## REMARKS ON KAEMPFER'S COLLECTIONS IN EASTERN BRAZIL.

## BY ELSIE M. B. NAUMBURG.

Mr. Ernst Kaempfer and his wife have been in Brazil since the month of December, 1925, and up to the present time of writing have sent approximately 3500 skins to the American Museum of Natural History.

A continuous revolution throughout the region where collecting was in progress from the very beginning, delayed a trip that had been planned to Piauhy, Therezina, and as late as April 1926, Mr. Kaempfer was still in Maranhâo from which place he sent us much valuable material. Particularly interesting is his description of a trip to the left bank of the Parnahyba River.

The Parnahyba separates the province of Piauhy and Maranhâo and enters the Atlantic by several mouths. This river is a very long one and the total course is estimated at about 750 miles. Though the hardships at this time, due to lack of food, were very severe, the collector found himself in a region particularly rich in specimens of Woodpeckers and Woodhewers; a dry region, slightly hilly, crossed by many streams and containing but little dense forest. Here were large areas of Chapada country where cactus and other spiny plants are common and the countryside is covered with small boulders.

We have at least five species or more of Woodpeckers from this region, such as Campephilus melanoleucus, Crocomorphus flavus, Celeus ochraceus, Melanerpes candidus, and Colaptes campestris; some small Doves, such as Claravis pretiosa, Uropelia campestris, Columbula picui and Columba picazuro.

Taenioptera velata is quite common. The local name for this Flycatcher is the Portuguese "lavendera," laundress, which appears to be applicable, as the species is usually found near the water. When feeding it stands quite still, looks around and then having seen an insect it attacks its prey with a rush. The bird was quite common on the shores of the Parnahyba and the Itapecurú, a river in the Province of Maranhâo which after a northward course

of upwards 400 miles joins the river São José, south of the Island of Maranhão. On this river Mr. Kaempfer saw thousands of specimens of the Parrot, *Aratinga jendaya*. They were seen in bands of thirty or more crossing the river and making a loud noise.

From Therezina, the capital of Piauhy, on the left bank of the Parnahyba, the collector writes: "It is interesting to note that the natives in Piauhy well know how to distinguish formicarians from other birds by their song. They call them by a queer name which means "weeper" in English. The word is simply an onomatopoetic imitation of the song. In this region Mr. Kaempfer saw the Cuckoo, Crotophaga major, for the first time, a flock of about ten birds.

A letter dated June 20, gives us the names of various collecting stations, such as Rosario, a town on the Itapecurú, and Catharina, a small hamlet one hour's walk from Therezina. At this point shipping became difficult, as everything had to be sent *via* river steamers to Parnahyba, while from the upper Parnahyba communication was even worse.

Collecting was done extensively on both sides of the Parnahyba River at São Luiz, ninety kilometers from Therezina, on the Maranhão shore, about one kilometer inland, and at Bello Horizonte on the Piauhy side.

Here again there were uprisings and revolutions. So from Floriano on the Piauhy side the collector went to São Joas dos Patos in Maranhão, situated about 700 meters above sea-level. Piauhy was now invaded by rebels and all facilities for going up the river had stopped.

At this point Mr. Kaempfer writes: "There will be no other steamer until the rebels are chased away and new rains fill the river with water." Conforming with further instructions from me, Mr. Kaempfer proceeded into the Sierra region of Nova York, the highland region which separates the waters of the Itapecurú and the Parnahyba rivers.

The first stop was at Porto Seguro near Nova York, on the Parnahyba River. From this locality I had a letter dated August 29, 1926. This was a most difficult journey, and just two months later I was sorry to learn that Mr. Kaempfer was very ill owing to the hardships he had endured in the Sierra region.

Though not entirely restored to health and having had to interrupt all activities for several months, Mr. Kaempfer on December 4, 1926, announced his intention of collecting in Ceará, as previously arranged. In January of this year, 1927, we received letters from Recife, and the Rio Branco in Pernambuco. The region of the Rio Branco is partly hilly and forms a portion of the mountains that fill the whole interior of Pernambuco. At a lower altitude in Pernambuco, at Palmiras, the country belongs to the coastal region and has fine moist forest land, and Mr. Kaempfer comments in a letter on the great floral difference between the northern and southern parts of Pernambuco. He seems to believe that the limits of the northeastern dry region of Brazil run somewhere through Pernambuco.

The next region in his itinerary was southern Piauhy, and from there to Joazeirio in the province of Bahia, on the Rio São Francisco. The São Francisco is one of the large and important rivers of Brazil which rises in the province of Minas Geraes, flowing north, north-east and east.

The first collecting station in Bahia, was the Cidade do Rio Grande at an altitude of 1400 feet, then along the north shore of the Rio Grande and on the islands off the shores of the Rio Grande and São Francisco, and along the sand banks of each river.

The Blue-bearded Jay, Cyanocorax cyanopogon, was a quite common species in this region living in small flocks easily caught in traps when baited with corn.

The Flycatcher, *Taenioptera irupero*, was seen though not very often in the sandy open country. In the region where there were pools and lagoons Mr. Kaempfer saw the Ibis, *Phimosus nudifrons*.

Remanso, in Bahia, at 1300 feet was the next center for collecting. This region is far more humid than the region of Joazeiro. The river is very broad here and there are many islands. A large portion of the lowland was inundated. There are many species of water birds recorded from here, but only in the dry season. On an inland lagoon a few miles from Remanso the collector saw Storks, Spoonbills, and various species of Ducks. There is no dense forest here, but large stretches of open country covered by catinga and a low spiny growth.

The Flycatchers, Muscivora tyrannus and Taenioptera irupero,

were taken here. Both species are good fliers and according to Mr. Kaempfer they seem always to be quarreling. They sit on the low spiny vegetation causing the long tail feathers to become much worn.

Joazeiro, on the north shore of the River São Francisco in the Province of Bahia was a collecting station about 1000 feet above the level of the sea. This region appears to be one of the least attractive seen by Mr. Kaempfer on the entire journey. The vegetation consists of low underbrush and there are stretches of open campo country covered with grass. At this point the River São Francisco is very wide and on its swampy shores Mr. Kaempfer collected many Herons such as Egretta candidissima, Florida caerulea, Casmerodius egretta, and Ardea cocoi. He also sent us from here Jacana spp. Gallinula galeata, and Ionornis martinica.

From Santa Rita do Rio Preto in Bahia near the hilly boundary of Piauhy Mr. Kaempfer writes: "Our present collecting station is just wonderful. We have seen a great many Parrots, three kinds of Aras, many water birds, Storks, Woodpeckers, and last but not least the Oven-bird, *Megaxenops paranaguae*." This bird was discovered by Reiser at Paranagua (towards Olho d'Agoa) in Piauhy, twenty-four years ago and has been seen by no one since.

This is the most important result of our expedition to Brazil, just as it was for Mr. Reiser in 1903 when he went to northeastern Brazil under the direction of Dr. F. Steindachner. These two specimens a male and a female, the only ones in existence at the time, were seen by me in the Vienna Museum in 1922, and their numbers in that collection are 875 and 881. Seeing these birds drew my attention to the importance of collecting in this region and led me to instruct Mr. Kaempfer to find them if he possibly could. I have since heard that Dr. Snethlage has recently sent two specimens to Dr. Hellmayr.

In the reddish brown color and the white throat-patch this species resembles the Woodhewer Furnarius albigularis, though in size and general aspect it is also near the Long-billed Wren, Thryophilus. It differs from the Oven-bird Xenops in being considerably larger and also in color. The third, fourth and fifth primaries are the longest and nearly equal, the second is shorter than the sixth and equals the seventh. The primaries are grayish brown edged

with russet on the outer edge and the rectrices are not spiny but soft and reddish brown with broadly rounded tips. Our specimens were taken at Corrientes in southern Piauhy not far from Paranagua where Reiser's were collected.

The trip in southern Piauhy was continued to Gilbues, a two days' horseback ride from Corrientes, then on to Pindahyba. All these localities are situated in a hilly, rocky country with many creeks and rivers which in the dry season are entirely dry or very shallow. It is what the famous German botanist Ule calls "Mountain shrub steppes" or "Bergstrauch steppen" and Megazenops paranaguae belongs to this region, and is characteristic of it. From this region we also have a small series of the very rare Parrot, Amazona xanthops also collected by Reiser in 1903. I remember seeing the typical bird from the interior of Minas Geræs and my notes say that it was considered a rare species, as it was never seen in the large collections. I believe our specimens from Piauly differ from the typical bird in having a smaller bill and may therefore possibly be regarded as a subspecies. The single mature specimen has the entire head and breast, abdomen and flanks bright orange-yellow. At Pindahyba in southern Piauhy, a locality near those before mentioned there was a large swamp, where Macaws in all colors were plentiful. On one occasion the noise of the frightened mules startled the big Blue Macaws, Anodorhynchus hyacinthus, out of their sleep and in a few moments the whole swamp was alive with hundreds of these great Parrots flying about. We have received several of these specimens. Natives collecting live birds say that the big Blue Macaw nests in holes in the sides of mountains, while the Yellow-breasted Ara ararauna nests on the top of dead Burity palms.

I should mention also a series of interesting Cowbirds taken in Bahia at Barra, at an altitude of 1400 feet. Mr. Friedmann puts them in the genus Agelaioides, of which there are two species Agelaioides badius and Agelaioides fringillarius described by Spix.

Dr. Hellmayr<sup>1</sup> has also described a race of badius from the highlands of Bolivia, A. badius bolivianus. The difference according to Mr. Friedmann between badius and fringillarius is more than

<sup>&</sup>lt;sup>1</sup> Verh. Orn. Ges. Bay., XIII, 1917, p. 108.

one of shades of color, and Agelaioides fringillarius is one of the rarest birds in the world in museums.

Then there is a Jay, *Uroleuca cyanoleuca*, a monotypic genus, the only genus of Corvidae confined to South America. It is interesting because the pattern of the tail is unusual with a broad white band across all the feathers while it has a very short tail for a Jay, making it near the Crows in this character. Then Mr. Kaempfer collected the scarlet-breasted Tanager *Lamprotes loricatus* from Paranagua Piauhy. This species is interesting because the female is entirely black without a particle of red on the breast.

I have enumerated only the most outstanding species of the collection, but we have received many other most interesting specimens.

On August 27 just about three months ago Mr. Kaempfer wrote: "We are back from our Rio Sâo Francisco and Piauhy trip. In a few days we will go to the Sierras of central Bahia." There are localities at an altitude of 4000 feet where the collector hopes to find rare species. This is the habitat of the Small Blue Macaw, Cyanopsittacus spixi, which Mr. Kaempfer saw at a railway station at Joazeiro in Bahia, but which up to the time of writing he had not been able to obtain though we hope he will send us a fine series in the near future.

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