it was quite different from *Zosterops palpebrosa siquijorensis* with which it had formerly been confused. The latter, a pale race of *Zosterops palpebrosa,* does not seem to occur on Negros Island (Rabor, 1952:257), but it is replaced in the lowlands of Negros by *Zosterops nigrorum.*

A series of specimens of *Zosterops montana* from Mount Cuernos de Negros on Negros Island indicates the existence of two races of the Mountain White-eye, the second of which may be named as follows:

Zosterops montana finitima, new subspecies

Type.— ♂ adult, Y. P. M. no. 23475, collected at Luzuniaga, 4000 feet, Cuernos de Negros, Negros Island, Philippine Islands, on January 3, 1953, by D. S. Rabor. Paratype ♂ adult, Silliman University Natural History Museum, no. 4070, collected at Luzuniaga on December 31, 1952, by D. S. Rabor.

Diagnosis.—From *pectoralis* of Mount Canlaon this form differs by being smaller, by having a reduced yellow wash on the lower breast and abdomen, and by paler cheeks. The flanks are more gray and are washed with vinous. There is a tendency also for the upper parts to be slightly more yellowish in series. This form differs from *whiteheadi, halconensis, vulcani,* and *diuatae* Salomonsen (1953) by having distinctly more yellow on the under parts, by extension of yellow farther down the breast and by having a broad median streak of yellow from breast to crissum. Compared to *Zosterops palpebrosa siquijorensis,* this form is somewhat larger and longer billed, and it is much brighter above and on the throat and crissum, with a much yellower wash on the lower breast and a broader median line.

No. of specimens		Wing	Tail	Culmen
46 *pectoralis*	♂ ♂ ♀ ♀	55–60 (mean 57.7; σ 1.308)	39–44 (41.2; σ 1.581)	13–15 mm.
21 *finitima*	♂ ♂ ♀ ♀	53–57 (mean 54.4; σ 1.389)	33–40 (37.4; σ 1.546)	12–14 mm.

Comparison of these figures by using the table of t for small samples gives a figure for t in the case of the wing measurements of 4.6, and in the case of the tail measurements of 5.08. In each case the P value is less than 0.01, indicating that the difference between the samples is significant.

We are grateful to the authorities of the United States National Museum and the Chicago Natural History Museum for the loan of pertinent material of *Zosterops palpebrosa siquijorensis.*

Sarcops calvus melanonotus Grant. Coleto. Twelve specimens from Negros have wing measurements from 122–138 mm. which completely overlap the values for wings of seven specimens from Mindanao that range from 124 to 128 mm. In coloration of throat and back, these birds also agree, thus seemingly rendering unnecessary the separation of the Negros birds as *similis* (Salomonsen, 1952). Six birds from the southwestern peninsula of Mindanao in the Ripley collection have wing measurements of 124 mm. or over, thus failing to support the race *minor* (Salomonsen, 1952) from Cotobato.

LITERATURE CITED

Delacour, J., and Mayr, E.
1945. Notes on the taxonomy of the birds of the Philippines. Zoologica, 30:105–117.
1946. Birds of the Philippines (The Macmillan Company, New York).
Grant, O. W. R.
1896. On the birds of the Philippine Islands. Part VIII. The highlands of Negros. With field-notes by John Whitehead. Ibis, ser. 7, 2:525–565.
Grant, O. W. R., and Whitehead, J.
1898. On the nests and eggs of some rare Philippine birds. Ibis, ser. 7, 4:231–247.
Hachisuka, M.
1930. Contributions to the birds of the Philippines. Suppl. publ. no. 14, Ornith. Soc. Japan: 141–222.
1932. The birds of the Philippine Islands (J. F. Witherby, London).
Hartert, E.
1904. (Minutes of ninety-ninth meeting) Bull. Brit. Ornith. Club, 14:79–80.
Rabor, D. S.
1952. Distributional notes on some Philippine birds. Auk, 69:253–257.
Rand, A. L.
1950. A new race of the Philippine creeper, *Rhabdornis inornatus* (Class Aves). Nat. Hist. Misc., no. 59:1–3.
1951. Birds of Negros Island. Fieldiana, 31:571–596.
Salomonsen, F.
1952. Systematic notes on some Philippine birds. Vidensk. Medd. fra Dansk Naturh. Foren., 114:341–364.
1953. Miscellaneous notes on Philippine birds. Vidensk. Medd. fra Dansk Naturh. Foren., 115:205–281.
Smith, W. D.
1924. Geology and mineral resources of the Philippine Islands (Bureau of Printing, Manila).

Peabody Museum of Natural History, Yale University, New Haven, Connecticut, October 6, 1955.