FE DE ERRATA

El artículo de Marjorie Harris Carr que aparece en las páginas 167-224 del volumen 35 número 2, es la continuación del artículo en las páginas 89-94 del mismo volumen.

En la página 146 del volumen 35 número 2, la figura 1 corresponde a la figura 2 y viceversa.

ERRATA

The article by Marjorie Harris Carr, which appeared in pages 167-224, volume 35 number 2, is the continuation of the article in pages 89-94 in the same volume.

In page 146, volume 35 number 2, figure 1 correspond to figure 2 and viceversa.

Some notes on habitats and the birdlife of the Yeguare River valley of Honduras, 1945-49

Marjorie Harris Carr

INTRODUCTION

Christmas 1944. The war was winding down. The number of Army Air Force pre-flight students in the basic physics sections that my husband, Archie Carr, had been instructing at the University of Florida during the war was decreasing. Finally we saw the light at the end of the horrible tunnel of World War II. It was time to pick up the threads of life put aside before the threat of Nazi Germany changed all our lives.

Archie had become more and more intrigued with the unknown character and activities of the great sea turtles and his mentor and colleague, Dr. Thomas Barbour, Director of the prestigious Museum of Comparative Zoology at Harvard aided and abetted his interest. T.B., as he was fondly known, arranged with his good friend Wilson Popenoe, Director of the newly established Escuela Agrícola Panamericana (EAP) for Archie to visit the school located in the high Zamorano Valley about 27 kilometers over the Uyuca mountain east of Tegucigalpa, the capital of Honduras.

Archie and Wilson developed an immediate rapport and a few days before Christmas, 1944, I received a letter from Archie setting forth the proposal that we come to Zamorano where Archie would teach the young Central American men general biology and have time to do research on the turtles of the Pacific coast and describe the habitats of Honduras. The letter described the new house that would be ours, four servants, and in addition meat, dairy and vegetable produce from the school dairy and gardens. Well, it sounded like heaven. Within a heartbeat I said yes.

When we took off for Honduras in the summer of 1945, Mimi, our first born, was two years old; Archie III or Chuck was one month old. The school at Zamorano came up to our enthusiastic expectations. The next four years of our life were marvelous and unique -- and we knew it.

All my life I had been interested in birds. I think at age nine I knew all the resident birds of Lee County, Florida. Later, as a zoology major at Florida State College for Women I took all the ornithology courses available. Now I was in an area new to me and, happily, now I had the time to get out into the woods and fields. My goal was to be able to identify the birds of the Yeguare Valley and to record their habits. I had copies of **The Birds of El Salvador** by Dickey and van Rossem, **Distribution of Bird-life in Guatemala** by Ludlow Griscom and a few other papers on Central American birds. But at that time keys to the birds of the area were not available and so it became necessary to collect specimens in order to compare to known skins in museums. Dr. James Peters of the Museum of Comparative Zoology very kindly advised me about preparation of skins and helped me with their identification. He even provided me with several old world porcupine quills on which to wind the cotton bird bodies! During the next four years I prepared about 1000 skins representing nearly 300 species. Most of the birds were collected in the Yeguare Valley and in the surrounding hillsides and cloud-forested peaks. In addition two or three extensive trips were made to Lake Yojoa, Department of Cortez and a few visits to the Pacific coast at San Lorenzo. A few skins were sent to the Museum of Comparative Zoology and the American Museum of Natural History, filling out some gaps in their collections. A synoptic series of

birds of the Yeguare Valley was left with the school (in a beautifully constructed case) and the remaining specimens are part of the bird collection of the Florida State Museum of Natural History, Gainesville.

During our four years in Honduras we were in the field several times each week. Sometimes on foot, sometimes on horseback and sometimes in an ancient pickup truck. Horseback was by far the best way to get familiar with our surroundings. Archie was working out the classification for the animal habitat in Honduras (**Outline for a Classification of Animal Habitats in Honduras**, 1950, Bulletin of the American Museum of Natural History, Vol. 94, article 10, pages 563-594), and also, with our good friend Leonard Giovannoli, preparing a report on the fishes of the Choluteca drainage (**The Fishes of the Choluteca Drainage of Southern Honduras**, 1950, Occasional Papers of the Museum of Zoology, University of Michigan, Number 523, pages 1-38). When we returned to Florida, Archie wrote **High Jungles and Low**, 1953, reprint 1992, University of Florida Press, pages 1-226. It lyrically describes the Honduras we came to love.

The Yeguare River and its tributaries drain a series of mountainous slopes in the highlands of the Sourthern Cordillera in southern Honduras. The Yeguare is one of the major tributaries of the Choluteca River and the Choluteca, one of the important rivers of Honduras, has its headwaters south of Tegucigalpa flows north then east and finally south to the Bay of Fonseca. The Choluteca's basin involves some 8600 square kilometers.

The Yeguare River has its headwaters in the foothills of Monserrat at the south east end of the Zamorano Valley, altitude about 735 meters. The Yeguare flows north and east, about fifteen kilometers, leaving the valley through a fairly deep canyon in the pine woods at the northeast end. The valley is about ten kilometers wide. The Yeguare is typical of the rivers of the dry interior. It is a meandering, boulder strewn, rather shallow stream and in its course through the valley it is generally only 6 to 9 meters wide. Its depth averages around 1 meter, with occasional deep holes at river bends and at the mouths of tributary creeks. In the rainy season it rapidly becomes a raging torrent after hard rains. Aquatic vegetation is sparse. The periodic scouring prevents all but the small tough rock-clinging *Podoxciminae* from getting a foothold. Int he dense mats of *Podoxciminae* covering the cobbles and boulders, mayfly, damselfly, and dragon fly larvae are common. Under these rocks a small crab and nesting cichlid fish, congo, may be found. It is a common sight to see two or three men and boys slowly wading along the stream, each carrying a rock about the size of his head. At each cobble large enough to harbor either a crab or small fish, the fisherman pauses, lifts his rock above his head and brings it down with a crash on the rock in the river. Quickly he turns it over and with luck finds a stunned crab or fish beneath. He then pops these creatures into his straw hat and puts the hat back on his head.

The cobble-strewn, sandy spits and beaches are generally covered with the prickly *Aster spinosa* and willow, *Salix chilensis*.

The water of the Yeguare is slightly acid throughout the year. In the rainy season a great deal of mud is carried by the river and even in the dry season the water has a milky appearance due to a suspension of very fine material.

Apparently the slight acidity of the water is a deterrent to the crustacea and mollusks for there are no crayfish found in either the river or its tributaries. Two species of shrimp are present but not abundant. The only mollusk is a small snail with an extensively eroded spire.

The list of minnows is large but only the congos and mollies are present in great abundance. The congos are especially fond of the shallow rock strewn tributaries and in the Capa Rosa nearly every reach has its family of tiny fry and fiercely guarding parent.

The small Green Kingfisher also prefers the tributaries and takes up his post on the big boulders that stud the stream.

In the river the large Amazon Kingfisher and the Ringed Kingfisher use these big boulders or

the bare branch of an overhanging tree as lookout stations from which they feed on the occasional schools of shiners and small *guapotes* and *dormilones*.

The larger fish prefer the occasional deep holes. At one of the best fishing holes we have often surprised an otter sunning himself on a convenient flat topped rock. These holes are well known to the local fishermen who periodically clean them out with dynamite.

We have never seen crocodiles in the Yeguare although a large one lives in the Choluteca where it is joined by the Yeguare River.

There are no turtles common in the river and only in the rare slugging stretches of the creeks are mud turtle encountered.

THE RIVER VEGA

The flood plains are usually restricted but occasionally broaden out to form rich bottom land an eighth of a kilometer in width. This is the only land in the valley floor that may be cultivated without irrigation and some fine corn and "maicillo" fields provide excellent feed for the great flocks of wintering Indigo Buntings. The big Muscovy ducks which usually are confined to the big fig and guanacaste trees along the river, regularly feed in these fields in the harvesting season.

The plant succession on the river vega begins with *Cister spinosa* which holds to the barest of rocky spits. Willow thickets develop where there is sufficient sand present and these thickets are much favored by Melodious Blackbirds and Orchard Orioles.

The older vega land is characterized by occasional giant white figs and guanacaste and the smaller trees and shrubs *Espino blanco, Acacia fanesiana* and *Acacia penatula,* the red-flowering *Grislea secunda, Baccarus gutanosa,* and *Cestrum dumatorum.* These smaller trees are usually covered with a tangle of white and purple morning glory vines (*Ipomoea populina* and *Ipomoea* sp.), *Clematis dioica* and *Sergonia* sp. to make ideal hiding places for the Plain Wren, House Wren and Rusty Field Sparrow. Marigolds, *Tagetes* and *Sida acutifolia* cover the ground in the open spaces between the larger cover. Over these long narrow plains at the river's edge the Gray-breasted Martins and migrating Night Hawks and Barn Swallows cruise in the late afternoon.

If left unclaimed by the river, the vega develops in time, a gallery forest. Great white figs, *guanacaste* (*Enterolobium*), the red limbed *Indio desnudo* and large leaved *Cecropia* together with the shaggy barked *Guettarda* overhang the river edge affording watching posts for the big kingfishers, Boat-billed and Great Kiskadee. The smaller trees, *Pisonia macranthocarpa, Jatrophas lonchocarpus, Guazuma ulmifolia,* and *Procea crucis* are festooned with vines until the canopy is almost impenetrable. Consequently the under story is comparatively open. This viney canopy and especially the scrubby tree *Pisonia* are the delight of Plain Wrens, Todies, Motmots, Rufous-capped Warblers, Elegant Trogans, Santa Cruz Woodpeckers, Lineated Woodpeckers and wintering redstarts and Rosebreasted Grosbeaks. Many flycatchers and thrushes hunt through the clear understory and we have several time come upon a Mexican Black Hawk sitting on a bare tree limb only a few feet from the ground in the darkest part of the woods. The white-tipped dove prefers this type of woods to the drier adjoining thorn scrub. Squirrels and Squirrel Cuckoos scramble through the viney tangles.

POTREROS

The great part of the level land in the valley is made up of "potreros" or pastures. The dominant plant is "carbon" *Acacia tenuifolia* but where it has been repressed by cattle and fire the big bunch grasses, Guinea and Guatemala flourish. The Gray-crowned Yellowthroat and the Blue-black Grassquit are by far the most common birds here. In the breeding season the showy display of the male grassquits fairly makes one dizzy when crossing a potrero. During our four year stay in Zamorano the only small mammal found in great abundance was a field rat. In the fall and winter of 1946 the rat population suddenly increased violently and

every tussock of grass in the potreros harbored one or more rats. Concomitant with this rat population increase was the abundance of weasels and wintering hawks.

The Bob-white Quail, Tropical Kingbirds, Yellow-faced Grassquits and Central American Goldfinches abound and the wintering Grasshopper Sparrows, Scissor-tailed Flycatcher and Marsh Hawks confine their activities to this habitat.

HEDGE ROWS

Along the edge of the break between the dryer potreros and the river vega forest and along fence rows and trails a distinct plant association develops. Three moderate sized trees are dominant, *molina* (*Luehea* sp.), *tapachula* and *madre cacao*. A tangled undergrowth of *Celtis igunea, Tricsis radialis, Triumfetta calderonii* is covered with a welter of vines, the morning glories, *Aphalandra dippeana, Otopappus brevipes* and others. Great Kiskadees and Boat-billed Flycatchers invade these corridors in the parts adjacent to the river vega. Rufous-naped Wrens, Blue Grosbeaks, Anis, and Striped-headed Sparrows are commonly found here.

THORN SCRUB

Around the rim of the valley and extending a little way up into the foothills is a belt of well developed thorn scrub of an almost pure stand of "carbon" *Acacia tenuifolia*. The little White-lored Gnatcatcher is confined to this locality. the big Black-throated Oriole and the Streak-backed Oriole are consistently found here and *chachalacas*, though by no means restricted to this belt take advantage of the dense cover provided. Where the scrub is old and a low clear understory opens up with a good deal of leaf cover tinamous are common. And in the early morning and late afternoon near small streams or ponds in the breeding months of April and May the woods echo with their low penetrating whistles. Termites build their large nests in these thorn trees and at dusk the little Orange-fronted Parakeets come over in pairs and you will suddenly see them plane down into the scrub to their homes in these termite nests.

OAK FALDA

Along the wet weather streams that come down out of the hills and where more moisture is present through seepage a forest association of oak (*Quercus oleodyes*) and molinio (*Luehea speciosa*) replace the big thorn scrub of the valley rim. The sandpaper three *Curatella americana* and big leaved *Genipa americana* are characteristically found here and in February and March the showy yellow flowering tree *Cochlospermum vitifolium* marks this border around the valley edge and up into the ravines. The big composite *Triumfetta calderonii, Trigonia forubilis, Tricosis radialis* and *Calea zacatichichi* make up the understory. The vireos are apparently confined to this more open forest and the Magpie Jay is more at home here than in the river gallery forest. The small Ferruginous Pygmy Owl was found only here.

PINE FOREST OCOTAL

Above the narrow rim of oak forest or thorn scrub the pine forest so strikingly typical of the mountainous interior of Honduras begins and continues up the slopes to a height of 1069 meters. The forest of *Pinus ocotea* is most reminiscent of the flat woods of Florida with tall straight limbless trunks of the pines widely spaced and sparse ground cover of a few grasses, milkweed, *Trigonia forubilis* and bracken fern. A fauna distinct from the valley is found. The big black and brown mountain quail replaces the bob-white of the valley. In October we found a slope completely rooted up by these birds where they hunted for the succulent bulbs of the ground orchid *Pogonium*. The majority of the birds confine their activities to the tree tops but two flycatchers, the Yellowish (*Empidorax flavescens*) and the Greater Pewee (*Contopus pertinax*) will inquisitively watch you from their perches on low limbs or stubs. Brown Creepers are commonly seen working around the trunks and the Painted Redstart flashes its white tail feathers as it flutters down one pine tree trunk to

start it upward hunt at the base of another. The red-shafted Flicker and Hepatic Tanager are regularly observed here while in the tree tops Grace's Warblers and flocks of Pine Siskins are commonly found. Flocks of Crossbills are common but, annoyingly, stay in the tallest trees. Band-tailed Pigeons prefer these woods and flocks are often seen circling and sweeping up and down the "*hondonadas*" that cut up the hillsides.

PEDREGAL

On some hillsides, the outcroppings of the rough volcanic rocks are so extensive that very little soil is available for plants. Even here the pines persist and sparse forest develops. This is the favorite locality for the Rock Wren.

MIXED SCRUB IN THE PINE FOREST

As Archie described in **Outline for a Classification of Animal Habitats,** 1950, *Pinus ocotea* does not exist on level land. On a hillside where pockets of level land are found Acacia, *Baccaris, Trigonia, Tricosis* and blackberries form thickets that are very popular for Band-backed Wrens, Rusty Sparrows, House Wrens and Streak-backed Orioles.

HIGH SHORT GRASS SEEPAGE AREA

Where these small level plains are seepage areas only the short grasses thrive in the rainy season and the ground parches and cracks open in the dry season. Wintering snipe and killdeers are generally encountered here and occasionally flocks of Yellow-faced Grassquits were found.

PINABETAL (PINABETE)

Above 1219 meters where the cloud moisture begins to have some appreciable affect on the moisture available for plant life, *Pinus ocotea* is replaced by the handsome *Pinus strobus.* These big lon-leaved pines are hosts to a great number of bromiliads and airplants. The understory is made up of wax myrtle and several species of *Miconias.*

Blue birds prefer this high pine woods and the only Pale-billed Woodpecker collected was shot in this habitat. Steller's Jay is more commonly seen here than the Bushy-crested Jay (*Cissilopha melanocyanea*).

GUAMIL

At the edge of the cloud forest where the *pinabetal* and the cloud forest has been cleared off for the milpas in years past a second growth of blackberries, *Tithonia* and several beautiful *Salvinia* together with other blooming herbs form an impenetrable tangle. The welter of blossoms attract many hummingbirds but the White-eared is the most common and their insistent call becomes almost unbearable when crossing this area.

CLOUD FOREST

When the peaks of the ridges in this part of Honduras reach up into the line of march of the clouds the additional moisture precipitated is sufficient to cause the development of a magnificent hard wood forest. Archie has described these woods with great vividness and at great length in the **Outline for a Classification of Animal Habitats in Honduras,** 1950, and in **High Jungles and Low.**

On the ridges surrounding the Yeguare River Valley five peaks reach sufficient height to bear cloud forest and of these two have been cleared completely off for milpas. The other three are too steep at the peak for making planting corn feasible. Although we have seen a man plowing a field so steep he held to the crude wooden plow with one hand and with the other leaned against the ground to keep from falling out of his field. Mountain Uyuca on the western rim of the valley towers over the road to Tegucigalpa and is 1999 meters on its highest point. To the south east rising between the colonial mining towns of Yuscaran and Guinope is the highest peak of Monserrat or El Volcan. This mountain is covered with a very extensive cloud forest and quetzals and green toucans are not at all uncommon in these woods. From Potrero de los Arrillos, in the south of the valley one may

glimpse the Bay of Fonseca with the volcano El Tigre rising out of it.

The major cloud forest trees are the great buttressed aguacates and oaks which form a dense canopy overhead. Except where the forest has been opened up the understory is not particularly dense. Tree ferns averaging a height of perhaps 4-5 meters, melastomes and in restricted localities the slim little palm, *Chamaedorea* spp. are the most typical. At the edge of the cloud forest and in any breaks several melastomes and the purple flowering Fuchsia crowd in. Fuchsia is a most popular plant with birds. When in flower it is a gathering place for several species of hummers and twice honey creepers have been collected in this vicinity apparently feeding on the insects attracted by its myriads of honey filled flowers. Later its fruit are a favorite with the several robins, thrushes and the ubiquitous Common Bush-tanager, (*Chlorospingus ophthalmicus honduratius*). The little Buff-breasted Flycatcher takes up his post at the edge of the openings. Masses of orchids and bromiliads weight down the limbs of the giant trees and their trunks are covered inches thick with mosses making a perfect hunting ground for the tiny red brown Rufous-browed Wren.

On a first visit to a cloud forest, one is struck by the lushness of the vegetation and is prepared to find the animal life in proportion. The disillusion is gradual but complete. Turn over the leaf litter, kick open the rotting logs and only sow bugs, ear wigs and an occasional pale cockroach come to view. Dig into the soil, which surprisingly enough does not impress one with the amount of loam present and with luck a lively earthworm is brought out. Slugs are occasionaly encountered creeping along and we have a few times, in many visits, turned up a *Physa*. The woods have numerous seeps and swift cool little brooks and here a little brown crab is moderately common. Archie, working on the herpetological fauna, has literally pulled down and torn up tons of bromiliads and airplants. He and two helpers have raked over acres of ground with potato rakes. We have crept up the little icy rills by day and by night and we have spent uncounted hours just quietly roaming around the forest and yet the total number of reptiles and amphibians collected is incredibly small.

Birds are the most satisfactory form of animal life here and yet again they are unpredictable. On one trip only three of four of the most common will be seen and the next trip 25 to 20 species will be recorded.

In bringing the nomenclature of the collection up to date I have referred to that super book, **A Distributional Survey of the Birds of Honduras**, 1968, Burt L. Monroe, Jr., American Ornithologists Union, monograph No. 7, 458 pp.