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Falsified Data Associated with Specimens of Birds, Mammals, and Insects from the Veragua Archipelago, Panama, Collected by J. H. Batty

STORRS L. OLSON

ABSTRACT

The professional collector Joseph H. Batty obtained birds, mammals, and insects in Panama in 1901 and supposedly 1902, at least some of which have long been thought to have been labeled with suspicious locality information. Examination of catalog records for birds and mammals, the labels of hundreds of specimens of birds, and archival material provided no concrete evidence of Batty collecting anywhere in Panama except on Isla de Coiba and in the vicinity of Boquete and Boquerón in mainland Chiriquí Province. His series of birds from Coiba contains some taxa that are recognizable as endemic subspecies from Coiba but also contains many specimens of the same species belonging to mainland subspecies in addition to species not known to occur on the island. Analysis of the types of labels used by Batty on birds proved useful for determining which Coiba specimens are the more likely to have authentic locality information. Batty's series of mammals from Coiba, upon which four new taxa were based, also probably contains mislabeled specimens. The series of birds and mammals labeled by Batty as having come from the smaller, low-lying Pacific islands of Chiriquí and Veraguas (Veragua Archipelago), with dates of 1902, contains specimens of many taxa that either are highland species or do not occur in the only habitats likely to be present on some of the islands, or that have never been found on any island elsewhere in Panama, including the very large Isla de Coiba. The itinerary reconstructed from specimen labels as well as the number of specimens are not consistent with the realities of transportation or human capabilities. It is concluded that the specimens in this series probably came from the general area of Batty's two mainland localities in Chiriquí and that he never went to the smaller islands. Accordingly, the type locality of the porcupine *Coendou rothschildi* Thomas, 1902, should be altered from Isla Sevilla to the vicinity of Boquerón, Chiriquí. With very few exceptions, all of Batty's specimens with questionable locality were sold by him to the private collector Walter Rothschild and do not involve specimens that Batty provided to other museums. Another small

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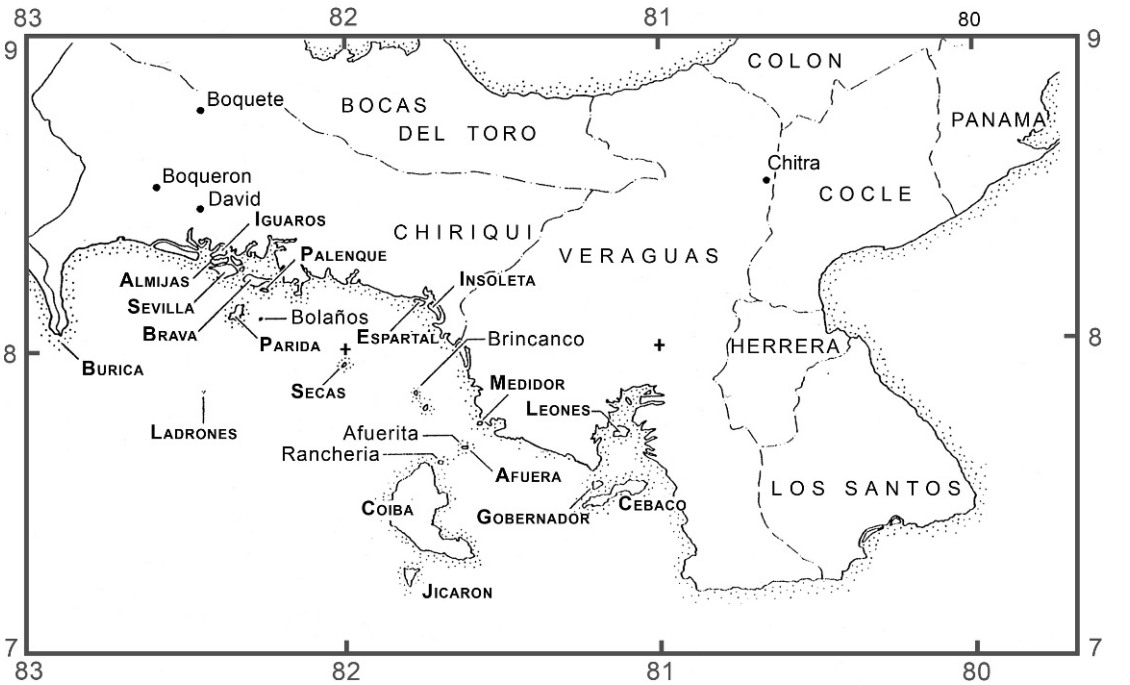

Fig. 1. Map of the Veragua Archipelago with the names of islands as used by J. H. Batty on specimens labeled as collected in 1902 (in small caps). For current names of the islands see table 3. Isla Brincanco with unlabeled Isla Uva to the southeast make up the Islas Contreras mentioned in Batty's correspondence but not used on specimen labels.

series of birds, including some very rare ones, obtained through Batty and labeled as from Chitra, Veraguas, also have untrustworthy date and locality information.

INTRODUCTION

The data associated with a large collection of birds, nearly 850 specimens, supposedly obtained from nearly every small island along the western Pacific coast of Panama (Veragua Archipelago of Olson, 1997; see fig. 1) by the commercial collector J. H. Batty in 1902 and sold to Walter Rothschild have long been regarded as suspicious (see History below). This collection also contained more than 230 mammals and an undetermined number of insects with the same collection data but whose provenance has not heretofore been questioned. Batty was the first person to collect birds and mammals on the very large island of Coiba, which is now known to harbor a rich diversity of endemic taxa of birds. Yet problems were also identified with some of Batty's specimens from that island as well. Most of the birds came to the American Museum of Natural History (AMNH) in 1932 with the purchase of the Rothschild collection (Murphy, 1932), whereas the mammals and insects, along with some hummingbird nests and eggs and "associated" skins, went to the Natural History Museum, London (BMNH). Batty also made extensive collections in mainland Chiriquí at Boqueron in the lowlands and Boquete in the highlands. No specimens with mainland locality data were sold to Rothschild and these series went mainly to AMNH and to the Field Museum, Chicago (FMNH).

I undertook an investigation of Batty's Panama collections to determine the extent to which his specimen data may be unreliable and to approximate what the correct data may be whenever they appeared to be questionable.

Fig. 2. Joseph H. Batty in costume, from his book on *Practical Taxidermy* (Batty, 1880).

Batty collected in the lowlands of western Panama before most of the forests were removed from that area, so his specimens from there, even if mislabeled, may retain considerable scientific and historical importance.

A BRIEF BIOGRAPHY OF J. H. BATTY

Joseph H. Batty (fig. 2) was a professional collector, hunter, and taxidermist who sold specimens to museums and private collectors in the latter part of the 19th century and up until his death in 1906. According to a note in the collector/donor file in the Division of Birds, National Museum of Natural History, Smithsonian Institution (USNM), he was born in Springfield, Massachusetts, on September 3, 1847. Other biographical information comes mainly from two notices in *The Auk* (Anonymous, 1906a, 1906b) that were surely written by J. A. Allen, who was then editor of that journal and the curator at AMNH with the most direct dealings with Batty.

In 1873, Batty was a collector for the Hayden Survey in Colorado, and he collected with Elliott Coues in Montana as part of the Northern Boundary Commission Survey in 1874. Numerous specimens of birds and mammals at USNM date from this period. Following this, he was a taxidermist in New York City and wrote two popular books on hunting and taxidermy (Batty, 1878, 1880). He is said to have traveled extensively in tropical America and at one time was engaged in plume hunting (Anonymous, 1906a, 1906b).

In the late 1800s, Batty ran his business out of Sheepshead Bay, New York, according to the elaborate letterhead (fig. 3) that he used at the time, which proclaimed "We collect anything that walks, crawls, flies, swims or grows" (correspondence in the files of the Department of Ornithology, AMNH). Correspondence in 1902 with Rothschild and Ernst Hartert

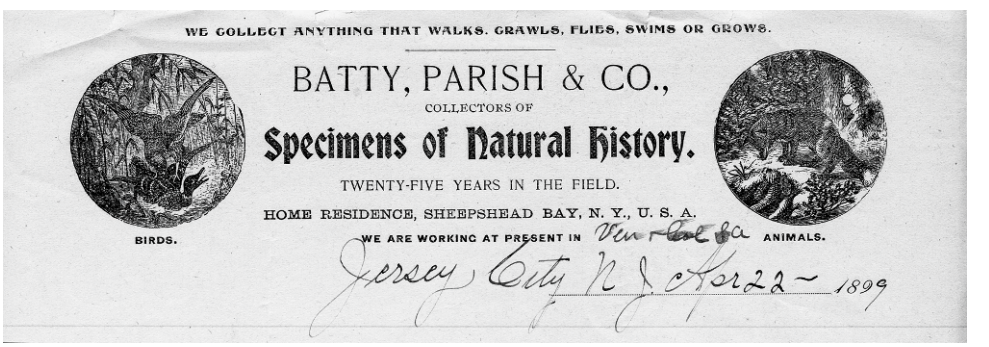

Fig. 3. Letterhead of J. H. Batty's company in 1899.

(originals in BMNH) placed Batty on 85th Street, New York City, not far from AMNH.

Batty returned to active collecting about 1898, mainly in Colombia and Mexico in addition to his few months in Panama (then still part of Colombia) in 1901. In 1902, he was "commissioned to take charge of a collecting expedition in Mexico and Central America, under the direction of the American Museum of Natural History" at a salary of $2000.00 per annum (letter of agreement from AMNH president H. C. Bumpus, 27 Sept 1902, in AMNH archives). This activity kept him employed in Mexico for the next three and a half years. During this time, copies of correspondence from curator J. A. Allen to Batty consisted mainly of "nicely worded complaints about Batty's field practices (e.g., mismeasured and misnumbered specimens, difficulty in finding his locations on the map, jammed packing cases causing damaged specimens and collection of too many specimens)" (P. A. Brunauer, AMNH, in litt., 27 February 1997). On his last expedition, Batty was "killed instantly by the accidental discharge of his gun while collecting near Pijijiapan, in the southern part of the State of Chiapas, Mexico, on May 26, 1906" (Anonymous, 1906b: 356).

MATERIALS AND METHODS

One of the main factors inhibiting an investigation of this sort is that there are no existing specimen registers for the Rothschild collection. Thus, there is no single volume one might consult to find the Batty material listed in a block. It was simply incorporated into the immense Rothschild collection (more than 280,000 birds), which, when transferred to AMNH in 1932, was arranged in systematic order and cataloged family by family. The only way to compile species lists for each island Batty visited and to reconstruct his itinerary is to go page by page through the 14 volumes of AMNH Rothschild catalogs and make a list of all Batty specimens, a task I undertook in December 1992. This was not too onerous considering that there are many families and genera that do not occur in Panama that could be passed over quickly, so the job took only about two days. I then made a file card for each specimen from any of the islands, including Coiba, so that these could be arranged by locality, or date, and, more importantly, taken into the collection and annotated after examining specimens. Eventually, in order to have information on the nature of the specimen labels themselves, I retrieved all the hundreds of Batty specimens from all the Panamanian islands, including Coiba, from the collections at AMNH and assembled them for study, which allowed comparison of different styles of specimen preparation, styles of labels, etc. I also obtained copies of the catalog entries for Batty specimens of birds and mammals at BMNH and the Field Museum, Chicago (FMNH) and for mammals at AMNH, although I have made no study of any of the specimens of mammals.

BATTY'S ITINERARY IN PANAMA IN 1901–1902

Here I review the available evidence to reconstruct Batty's itinerary in Panama during the pertinent portions of 1901 and 1902 (table 1). Although no correspondence seems to exist to confirm it, Batty may have gone to Panama at Walter Rothschild's instigation, because Rothschild was interested in islands and Batty's first collecting station in Panama was Isla de Coiba, Panama's largest island and probably a high priority for Rothschild. As discussed below, there are a few specimens received from Batty labeled as from Chitra,Veraguas, with dates of 5–6 March 1901, and 17, 18, and 27 April 1901, but Batty made little attempt to disguise the fact that he obtained these from Enrique Arcé or one of his relatives and the dates are not considered reliable, particularly as the April dates overlap with those from specimens from Coiba.

The first evidence now available for Batty's presence in Panama are the specimens obtained on Isla de Coiba, which bear dates ranging from 4 April to 27 June 1901. There are only single specimens for 4, 6, 7, and 8 April, one of which (*Basileuterus*) is of a mainland subspecies and therefore suspect. There are no Coiba specimens for 5 April or 9–15 April with the exception of two Coiba endemics labeled 12 April. Most of the specimens of Coiba endemics are labeled with

TABLE 1
Chronology of Batty's Activities Relative to His Collections in Panama in 1901 and 1902 as Developed from Specimen Labels and Archived Correspondence
Dubious or false dates are bracketed.

[1901 March 5, 6	Specimens labeled Chitra, Veraguas, with questionable dates.]
[1901 April 4	First specimens labeled from Coiba.]
1901 April 16–28	Probable actual dates of collecting on Coiba based on specimens still having the original (style 3) field label.
[1901 April 17, 18, 27	Additional specimens labeled as from Chitra with unlikely dates.]
[1901 June 27	Last specimens labeled as from Coiba.]
1901 June 29	Date of list of Coiba specimens sent to Rothschild, presumably with Coiba collection that was probably sent by Batty from Colón.
[1901 Aug 2, 14	Specimens labeled from Boquete, probably in error.]
1901 Aug 14	Batty letter to Rothschild from David saying he had been to smaller islands and since being on Coiba had been in hotels, coaches, steamers with a live doe from Coiba and would leave in two days for the mountains.
1901 Aug 19	First likely collecting date at Boquete.
1901 Sept 6	Batty letter to Rothschild from Boquete, saying he had been sick and could do only light work although many birds were labeled with prior dates, and again said he had now done the coast islands most thoroughly.
1901 Sept 24	Last specimen date from Boquete.
1901 Sept 27	First specimen date from Boquerón.
1901 Dec 17	Last specimen date from Boquerón except one labeled 26 December.
1902 May 2	Batty letter from New York to Rothschild with story about export duties on specimens.
1902 May 13	Letter stating specimens shipped today, including the hummingbirds and nests.
1902 May 21	Letter to Rothschild saying more specimens on the way, including porcupines.
1902 June 17	Letter to Rothschild acknowledging letter from Rothschild.
1902 July 14	Letter to Hartert about bellbirds.
1902 Aug 19	Letter to Hartert about labels and bellbirds.

dates of 16 to 27 April. There is a hiatus from 28 April through 2 May (except for one *Cyanerpes* on the 28th).

There are specimens of birds and mammals supposedly from Coiba labeled from 3 May through 29 June 1901, although there are 18 days in that period for which there are no specimens and another 11 for which there is only a single specimen. As discussed under Isla de Coiba, below, the June dates are highly suspicious and the same may apply to those with dates in May. It now appears that the amount of time Batty spent on Coiba may not have been much longer than the nearly two week period in April during which he obtained most of the specimens that are recognizably Coiba endemics.

In the Batty correspondence at BMNH is a list of 203 birds and 39 mammals "sent from J. H. Batty Coiba I. to Hon W. L. Rothschild" that is dated 29 June 1901 (table 2). Batty is unlikely to have trusted someone else to invoice, pack, and arrange for and pay shipping, so it is assumed that Batty had returned from Coiba to Panama City or Colón well before 29 June, the supposed date of his last specimen from Coiba (a *Molossus*). We know that this first shipment was received expeditiously because in the *Bulletin of the British Ornithologists' Club*, published 30 December 1901, Rothschild (1901) named *Leptotila battyi* and in the same issue Hartert (1901) named *Cyclorhis coibae* and *Aphantochroa cuvieri saturatior* (= *Cyclarhis gujanensis coibae* and *Phaeochroa cuvierii saturatior*) based on the Batty material from Coiba. These are very distinctive taxa and the Batty collection contains examples of other subspecies now known to be endemic to Coiba, so there is no question that Batty actually obtained some birds on that island.

In a letter to Rothschild of 14 August 1901 from the town of David, in the lowlands of Chiriquí (see appendix), Batty mentions a pet deer obtained on Coiba that he had taken "in hotels, coaches, steamers &c … when traveling

TABLE 2

List of Specimens from Isla de Coiba sent by Batty to Walter Rothschild, from a Copy in the Archives of BMNH

This list of 203 birds and 39 mammals is dated 29 June 1901 and is headed "Specimens sent from J. H. Batty Coiba I. to Hon. W. L. Rothschild." I have rearranged the sequence. Probable identities of birds are based on museum holdings. Mammal identifications are modified from Thomas (1902) and BMNH catalog records. * = there are now fewer specimens in the Rothschild collection at AMNH indicating that some may have been exchanged, sold, or discarded. § = there are now more specimens in the Rothschild collection at AMNH indicating acquisition of some in a subsequent shipment. The six specimens of King Vulture *Sarcoramphus papa* can be accounted for only by including four given to FMNH by Batty. Either Rothschild returned them to Batty or Batty did not include all six in the shipment. Rothschild apparently did not keep any of the shorebirds. Batty's "Mis"and "mis"' = miscellaneous. Some of these species do not actually occur on Coiba (see text). The six Finch's [sic] Parrots presumably refer to *Aratinga finschi*, but these specimens are entirely unaccounted for among the series in the first shipment and the species does not occur on Coiba. Six specimens of *Aratinga finschi* were later included among the 1902 series from the smaller islands (table 4).

Batty's Designation	Probable Identity
*6 King Vultures	*Sarcoramphus papa*
1 Falcon	*Harpagus bidentatus*
*2 Accipiters	*Buteo magnirostris*
1 Large Hawk	*Buteogallus anthracinus*
2 large black hawks	*Buteogallus anthracinus*
1 Rail	*Aramides cajanea*
*3 Plovers	not present
*1 sandpiper	not present
*1 turnstone	not present
1 Red billed Pigeon	Not accounted for
2 Mis Pigeons	*Columba cayennensis*
§6 Pigeons	*Leptotila battyi*
6 Red macaw	*Ara macao*
6 Large green Parrots	*Amazona autumnalis*
*3 Blue headed Parrots	*Pionus menstruus*
*6 Finch's [Parrots]	Presumably *Aratinga finschi* (see above)
6 Green paroquets	*Brotogeris jugularis*
1 Large Cuckoo	*Piaya cayana*
1 Large King-fisher	*Ceryle torquata*
5 Kingfishers	*Chloroceryle americana*
5 small swifts	*Chaetura vauxi*
3 Large green hummers	*Phaeochroa cuvieri*
6 Poorman's emeralds 1 mis' green hummer	*Chlorostilbon assimilis*
6 Blue-throated [hummers]	*Hylocharis eliciae*
3 White-bellied hummers	*Amazilia edward*
*6 Brown tailed [hummers]	*Amazilia tzacatl*
2 mis hummers	*Lepidopyga caeruleogularis*
6 Woodpeckers	*Melanerpes rubricapillus*
6 Brown chats (?)	*Thamnophilus doliatus* female
*6 [Brown] + white chats (?)	*Thamnophilus doliatus* male
6 Manakins	*Chiroxiphia lanceolata*
1 "shrike-like" bird	*Tityra semifasciata*
4 Large flycatchers	*Megarhynchus pitangua* *Myiodynastes maculatus*
§4 Large Pewee [flycatchers]	*Myiarchus panamensis*
*5 Mis [flycatchers]	*Tyrannus melancholicus* *Myiozetetes similis*
2 med. Pewee	*Elaenia flavogaster*
3 small [Pewee]	*???*

TABLE 2
(*Continued*)

Batty's Designation	Probable Identity
1 mis flycatcher	*Todirostrum cinereum*
3 Martins	*Progne chalybea*
1 Gnatcatcher	*Polioptila plumbea*
§2 wrens (large)	*Thryothorus leucotis*
*2 [wrens] (small)	*Troglodytes aedon*
2 Thrushes	*Turdus albicollis*
1 Large olive-backed thrush	*Turdus grayi*
2 mis. Tanagers	*Cyclarhis gujanensis*
6 mangrove warblers	*Dendroica petechia*
1 Brown-headed warbler	*Basileuterus rufifrons*
5 sugar eaters	*Coereba flaveola*
1 Water thrush	*Seiurus noveboracensis*
1 Blk + blue creeper	*Dacnis cayana*
6 Blue creepers	*Cyanerpes cyaneus*
6 S. R. Tanagers	*Ramphocelus dimidiatus*
*6 yel-throated finches	*Tiaris olivacea*
4 Blk seedeaters	*Sporophila americana*
*6 Greenish finches	*Saltator albicollis* *S. maximus*
4 Finchs [sic]	*Arremonops conirostris* *Sporophila angolensis*
1 Blk throated Bunting	*Spiza americana*
3 small yel breasted birds	*???*
1 Large grakle	*Quiscalus major*
2 yel' billed Blk Birds	*Amblycercus holosericeus*
6 [Coiba] Possums	*Didelphis marsupialis*
6 Blk Vampires	*Molossus coibensis*
1 small light [Vampire] 1 small bat	*Natalus stramineus*
1 Large brown Vampire	*Noctilio leporinus*
6 White-faced monkeys	*Cebus capucinus*
6 Blk Coiba Howlers	*Alouatta coibae*
6 [Coiba] agouti	*Dasyprocta coibae*
6 [Coiba] Deer	*Odocoileus virginianus*

for several months", which indicates that he had been travelling for "several months" after he left Coiba, and in fairly civilized surroundings, but prior to 29 June. This is not consistent with specimens from Coiba with June dates.

In the same letter (14 August 1901), Batty told Rothschild that "since writing you [presumably there was a letter accompanying the invoice of 29 June 1901], [I] have been on the following islands, viz Cebago, Gobernador, Contrera Secas, Parida Canalis & other islands" where there were "very few birds and but a few speci[es] different from those of Coiba". I interpret the islands or island groups intended to be Cébaco, Gobernadora, Islas Contreras, Secas, Parida, and Canal de Afuera. He repeats this information in his letter from Boquete of 6 September 1901 (see appendix): "On visiting other islands ne[ar] the coast, I found about the same spe[cies] as on Coiba which I though[t] you would not be interested in. Anything I did no[t] find on Coiba however I collected. I have 'done' the 'coast' islands most tho[r]oughly and will now work seaward as so[on] as the dry season commences. I shall [text missing] Coiba & Jicaron as I go to sea, to ge[t] any migrants not already taken". Yet right after saying that he has already thoroughly "done" the islands he mentions figuring with builders for a special boat for collecting on "the other islands".

Thus, Batty twice stated that he had been to the small islands in 1901 and surveyed them thoroughly and the birds were little different

from those of Coiba. Yet there are absolutely no Batty specimens from any of those islands with labels dated 1901 except for five specimens of mammals at AMNH from Isla Parida taken in November. As seen in the correspondence from W. W. Brown (MCZ archives, letter of 10 May 1901), getting to these islands would have been difficult and expensive, yet Batty did not send back any specimens from this supposed visit in 1901. Ultimately he sent Rothschild hundreds of specimens of birds dated 1902 containing a multitude of species that have never been obtained on Coiba or any of the other islands of the Veragua Archipelago, which is certainly not consistent with his statements that the birds were like those of Coiba.

Because Batty's letter places him in David on 14 August, when he said he would be off to the mountains in two days, the dates on some seven specimens from the upland locality Boquete labeled 2 August and one labeled 14 August are probably erroneous. Otherwise Batty's specimens from Boquete are dated from 19 August through 24 September 1901.

To judge from specimen labels, Batty moved very expeditiously from Boquete on 25 September and resumed collecting in the lowlands at Boquerón on 27 September. It would appear that Batty collected in the vicinity of Boquerón up until 17 December. After that date there is only a single bird labeled 26 December and three mammals labeled 29 December, all dates that may be considered doubtful. The dates of three additional mammals (*Mustela* and two *Macrogeomys*) cataloged as coming from Boquete on 24 and 25 December 1901 are likewise questionable. A single skin of a puma *Felis concolor* (AMNH 18948) was cataloged with the data "Boquerón 6 January 1902", and the catalog was annotated "Mr. Batty says he will send skull". This he apparently never did, and the skin has since been lost (R. Voss, AMNH, in litt., 10 Aug, 2000). In all likelihood this was a skin that Batty may have received incidentally from someone else, for which reason it had no skull, and the date is doubtful. Thus, the evidence from specimens suggests that Batty ceased collecting at Boquerón after 17 December, if not before, and may have been back in Panama City or Colón for the holiday. Apart from the series of specimens from the small islands of Panama supposedly collected in 1902, I could not uncover any archival material to document Batty's whereabouts between the time he collected specimens at Boquerón on 17 December 1901 and when he wrote to Rothschild from New York on 2 May 1902. Thus, there is no known independent evidence to establish that Batty, or anyone collecting for Batty, was in western Panama in 1902.

We learn much about Batty's methods in western Panama from a letter in the archives of the Museum of Comparative Zoology, Harvard University (MCZ), written by the collector Wilmot W. Brown to Outram Bangs at MCZ after Brown had left Panama and proceeded to Honduras:

> Ceiba, Spanish Honduras,
> Central America,
> Jan. 27, 1902
>
> Mr. Batty is collecting at Boquete and has been up there three months my correspondent informed me. His system of collecting is this.—As long as his collectors bring him birds he looses [sic] no time hunting himself, but devotes all of his time to making up skins. He has trained several men how to skin and he does most of the stuffing. He is collecting on the wholesale plan making up big series of all species. Under the circumstances he can hardly help making a fine collection. He also has two Americans working for him. Captain Hughes informed me that Batty was collecting for some rich man, but he could not remember the name. I believe Mr. Batty is collecting for the Tring Museum, but am not sure. When I was out to see F. B. Webster, both he and his taxidermist tried to jump me in regard to Panama, etc. Mr. Batty did not speak very well of Cambridge Naturalists, for some reason or other. He played you a mean trick in encroaching on your collecting ground. In my opinion it was a put up job. He could have gone to the Buenaventura region, as there was no revolution there [Brown's emphasis], when he arrived at Panama from New York. It makes me mad.

Batty was certainly not "put up" to collecting at Boquete and Boqueron by Rothschild,

who had no interest in specimens from the mainland, so this must have been at Batty's own initiative.

HISTORY OF SUSPICIONS REGARDING BATTY'S PANAMA COLLECTIONS

Rothchild's curator of birds, Ernst Hartert, must have had at least some suspicions regarding the origins of some of Batty specimens as we see from correspondence (appendix) in which Hartert must have cast some doubt upon the series of Three-wattled Bellbirds (*Procnias tricarunculata*) from Isla Cébaco. In looking at this series today, one sees that the specimens were clearly made by two different preparators—a few are of typical Batty make, but the rest are cruder, with the bills pointing upward. In itself this would not necessarily be a cause for suspicion, as Batty did have assistants. However, the more crudely prepared specimens are in the style of the collector Enrique Arcé and his relatives, who resided in the mountains of Chiriquí, and whose method of preparation was doubtless familiar to Hartert. Thus, Hartert may have suspected that Batty had obtained specimens that Arcé had collected in the highlands (which he did, as seen below) and was passing them off as being from the islands. Perhaps Hartert may also have thought that such a large, striking, montane species as the bellbird was unlikely to occur in the lowlands. The irony of this is that of all the montane species in Batty's 1902 series from the islands, the bellbird is the *only* one that actually has an altitudinal migration and that moves into coastal areas and islands during the nonbreeding season. Wetmore (1972: 306) found them to be common on Isla Cébaco.

If Hartert or Rothschild had further suspicions about Batty's 1902 specimens, the problem may have meant little to them because the series contained no new taxa. Rothschild's great wealth and avidity for specimens, especially of new taxa, tempted more than one dealer to manufacture false locality data, as his niece and biographer relates (M. Rothschild, 1983: 106).

Batty's 1902 island specimens would occasionally be mentioned without comment among comparative material examined in revisionary studies (e.g., Hartert and Goodson, 1917; and Zimmer's "Studies of Peruvian Birds", published in 66 parts in *American Museum Novitates* during the years 1931–1955), but received no attention as a collection until Eugene Eisenmann, a research associate at AMNH with a particular interest in Panama, discovered the Batty collection. Among the Coiba material he discerned that the specimens of *Turdus assimilis*, which is usually an upland species, were a distinct subspecies, a fact that had perhaps been overlooked because Batty, who seems to have had an aversion to dull-plumaged birds, had preserved only two specimens of it. In this case Eisenmann was fortunate, because *T. assimilis coibensis*, as he named it (Eisenmann, 1950), actually is one of the interesting endemics of Coiba, as was shown later by Wetmore (1957). Eisenmann also became enthused by all the montane species in the Batty series, and thought that the specimens' locality data indicated the species' substantial altitudinal migration. He prepared a manuscript on this migratory phenomenon, including a description of the new subspecies of *Turdus*, that was submitted to *The Auk*, whose editor, Harvey Fisher, forwarded it to Alexander Wetmore for comment. This initiated a revealing interchange between Wetmore and Eisenmann. The original correspondence is now preserved in the Smithsonian Institution Archives (accession 07-077), with copies in the Division of Birds, USNM, and Department of Ornithology, AMNH.

At the outset, Wetmore was very dubious about montane species occurring in the islands and in his response to Fisher (10 October 1949) he urged "Dr. Eisenmann to give further consideration to his data since he would not want to go into print with his material unless he was absolutely certain of his ground". He addressed the need to "make certain that there is not some confusion in data and that labels may not have been transposed or improperly made for some reason". Then, in looking over the data, which involved only a very small proportion of the Batty material, he noted several instances of duplication of dates, when specimens supposedly were taken on widely separated islands on the same day. He suggested that "it might be useful to build

up a complete itinerary of the dates from the entire collection to see what this might show. J. H. Batty was active before I became well acquainted here in the east so that I have no direct information concerning him. I have distinct recollection, however, of hearing of some difficulty with data on his labels in other collections''.

Wetmore wrote Eisenmann directly shortly thereafter (28 October 1949), mentioning the reservations he had expressed to Fisher and suggesting that he ''look a little further into the matter since Batty's records seem to me entirely out of line for some of the species''. He expressed further disbelief that ''such mountain species as *Catharus*, *Balanosphryra* [*Melanerpes formicivorus*] and *Myioborus* should occur in a region of lowland jungle. … It might be informative to take all of Batty's records and so build up an itinerary as indicated by his specimens''.

Eisenmann stated (2 November 1949) that he had initially had his own reservations, that he was certain that the montane species could not be *breeding* on the islands, but that ''if there is a seasonal altitudinal movement, the cool and windy dry season would be just the time when one would expect to find the birds in the lowlands''. He conjectured that ''there is no reason to doubt that [Batty] did visit the various islands off the Pacific coast of western Panama'' and cited as evidence the facts that Rothschild was interested in islands, that Goldman (1920) had referred to some of Batty's specimens of mammals from these islands and had cited Thomas's (1902, 1903) papers describing new species of mammals based on Batty material in his bibliography, none of which, however, is in any way relevant to establishing whether the data on the specimens are reliable.

Eisenmann did indicate that he had worked out a ''rough itinerary based upon label indications'' and concluded that Batty was not collecting in the mountains from 1 January to 7 February 1902, when he was supposed to be on the islands. It might be noted, however, that establishing where Batty was not in 1902 does not tell us where he was.

Eisenmann explained the overlap in dates between specimens from Cébaco in the east in Veraguas and those from Almijas and Burica Islands as due to Batty's hypothetical vessel and hypothetical assistants touching at these islands on returning to Chiriquí for some mission, notwithstanding that Isla Burica, for example, would be far off to the west of any port to which anyone would resort for supplies or any other reason (figs. 1, 4).

Eisenmann assumed that ''the number of mountain birds labeled from many different lowland localities on dates when Batty was undoubtedly in the lowlands could not be the result of mistakes, and I have no reason to suppose that Batty intentionally falsified''. In a follow-up letter (4 November 1949) he remarked that certain references in his manuscript showed that ''Batty is not the only person who has found mountain birds in the Panama lowlands'', although this statement applies to only five of 26 species, and records of two of those are highly dubious—*Eupherusa eximia* (see Wetmore, 1968: 339) and *Buarremon brunneinucha* by the same reasoning.

Wetmore relented and wrote (18 November 1949) that ''there is no question in my mind now from what you have written that the Batty specimens are authentic'', but still expressed reservations that certain species such as *Catharus* would move through such elevations, so that the populations on the islands must be resident. Here he first mentions a Batty specimen of *Cyclarhis* from Isla Jicarón that would eventually receive renewed attention because it was the same as the mainland subspecies, whereas the very distinct form *C. g. coibae* occurs on Coiba, between Jicarón and the mainland. Eisenmann then published the Batty records (Eisenmann, 1950), including the *Cyclarhis*, which was cited as another possible example of a mainland wanderer ''inseparable from Chiriqui highland birds''. That Jicarón might be expected to share taxa with Coiba is confirmed by a specimen of Tropical Pewee belonging to the Coiba subspecies *Contopus cinereus aithalodes*. This was among a series of five birds collected on Isla Jicarón on 24 March 1959 by P. T. Beaudette and J. R. Northern that are the only genuine specimens of birds known from that island (Olson, 2007).

But Wetmore continued to doubt. He began expressing his reservations in his monograph on Coiba birds (Wetmore, 1957: 6–8),

JANUARY 1902		Tue	Wed	Thu	Fri	Sat
Sun	Mon		1 Brava 1 Espartal 13 (2) Insoleta 6 (1)	2 Insoleta 16 (2) + 1 bird with no date	3 Cebaco 1	4 Secas 1
5 Palenque 1 Secas 4	6 Palenque 14	7 Leones 14	8 Ladrones 14	9 Ladrones 10	10 Afuera 19 (2)	11 Gobernador 15 (5) + 8 birds with no date
12 Gobernador 25 (5) Sevilla 15 (1)	13 Gobernador 22 (9)	14 Jicaron 14	15 Jicaron 11 (2)	16	17	18 Parida 9 (1)
19 Parida 15 Jicaron 1 Brava 1	20 Sevilla 25 (2)	21 Sevilla (29)	22 Sevilla 19 (1) Brava 1	23 Sevilla 35 (2) Parida 1	24 Sevilla 11 (2)	25 Sevilla 1
26 Brava 14 (1) + 1 bird with no date	27 Brava 46 (1)	28 Brava 43 (1) Sevilla 15 (4)	29 Brava 18 (2) Gobernador 1	30 Brava (21)	31	

FEBRUARY1902		Tue	Wed	Thu	Fri	Sat
Sun	Mon					1 Medidor 32 Espartal 5 Cabaco 7 (1)
2 Cebaco (17)	3 Cebaco 13 (3)	4 Cebaco 34 (2) Iguaros 11 Medidor 1 Burica 1 + 2 no date	5 Cebaco 18 (2) Iguaros 15 Brava 1	6 Almijas 25 (2) Cebaco 28 (4) Brava 2	7 Cebaco 24 (5)	8

Fig. 4. Calendar of Batty's "itinerary" in the islands of the Veragua Archipelago showing number of birds and mammals (in parentheses) labeled as being from a given island on the date shown in 1902. These data are presented to show the unlikeliness of the itinerary, as it now appears that Batty probably never collected on any of these islands except Coiba.

suggesting only that carelessness and mixing of specimens from different localities may have been responsible for various discrepancies involved with Batty specimens from Coiba. In the first volume of Wetmore's *Birds of the Republic of Panama* (1965: 223, 322) he was still rather reserved and said that records of *Leucopternis princeps* and *Odontophorus gujanenesis* from the small islands are "certainly erroneous" and "not to be trusted". By the second volume (Wetmore, 1968) he was more accusatory saying that specimens were "wrongly labeled" (*Elvira chionura, Selasphorus scintilla*; Wetmore, 1968: 341, 378); "with false locality" (*Trogon collaris*; Wetmore, 1968: 407); "questionable" (*Momotus momota*; Wetmore, 1968: 450); and "with falsified locality data" (*Melanerpes formicivorus*; Wetmore, 1968: 552). The issue did not arise in the third volume (Wetmore, 1972), which deals with suboscine passerines, because Batty collected very few of these birds owing, I believe, to their generally dull coloration. The fourth volume was finished posthumously (Wetmore et al., 1984) and the data for at least six species collected by Batty were questioned there as well. In the bound set of *The Auk* in the Smithsonian Institution Libraries, Wetmore at some point pencilled in the following annotation on Eisenmann's 1950 article on the Batty collection: "Many of these 'records' were faked by Batty!"

OVERALL CONTENT AND DISPOSITION OF BATTY SPECIMENS FROM PANAMA

As discussed above, the first material Batty sent from Panama was the Coiba collection sent from the field to Rothschild in 1901 (table 2). He followed this with the collection from the smaller islands sent to Rothschild from New York in 1902, which contained birds, mammals, and butterflies.

But Batty retained considerable other Coiba material, as well as all his mainland collections. A large lot of birds from this series was purchased from Batty by AMNH, where 683 specimens were cataloged in July 1902. At the same time, AMNH purchased 256 Panamanian mammals from Batty that were cataloged in June–July 1902. Among a large collection of mammals from various localities received at AMNH from Batty in December 1905 and cataloged mainly in May–June 1906 (but some not until 1909), is a series of 466 specimens from Panama. It is significant that among the birds in the first series there are no specimens whatever from any island except Coiba.

Batty provided 35 skins of birds from Panama to FMNH that were cataloged as a gift on 31 May 1906. There are 176 mammals at FMNH from Batty labeled as from Boquerón, Boquete, and a few from Coiba. Another lot of 610 Panamanian birds came to AMNH after Batty's death, as a gift either from his company or his estate, and was cataloged in March 1910. Among all the preceding material are only four specimens from the small islands—two *Buteo magnirostris* labeled Iguaros Island 5 February 1902 (one FMNH, one AMNH), *Tityra inquisitor* from Isla Espartal 1 February 1902, and *Thryothorus modestus* from Isla Medidor 1 February 1902. These almost certainly represent a few incidental specimens that had inadvertently been left out of Batty's shipment to Rothschild.

If Batty had actually collected specimens on the smaller islands, why did he not retain any duplicates that he would have passed along to AMNH and FMNH with his other material? Yet only four of 2226 specimens of birds and mammals sold or given to those institutions were from the smaller island localities. That Rothschild was the sole intended recipient of specimens from the smaller islands may be a reflection of Rothschild's interest only in specimens from islands.

PROBLEMS WITH SPECIMENS FROM ISLA DE COIBA

Birds from Isla de Coiba

Batty was the first bird collector to visit Isla de Coiba, although he was very nearly preceded by W. W. Brown, who had been instructed to go to Coiba by his employer Outram Bangs at MCZ. Brown deferred a trip to Coiba because the only passage he could find was by a steamer that would have had to detour to go to Coiba and would have charged Brown $200.00 (= ca. $4800 in 2007) (MCZ archives, letter of 10 May 1901).

Although we know for certain that Batty actually obtained specimens on Coiba, because of the distinctiveness of some of the taxa that are endemic to that island, he also included specimens that must have come from mainland localities even in the first collection that he sold to Rothschild and shipped from the field. Wetmore (1957: 7) called attention to some of these, but did not catch them all. In addition, the following species identifiable in Batty's invoice of specimens shipped to Rothschild dated 29 June 1901 (table 2) are not known to occur on Coiba: *Piaya cayana*, *Thryothorus modestus*, *Thryothorus leucotis* (2 specimens), *Turdus grayi*, *Dacnis cayana*, and *Amblycercus holosericeus* (2 specimens). Wetmore appears to have overlooked all of these save the *Turdus*, which was noted as "probably mislabeled" (Wetmore et al., 1984: 138). *Thryothorus leucotis* does not occur west of the canal area of central Panama, and the specimen of *Dacnis cayana* belongs to the subspecies *ultramarina*, rather than *callaina*, which is the form found in Chiriquí and Veraguas.

Other specimens labeled by Batty as from Coiba but are not known to occur there cannot certainly be traced to Batty's first lot of specimens: *Leptotila verreauxi*, *Manacus vitellinus*, *Myiozetetes similis*, *Megarhynchus pitangua*, *Saltator maximus*, and *Zonotrichia capensis*. All these were part of the Rothschild collection except *Manacus* and *Zonotrichia*, which were among the specimens

received directly at AMNH after Batty's death and cataloged in 1910. Wetmore (1957: 7–8, 14) remarked on the probable erroneousness of the *Leptotila*, *Zonotrichia*, and *Manacus*. No form of *Manacus* occurs on Coiba, and if one did it would surely be *M. aurantiacus*, which occurs from the Azuero Peninsula west into Costa Rica, and not *M. vitellinus*. Although Wetmore (1957: 64) observed a single *Megarhynchus* on nearby Isla Ranchería, he did not find it on Coiba and Batty's specimen labeled thus is from a lot that I regard as unreliable (see below). *Leptotila verreauxi* has now colonized Coiba (G. Angehr, personal commun.), probably as a result of forest clearing since 1901.

There is also the problem of apparent mainland specimens of species that do occur on Coiba but that have recognizably distinct subspecies there. Wetmore (1957: 7) considered Batty's Coiba series of *Centurus rubricapillus* and *Ramphocelus dimidiatus* to be mixtures of island and mainland subspecies. My comparisons and Wetmore's label annotations show that the same applies to *Thamnophilus doliatus*. I also found that the single Batty specimen of *Basileuterus rufifrons* supposedly from Coiba is not the endemic insular subspecies. Wetmore (1957: 8, 14; 1972: 339) thought that perhaps Batty had obtained this specimen from the collector Enrique Arcé, who lived in Chiriquí and also collected in Veraguas. Batty did obtain specimens from Arcé, but he may have had another source as well.

All of Batty's problem specimens from Coiba could easily have been obtained in the lowlands of central Panama, with the exception of the *Zonotrichia*, which is an upland species that Batty doubtless collected near Boquete. Chapman (1940: 415) included Coiba in the range of *Zonotrichia capensis costaricensis* based on the Batty specimen and he devoted a paragraph to this "significant exception" to the species' usual upland distribution. Batty's invoice of the first shipment never lists more than six of any species, except for the six males and six females of *Thamnophilus doliatus* he marked as as separate species. It was Rothschild's usual practice to pay for only six of each species, with any excess usually being passed on to a dealer (M. Rothschild, 1983: 158; LeCroy and Peckover, 1998: 257). Perhaps after Batty left Coiba he found that he had fallen short of his quota of some species and made up the difference with specimens of the same species from the mainland. If this supposition is correct, it may indicate just how little time Batty actually spent on Coiba, for he fell short of quota on all the endemic subspecies of birds that he encountered except the eponymous *Leptotila* and *Tiaris olivacea*. He probably did enlist the assistance of the locals for at least the macaws (22 specimens total, of which only six were sent to Rothschild) and perhaps hummingbirds. Even so, he failed to collect many of the other species of birds that are now known to occur on Coiba.

If Batty himself collected in central Panama there is no indication of it on any specimen in any of his other Panama collections (i.e., those not sold to Rothschild). He may have obtained some specimens from other collectors, but one contemporary can be ruled out: W. W. Brown collected in the Pearl Islands and central Panama in 1900 for Outram Bangs at MCZ (Bangs, 1900, 1901a) and in Chiriquí from October 1900 to August 1901 (Bangs, 1901b, 1902), but it is evident from his correpondence with Bangs (MCZ archives) that he did not encounter Batty before he departed the isthmus for Honduras in December 1901.

There are three distinct styles of labels in the series of birds from Coiba. The numbers I have given them below are, for consistency, those that I have used on file cards and in various notes, manuscripts, and computer files, even though it is now apparent that style 3 may have been the original label used in the field on Coiba.

Style 1: A thin strip of heavy paper with "Coiba I." and "J. H. Batty" stamped in ink by two different stamps on one side and the date (e.g. "JUN 25 1901") stamped on the other.

Style 2: A wider piece of paper with stamping as follows on one side:

"Col. S. A. Coiba I.
Alt. 190[1]
J. H. Batty"

Although the "1" in 1901 was written in by hand, the rest of the date is written on the verso. The altitude was most often left blank. "Col. S. A." stands for "Colombia, South America", of which Panama was still a part in 1901.

Style 3: Same as style 2 but with the date written in ink on the recto in the space for altitude.

Analysis of the Batty Coiba specimens by label style reveals several points of interest. First of all, the lot shipped to Rothschild from the field on 29 June 1901, includes specimens with all three styles of labeling. This suggests that Batty returned from Coiba and had time to obtain birds from central Panama, make up additional labels, and send off a shipment by 29 June, although it is possible that he collected prior to departing for Coiba. There is nothing in available archives to establish when Batty arrived in Panama prior to his collecting on Coiba.

The specimens with style 3 labels appear to be the "cleanest" in terms of belonging to species and subspecies that are known to occur on Coiba and for which there are few suspicious dates. The majority have dates from 16 through 21 April 1901, with only 11 specimens with dates from 22 to 28 April. One specimen of *Elaenia flavogaster* with the date of 8 April 1901 is dubious because this is eight days before the next specimen labeled from Coiba.

The style 3 series includes the following specimens that belong to taxa endemic to Coiba (or nearly so in the case of the dove): *Leptotila* (holotype and 3 paratypes), *Phaeochroa* (paratype), *Melanerpes* (3), *Thamnophilus* (1), *Turdus* (holotype and paratype), *Polioptila* (1), *Cyclarhis* (holotype and paratype), *Arremon* (1), *Saltator* (1, but with the dubious stamped date of 27 May). The only apparent problematic specimen is one mainland example of *Thamnophilus doliatus*. Wetmore queried two of the specimens of *Ramphocelus dimidiatus*, but the Coiba subspecies is not well marked. Likewise, the subspecies of *Thraupis episcopus* from Coiba is poorly differentiated, if valid (Olson, 1997), and I would not be prepared to say which of Batty's specimens of either species were certainly from Coiba.

The style 2 series is extremely "dirty" and appears to consist mostly of dubious specimens. All specimens with style 2 labels are from the Rothschild collection with the exception of one female *Chiroxiphia lanceolata* (AMNH 77485) from the 1902 accession and a *Saltator albicollis* (AMNH 106563) from the 1910 accession. The latter is of the Coiba subspecies *S. a. scotinus* and has an unsuspicious date of 16 April. There are three other specimens of *S. a. scotinus* from the Rothschild collection that also have style 2 labels and believable dates. All of the specimens noted above as not occurring on Coiba have style 2 labels except the *Piaya*, *Manacus*, and *Zonotrichia*, which have style 1. Furthermore, the single specimens of *Centurus rubricapillus* and *Basileuterus rufifrons*, and all six *Thamnophilus doliatus* with style 2 labels are mainland birds, and Wetmore doubted all three *Ramphocelus dimidiatus*. Dates on style 2 birds range from 7 April to 27 June 1901. Apart from the saltators just mentioned, there are no other specimens in this series that are demonstrably from Coiba and all may be regarded as dubious.

The specimens with style 1 labels are more problematic. The dates range from 3 May to 26 June, so there is no overlap with style 3 labels. Batty may have started out using style 3 in April and not until he ran out of these labels did he adopt style 1. Or possibly he ran out in the field and didn't put the remaining labels on the specimens until he got back to the mainland and had new labels made. My impression from studying the data from Batty's mainland Panama localities is that the date probably meant little to him and may likely represent the date that he wrote the label rather than when the bird was collected.

The style 1 series contains some unquestionable Coiba birds (3 *Leptotila*, *Phaeochroa* [holotype and paratype], *Thamnophilus*, *Troglodytes*, 5 *Tiaris*), and only a few that are obviously mislabeled (*Piaya*, *Manacus*, and *Zonotrichia*—the last two from the posthumous AMNH 1910 accession). The Coiba endemics range in date from 3 to 12 May; none of those from 14 May to 27 June are certainly from Coiba, although several *Ara macao* may well be correct as to locality if not to date. Macaws were still fairly common on Coiba during Wetmore's visit in 1956, are still

fairly common there today (A. Ibáñez, personal commun. to G. Angehr), and would probably have been easier for Batty to obtain on Coiba than anywhere on the mainland.

There were 293 specimens Batty specimens that could be located at AMNH and that still had original Batty labels from Coiba for which I recorded information on style. These were divided as follows: style 1, 175; style 2, 39; and style 3, 79. Thus, if the style 3 specimens represent the majority of those actually obtained on Coiba, this would provide additional evidence for the shortness of Batty's stay there.

Apart from missing specimens that may have been exchanged or discarded before the Rothschild collection was cataloged at AMNH, the Coiba material from the Rothschild collection corresponds very closely with Batty's invoice of 29 June 1901 (table 2). The only instance that I could detect where there were more specimens in Rothschild's collection than indicated on the invoice is for *Leptotila battyi*, of which seven were cataloged at AMNH whereas only six were on the invoice (provided this is the species meant by Batty's "6 pigeons"). Batty evidently held back at least a few specimens certainly from Coiba, probably because they were in excess of the six desired by Rothschild, as there were two skins of *Leptotila battyi* in the posthumously obtained 1910 series at AMNH, which also contained 12 *Ara macao* that are most likely of Coiba origin.

The nature of the specimens supposedly from Coiba received directly at AMNH and cataloged in 1902 and 1910 merits discussion. With very few exceptions, these are of colorful species with potential resale value in the millinery trade or for mounts of "exotic" birds, consisting of parrots, hummingbirds, manakins, *Ramphocelus* tanagers, and a very large series of the brilliant Red-legged Honeycreeper, *Cyanerpes cyaneus*. The 1902 lot contains no Coiba endemics and with three exceptions all the specimens bear late dates (18 May–27 June 1901) when Batty probably was not on the island. The exceptions are *Amazona autumnalis* (12 May), *Elaenia flavogaster* (18 April), and *Todirostrum cinereum* (12 May). The last two are likewise atypical for this series in not being showy and may thus be more likely to have been taken on Coiba. I regard the provenance of the rest of this lot as highly suspect.

The posthumous 1910 series is more of a hodgepodge. It contains the two *Leptotila battyi* and series of *Ara* mentioned above as certainly or probably obtained on Coiba, but also the *Zonotrichia* and *Manacus* that obviously were not. Many of the specimens have late dates, but there are a fair number with less suspicious April dates and there are several nonmillinery types included such as *Elaenia*, *Myiodynastes*, *Buteo*, *Sporophila angolensis* (see Olson, 2007), and *Saltator albicollis*. The last two species have genuine locality data as they belong to endemic subspecies.

Evidence that Batty mixed specimens from other collectors in with his Coiba material is shown by a few specimens—*Buteogallus anthracinus*, two *Arremonops conirostris* (not the Coiba subspecies), and *Chiroxiphia lanceolata*—that all bear a round paper tag with only the sex indicated on it, which was not Batty's practice. Most of these specimens have no "original" label and no data other than "Coiba", although the manakin is dated "June".

Mammals from Isla de Coiba

Batty sold a series of specimens of mammals to Rothschild as coming from Isla de Coiba, the five non-chiropteran taxa of which were studied and described by Thomas (1902). These are now in BMNH and all except *Cebus hypoleucus* (now *Cebus capucinus imitator*) were named as new species or subspecies as follows: *Alouatta palliata coibensis*, *Dasyprocta coibae*, *Dama rothschildi*, and *Didelphis marsupialis battyi*. Most have continued to be recognized as Coiba endemics, the current nomenclature (Wilson and Reeder, 2005) being *Alouatta coibensis*, *Dasyprocta coibae*, *Odocoileus virginianus rothschildi*, and *Didelphis marsupialis caucae*. Batty's original shipping invoice (table 2) indicated that he sent six of each of these species. Rothschild may have discarded some of them before they were studied by Thomas, and others seem to have disappeared since. For each, the numbers in parentheses represent the size of the series studied by Thomas (1902) followed by the number cataloged at BMNH: *Cebus* (6/5),

Alouatta (6/5), *Dasyprocta* (5/5), *Odocoileus* (2/6), and *Didelphis* (4/4). Additional specimens of each of these taxa, all collected by Batty, are in AMNH collections, the opossum and the deer having received further study by J. A. Allen (1902, 1904a, 1910).

Since Batty's visit there has never been a proper survey of the mammals of Isla de Coiba and apart from a series of 34 *Alouatta* (USNM) collected there in January 1950 by the Panama Health Department Yellow Fever Control Program, I know of no specimens of mammals from the island other than those supplied by Batty. Alexander Wetmore, who collected birds on Coiba in 1956, supplied Charles O. Handley, Jr., with a list of the nonvolant mammals he observed or was told occurred on the island. This included the same five species listed by Thomas, plus the house mouse (*Mus musculus*), although Wetmore confused the deer with the brocket (*Mazama*), probably because of its small size.

Thus, all the taxa claimed for Coiba by Batty evidently actually occur there. On the other hand, whether all the specimens in the BMNH collections came from Coiba may be doubtful, because, as we have seen, the series of birds that Batty sent to Rothschild was heavily mixed with specimens from the mainland. All Batty's mammal specimens from Coiba in BMNH are dated May or June, as were most of the problematic Coiba birds. Allen (1902: 264–265), who studied the series of *Didelphis* at AMNH, found that if "the females of the Coiba Island series and the females of the Boquerón and Boquete series be taken as the basis of comparison, the apparent difference in size practically vanishes". The type and other sexed specimens in Thomas's series of *D. m. battyi* were all females. I would suggest that all of the supposed endemic mammals of Coiba need to be re-examined in comparison with authentic specimens to ascertain which are valid endemics and whether Thomas's type specimens are actually representative of the insular taxon.

Batty's original shipment of Coiba specimens also contained "6 Bl[ac]k Vampires", which probably applies to the five specimens at BMNH cataloged as *Molossus obscurus*. Allen (1904b) based *Molossus coibensis* on Batty specimens from Coiba at AMNH, a species later determined to be widespread on the Panamanian mainland (Handley, 1966: 772). Batty's "1 small bat" and "1 small light [Vampire]" sent to Rothschild are probably the two specimens of *Natalus stramineus* from Coiba at BMNH. This species is also listed for Coiba by Handley (1966), possibly on the basis of the Batty specimens, however. The specimen of "Large brown Vampire" presumably corresponds to BMNH 1902.3.5.1 entered as "*Noctilio*", which is still present in the collection among other specimens of *Noctilio leporinus* (Paula Jenkins, in litt., 19 January 2007). This species apparently has not otherwise been recorded from Coiba (Handley, 1966).

BATTY'S 1902 COLLECTIONS FROM THE SMALLER ISLANDS OF THE VERAGUA ARCHIPELAGO

Batty's collections from the smaller islands of Chiriquí and Veraguas with label dates of 1902 consist of a series of about 850 birds and 49 hummingbird nests, more than 230 mammals, and an unknown number of Lepidoptera. From the data I have assembled and shown in figure 4, these hundreds of specimens were supposedly collected on 17 different islands on 33 days between 1 January and 7 February 1902, although there were five days in this interval with no specimens of birds. This averages out to 25.5 bird skins, 1.6 hummingbird nests, and 7 mammals per day of collecting, and 1.9 field days per island. And these were mostly islands that Batty had previously told Rothschild he had "done" thoroughly in 1901. In contrast with his treatment of Coiba specimens, where he may have attempted to make it appear as though his period afield was greater than it actually was, his time among the smaller islands appears to have been compressed into fewer days than possible to accomplish as much collecting as the specimen labels indicate.

The island names that Batty used and the names in use for the same islands today appear in table 3. There are no original field labels for any of the specimens of birds dated 1902. On all of those labels the name of the island and "J. H. BATTY" was stamped on the recto and the date was stamped on the verso. This would have required 17 separate stamps just for the

TABLE 3
Names of the Islands of the Veragua Archipelago from which J. H. Batty Sold Specimens Dated 1902 and Their Modern Equivalents
Names in **boldface** are of islands from which specimens of birds have been obtained by other collectors (see Olson, 1997). Although Batty mentioned the Islas Contreras in his letter to Rothschild of 14 Aug 1901, he did not label any specimens with this locality.

Batty's Label Name	Current Usage
Afuera	**Canal de Afuera**
Almijas (sic = Almejas)	Sabaneta
Brava	Boca Brava
Burica	Burica
Cebaco	**Cébaco**
Espartal	Toro
Gobernador	**Gobernadora**
Iguaros	Los Higueros
Insoleta	La Porcada
Jicaron	Jicarón
Ladrones	Ladrones
Leones	Leones
Medidor	Canales de Tierra
Palenque	Bóquita
Parida	**Parida**
Secas	Secas
Sevilla	Sevilla

different islands. None of Batty's specimens from elsewhere in Panama have similar labels.

Comparing the dates and sequence of islands visited with number of specimens (fig. 4) with the geography of the region (fig. 1) shows that even if one ignores the occasional odd specimen that seems out of place, the sequence and timing of islands visited is completely impossible and illogical if one assumes a single boat party. Even assuming that Batty had a well-trained assistant who could have collected independently and, even more unlikely, that he could have hired two reliable boats (or could have afforded them), one cannot reconcile the dates and localities on Batty's 1902 labels. Given eastern and western collecting parties, the itineraries still would be completely impractical (figs. 1, 4). Batty was consistent in one respect, however, in that the dates and localities given for birds coincide with those given for mammals and also for the one insect that was traced.

Some interestingly suspicious patterns emerge from analyzing the 1902 series of birds from the standpoint of Rothschild's general policy of purchasing a maximum of six specimens per species. Presumably this meant six per island, as in many cases there are more than six specimens for a given species in the series. In only six instances were there more than six specimens of a species for a single island: three hummingbirds, a jacamar, the bellbird *Procnias tricarunculata*, and the honeycreeper *Cyanerpes cyaneus*—all birds that are attractive or interesting in appearance. When one looks at the totals for any given species for all islands combined, a distinct pattern emerges. When the totals exceed six, there are eight species with a total of seven; four with a total of eight; six with a total of nine; and 22 with a total of 10, so that 10 appears to have been a cutoff point either imposed by Rothschild or self-imposed by Batty. The total of 10 was achieved apparently in a random fashion—e.g., all from one island (*Phaethornis striigularis*), or two (*Amazona*, *Galbula*, *Aulacorhynchus*, *Procnias*, *Cyanerpes lucidus*), and up to nine (*Amazilia tzacatl*). In only one instance was the total 11 specimens (*Campephilus*). Totals in excess of 10 are seen only in five hummingbirds, a trogon, the honeycreeper *Chlorophanes*, and the antbird *Gymnocichla*—again, all birds of

attractive or interesting appearance. While inconclusive in itself, the totals being skewed towards 10 may be suggestive of manipulation of the data.

Species Composition of Batty's 1902 Bird Collections

When Batty's collection from the smaller islands is broken down by species and island (table 4), it becomes inescapable that the data on the labels cannot be correct. A large majority of the species have never been recorded from Coiba or any of the other islands of Veragua Archipelago by any other collector or visitor (Olson, 1997). Furthermore, as noted in Eisenmann (1950) and in the correspondence preceding publication of his paper, many of these are highland species including the hawk *Leucopternus princeps*, the hummingbirds *Colibri thallasinus*, *Eupherusa eximia*, *Elvira chionura*, *Lampornis castaneoventris*, and *Selasphorus scintilla*, the toucan *Aulacorhynchus prasinus*, the woodpeckers *Piculus rubiginosus* and *Melanerpes formicivorus*, the thrushes *Myadestes melanops* and *Catharus aurantiirostris*, the warblers *Vermivora gutturalis, Myioborus miniatus*, and *Basileuterus melanogenys*, the tanagers *Piranga bidentata* and *P. leucoptera*, and the finch *Buarremon brunneinucha*. No one before or since has found these species in the lowlands of Panama or on any island. The hawk *Buteo jamaicensis* and the manakin *Corapipo leucorrhoa* are likewise essentially montane species in Panama and unlikely to be encountered in the lowlands and especially on small islands.

Wood-quail (*Odontophorus*), jacamars (Galbulidae), puffbirds (Bucconidae), and piculets (*Picumnus*) have never been recorded on any coastal island of Panama. Squirrel cuckoos (*Piaya*), owls (Strigidae) other than *Otus choliba*, potoos (Nyctibiidae), trogons (Trogonidae), motmots (Momotidae), toucans (Ramphastidae), woodhewers (Dendrocolaptidae), and jays (Corvidae) are unknown on any of the Pacific islands of Panama and generally occur only on the largest and most landward of the Atlantic islands of Bocas del Toro, if there (Olson, unpubl. data). Only three species of antbirds (Formicariidae) are known from all the Pacific islands of Panama, only one of which (*Thamnophilus doliatus*) was included among the eight species of this family in the Batty material from the small islands of the Veragua Archipelago.

The toucans *Pteroglossus torquatus* and *P. frantzii* have never been found sympatrically, yet Batty labeled specimens of each from Isla Cébaco, where Wetmore found no toucans of any kind (Olson, 1997). The eight Batty specimens of *Galbula ruficauda* from Isla Cébaco (with an additional two from Gobernador) are twice the number of this species that Wetmore obtained throughout Panama in 22 years of collecting there and it is of interest that Batty could have collected so many, regardless of their source.

Study of table 4 shows that species tend to crop up at random on the various islands, with the "rarer" ones seldom occurring on adjacent islands. In 1902 there was no theory of island biogeography (MacArthur and Wilson, 1967), but Batty may have had some idea that one would expect more species on a larger island, because the largest island (Cébaco) has by far the most species (71). On the other hand, the figure for Isla Jicarón (15) is suspiciously low, whereas those for Sevilla and Brava (64 and 62, respectively) seem much too high, particularly compared with the low figure of 35 species for Gobernador. Other highly unlikely patterns may also be seen, such as the lack of any species of hummingbird on Espartal; on Insoleta there are no hummingbirds, no oscines except jays, but three species of trogons; on Leones no nonpasserines except *Galbula*; on Iguaros no subsoscines; only four species of passerines from Gobernador, etc.

It seems highly unlikely that Batty would have troubled to land at Secas and collect only two *Falco sparverius*, one *Leptotila verreauxi*, and two *Dendroica pensylvanica*. It is even less likely that he would have sailed to distant and isolated Isla Burica to obtain only three specimens—two *Streptoprocne zonaris* and one *Melanerpes formicivorus*, although the latter, a strictly montane species, would certainly have been a prize.

By far the majority (65%) of the species in the collection occur on only one (56) or two (48) islands, and in the latter case often widely separated. Only 18 species have a distribution including five to nine islands. Some species

TABLE 4

Numbers of Specimens of Birds Putatively Collected in 1902 on Islands of Western Panama by J. H. Batty

Data are taken mainly from catalogs and some identifications may have been changed. Islands are presented in more or less west-to-east and north-to-south sequence. Island names are as they appear on Batty labels. The few specimens labeled as coming from Burica I. and Secas Is. are omitted here but mentioned in the text. Only those species in boldface have been documented to occur on any of the smaller islands of western Panama (Olson, 1997). An asterisk (*) indicates a species that occurs on Isla de Coiba. N = nest (hummingbirds only). Caution: These data are believed to be entirely fraudulent and should never be regarded as representing the actual distribution of organisms in this archipelago.

	LADRONES	IGUAROS	ALMEJAS	SEVILLA	BRAVA	PALENQUE	PARIDA	ESPARTAL	INSOLETA	MEDIDOR	AFUERA	JICARON	LEONES	GOBERNADOR	CEBACO
Cochlearius cochlearius				1											
Circus cyaneus					1										
**Accipiter bicolor*														1	
Buteo magnirostris		2		5	2							1			
Buteo jamaicensis					1		2								
Leucopternus princeps															1
Buteogallus urubitinga					2									1	
Buteogallus anthracinus							1							1	
Spizaetus ornatus														1	
Herpetotheres cachinnans				3			2							4	
Micrastur ruficollis				1	1										
Caracara plancus					1										
Falco sparverius		1			3					3				1	
Ortalis cinereiceps															1
Odontophorus gujanensis															2
Aramides cajanea		1		1			2							1	2
Columba cayennensis														1	
Columba speciosa		1			3										
Columbina talpacoti				3											
Claravis pretiosa							1							3	
Leptotila verreauxi				2			1	1				1		1	1
Geotrygon montana					1										4
Aratinga finschi	2				3										1
Aratinga pertinax				6	1				1					1	1
**Brotogeris jugularis*	3							2				1			
Pionus menstruus				1	2		1		2			2		2	

TABLE 4
(*Continued*)

	LADRONES	IGUAROS	ALMEJAS	SEVILLA	BRAVA	PALENQUE	PARIDA	ESPARTAL	INSOLETA	MEDIDOR	AFUERA	JICARON	LEONES	GOBERNADOR	CEBACO
**Amazona autumnalis*									4						6
Piaya cayana				1	3		1	1	2					1	1
**Crotophaga ani*		2		1				1		1				3	2
Otus choliba					2										
Pulsatrix perspicillata							2								
Ciccaba virgata												1			
Nyctibeus griseus				1											
Chordeiles acutipennis														1	
Caprimulgus carolinensis								1							1
Streptoprocne zonaris			1	2											1
Glaucis aeneus			5+N		1										
Phaethornis striigularis					10+4N										
**Phaeochroa cuvierii*		1+N			1										
Florisuga mellivora				2							2				
Colibri thalassinus														1	1+2N
Klais guimeti														2	
Chlorostilbon assimilis				2		2						4+2N		5+N	2+N
Thalurania colombica					1										
Hylocharis eliciae	3		1	1+N	3+N	1				2	2	1+N			
Amazilia decora	1			1+N	1	3				1	2			11+4N	6+5N
**Amazilia edward*				2+2N	3	1				4					
Amazilia tzacatl	2+N	1	1	3+2N	1	2					1	1+N			1+N
Eupherusa eximia				2+N											1+2N
Elvira chionura														5	10+6N
Lampornis castaneoventris							1+N							2+2N	1
Heliothryx barroti				2			1+N								
Heliomaster longirostris	1				5										1+N
Archilochus colubris				1+N										1+N	
Selasphorus scintilla														2	2+N
Trogon massena				6				1							
Trogon bairdii				1										2	

TABLE 4
(*Continued*)

	LADRONES	IGUAROS	ALMEJAS	SEVILLA	BRAVA	PALENQUE	PARIDA	ESPARTAL	INSOLETA	MEDIDOR	AFUERA	JICARON	LEONES	GOBERNADOR	CEBACO
Trogon aurantiiventris				1	1				1					2	
Trogon rufus									1						1
Trogon violaceus			1	2	2			1	4					2	1
**Ceryle torquata*						1		1	1						
Momotus momota				2	4									3	1
Galbula ruficauda													2	8	
Malacoptila panamensis				3										2	3
Aulacorhynchus prasinus					3										7
Pteroglossus torquatus															1
Pteroglossus frantzii					4									4	1
Selenidera spectabilis				1											
Ramphastos swainsonii															3
Picumnus olivaceus		1													
Piculus rubiginosus				1							1				
Dryocopus lineatus				4	1	1	1								1
Melanerpes formicivorus				2											
Melanerpes rubricapillus			1	4						4					
Campephilus guatemalensis				1	4			1							5
Xiphorhynchus guttatus				3											
Lepidocolaptes souleyetii		1	1							2					
Automolus ochrolaemus				1											
Xenops minutus		2	1	1						1					
Taraba major				2	1										1
**Thamnophilus doliatus*				7						1					1
Thamnophilus bridgesi		4	1							2					1
Myrmotherula schisticolor															1
Microrhopias quixensis						1									
Cercomacra tyrannina			1		1										
Gymnocichla nudiceps		3	2	3	2					3					2
Myrmeciza exsul		1		5											
Cotinga ridgwayi															6

TABLE 4
(*Continued*)

	LADRONES	IGUAROS	ALMEJAS	SEVILLA	BRAVA	PALENQUE	PARIDA	ESPARTAL	INSOLETA	MEDIDOR	AFUERA	JICARON	LEONES	GOBERNADOR	CEBACO
Procnias tricarunculata														1	9
Corapipo leucorrhoa															1
****Chiroxiphia lanceolata***					3		1								2
Manacus aurantiacus					1		1								3
Schiffornis turdinus															1
**Capsiempis flaveola*															1
Onychorhynchus coronatus														1	
Myiobius atricaudus															1
****Myiarchus panamensis***					4										
**Myiarchus crinitus*					1										
Megarhynchus pitangua						1			2			3			1
Myiozetetes similis					1	1					2				
****Tyrannus melancholicus***	1		1		3				1				2		
****Tityra semifasciata***				2				1							
Tityra inquisitor				1	1			1							
****Progne chalybea***					6										
Cyanocorax affinis					6				4						
Thryothorus modestus										3					
Thryothorus fasciatoventris		1		1	1										
Thryothorus rutilus		1	2												
Myadestes melanops					1										2
****Turdus assimilus***															1
Turdus grayi				2	1			1			2		1		3
Catharus aurantiirostris											1				1
Ramphocaenus melanurus		2								2					
**Cyclarhis gujanensis*												1			
Vireo flavifrons															1
Vireo gilvus				1											1
Helmitheros vermivorus															1
Mniotilta varia				1											1
Vermivora gutturalis					3										1

TABLE 4
(*Continued*)

	LADRONES	IGUAROS	ALMEJAS	SEVILLA	BRAVA	PALENQUE	PARIDA	ESPARTAL	INSOLETA	MEDIDOR	AFUERA	JICARON	LEONES	GOBERNADOR	CEBACO
**Parula pitiayumi*					1										
***Dendroica petechia aestiva*					1		1								1
Dendroica fusca															1
Dendroica pensylvanica				1			1							1	2
**Seiurus noveboracensis*	1														1
***Oporornis formosus*															2
Oporornis philadelphia	1														2
Wilsonia pusilla											1				
Wilsonia canadensis															1
Myioborus miniatus					3										4
Basileuterus melanogenys															1
**Basileuterus rufifrons*															4
**Spiza americana*					1										
Psarocolius decumanus				6	2				1						
Amblycercus holosericeus				2						3					
**Icterus galbula*	2				3								1		
Sturnella magna															3
Euphonia luteicapilla					1		1								3
Euphonia laniirostris					2		1								
Tangara larvata		1	5	4											
Tangara gyrola				6		1					1		1		
Tangara icterocephala															1
**Thraupis episcopus*				1				1			3	2	3		
**Ramphocelus dimidiatus*	4				3		1								
Ramphocelus passerinii														2	1
***Piranga rubra*	2			1	3		1	2			1				
Piranga bidentata					6							1			
Piranga leucoptera												1			
Eucometis penicillata				1								2			
Rhodinocichla rosea				2											
***Coereba flaveola*				1											

TABLE 4
(*Continued*)

	LADRONES	IGUAROS	ALMEJAS	SEVILLA	BRAVA	PALENQUE	PARIDA	ESPARTAL	INSOLETA	MEDIDOR	AFUERA	JICARON	LEONES	GOBERNADOR	CEBACO
Chlorophanes spiza	1		1	1	3			1					3		3
Cyanerpes lucidus				9			1								
***Cyanerpes cyaneus**				5	1		1								2
Dacnis venusta			1					1					1		
Dacnis cayana	1			2							1				
***Saltator maximus**				2	3										
***Saltator albicollis**					2							2			1
***Cyanocompsa cyanoides**				1											
Buarremon brunneinucha				3											
Arremon aurantiirostris										2				1	
**Arremonops conirostris*					2										
Total number of species	14	17	16	64	62	11	22	16	12	15	11	15	8	35	72

that are actually known to occur in the islands and might be expected to be widely distributed are found on suspiciously few islands: *Buteogallus anthracinus* (2), *Columba cayennensis* (1), *Geotrygon montana* (2), *Myiarchus panamensis* (1), *Tyrannus melancholicus* (4), *Progne chalybea* (1), *Dendroica petechia* (3), *Coereba flaveola* (1), *Cyanerpes cyaneus* (4), *Saltator albicollis* (3).

Another factor contributing to the suspect nature of the Batty 1902 series is habitat. Maps and satellite photographs show that Batty's islands of Almijas (Sabaneta), Iguaros (Los Higueros), Palenque (Bóquita), and Sevilla are almost entirely in mangroves, although all but Los Higueros have some nonmangrove forest on higher ground (G. Angehr, personal commun.). There are many candidates among those species labeled by Batty as coming from those islands that have probably never occurred in a mangrove swamp, but the following should suffice for the present purposes: *Heliothrix barroti*, *Trogon massena*, *T. bairdii*, *T. aurantiiventris*, *T. violaceus*, *Momotus momota*, *Malacoptila panamensis*, *Selenidera spectabilis*, *Dryocopus lineatus*, *Melanerpes formicivorus*, *Taraba major*, *Gymnocichla nudiceps*, *Myremeciza exsul*, *Rhodinocichla rosea*, and *Buarremon brunneinucha*.

If the data on the 1902 specimens was manufactured it is not surprising that discrepancies would manifest themselves in small ways as well. For years Allan R. Phillips occupied himself with painstaking investigations of details of molt, plumage, and geographic variation of North and Central American birds (Hubbard, 1997). In 1964 Phillips annotated a Batty specimen of *Contopus sordidulus richardsoni* (AMNH 497526) supposedly taken on Isla Ladrones on 9 Jan 1902 with the remark "data not authentic; a fall adult".

Hummingbirds with Nests

There is probably no more egregious evidence of deceit in the labelling of the 1902 specimens than the series of hummingbird skins and supposedly associated nests and eggs that were sold to Rothschild as coming from the smaller islands. It is probably significant that there are no hummingbird nests or eggs from Coiba among any of the Batty material. Rothschild's egg and nest collection was not part of the sale to AMNH and went to BMNH with the Rothschild bequest of 1937. Presumably because the skins were associated with the nests, they were also conveyed with the oological collection. The skins had long been segregated as suspect at BMNH upon the advice of Alexander Wetmore. Had Eisenmann (1950) been aware of this collection he could hardly have failed to conclude that the Batty material might be seriously tainted.

Concerning these specimens Batty wrote to Rothchild from New York City on 13 May 1902, as follows:

> I ship you per Am. Express today specimens of Natural History as per inclosed bill. Knowing you are particularly interested in "Hummers" I made a collection of 53 nests. When first collected nearly all had eggs and some young, but the traveling ants destroyed the young, and many of the eggs. However there are yet many eggs left and "hummers" with all nests but three. Many of the birds I caught alive on the nests at night.
> I have not put any price on the nests you can add to memorandum sent what you consider them worth.

Forty-nine nests are still extant and have BMNH register numbers N193.715 through N193.763, and there are 64 skins numbered 1960.21.1 through 1960.21.64 (including three not from Panama). Two nests have no associated skins. All of the remaining skins have a Batty nest number, written in ink across the threaded end of the tag, associating them with a particular nest, Batty's numbers ranging from 1 to 53. The most strikingly unbelievable aspect of this series is that of the 65 skins, all but 23 are males. It is well known that most male hummingbirds take no part in nest building or rearing of young, so it would have been quite impossible under Batty's field conditions ever to associate a male hummingbird with a nest, to say nothing of dozens of them.

Furthermore, only three of the species in the Batty series are actually known to occur on any of the Pacific islands of Panama, including Coiba. Five of the species in Batty's series are

strictly montane and are unknown even as stragglers in the lowlands, and certainly do not breed there (*Colibri thalassinus*, *Eupherusa eximia*, *Elvira chionura*, *Lampornis castaneoventris*, *Selasphorus scintilla*).

The Batty series also contains two male specimens of Ruby-throated Hummingbird (*Archilochus colubris*) associated with nests from Panama, which is plainly impossible because this species breeds nowhere closer to Panama than southern Florida. This is a very rare species in Panama in any event.

Batty's hummingbird nests have now been segregated from the main collection at BMNH and "they all fit into about 3–4 main 'groups' with very similar dimensions (depth, diameter, cup depth, cup diameter, support diameter, etc.), the nest layers and linings are also v[ery] similar and could be grouped accordingly" (D. G. D. Russell, BMNH, in litt., 16 May 2006). This would fit with the nests being those of a few common species that could be easily found on the mainland, perhaps even in a disused state, hence the story about the ants eating the eggs and young.

Mammal Specimens from the Smaller Islands

Among the Batty mammals at AMNH are three specimens of the opossum *Caluromys derbianus* from Isla Parida with dates of 19 and 27 November 1901, and two of the sloth *Choloepus hoffmanni* with the dates 22 and 25 November 1901. This was during the period when Batty was at his lowland station at Boquerón and there are specimens of birds from Boquerón that are labeled with the same dates, though only one on 27 November. There are no birds and no other mammals from Parida in any of Batty's collections with a date of 1901. Thus Batty may have gone to Isla Parida himself on at least some of these dates, or more likely a few specimens were brought to him by someone else. They constitute the only plausible evidence that Batty ever obtained a scientific specimen from any Panamanian island other than Coiba, and the dates do not agree with the dates of specimens from Parida sold to Rothschild (18–19, 23 January 1902). On the other hand, maybe even these data are suspect, as sloths are evidently not known to occur on any of the islands of the Veragua Archipelago, although *Caluromys* is known from the large island of Cébaco.

Batty's series of mammals from the smaller islands of the Veragua Archipelago dated 1902 and sold to Rothschild was worked up by Thomas (1903). The localities and dates coincide exactly with those of the birds from the same islands. The 1903 date given for some of the primates from this collection (Napier, 1976) is due either to a cataloging error or to confusion with the year of Thomas' (1903) publication. Mammalian taxa in the Batty series and their supposed distributions on the islands are summarized in table 5. The locality "Tologa" given by Thomas (1903: 42) for a specimen of *Didelphis marsupialis* is nonexistent. Nor is it an error for the island of Taboga, which lies much farther to the east, nearer the Pacific terminus of the canal. In his letter of 2 May 1902, to Rothschild (see appendix), Batty mentions a steamer "Taloga" that was supposedly taken by rebels, and this may somehow have gotten transposed into a locality.

Relatively little has been documented about the mammalian faunas of the Veragua Archipelago with the exception of Isla Cébaco and to a lesser extent Gobernadora. Edwin L. Tyson, with several assistants and accompanied most of the time by Alexander Wetmore, mist-netted and trapped mammals intensively on Cébaco in 1965 (Olson, 1997). A less intensive effort was made on Isla Gobernadora. I have summarized Tyson's findings from catalog records at USNM.

The only nonvolant mammals obtained by Tyson on Cébaco were three species of opossums (*Caluromys derbianus*, *Philander opossum*, *Chironectes minimus*), two rodents (*Zygodontomys brevicauda*, *Dasyprocta punctata*), and a rabbit (*Sylvilagus brasiliensis*). Batty's collection from Cébaco did not include *Philander*, *Chironectes*, *Dasyprocta*, or *Sylvilagus*, but did include two species of *Sciurus*, *Reithrodontomys*, *Sigmodon*, *Proechimys*, *Tamandua*, *Choloepus*, and *Didelphis*, which, had they actually occurred on the island, would surely have been encountered by Tyson.

The only nonvolant mammals found by Tyson on Isla Gobernadora were *Philander*

TABLE 5

Numbers of Specimens of Mammals Putatively Collected in 1902 on Islands of Western Panama by J. H. Batty

Data are taken mainly from Thomas (1903) with nomenclature following Handley (1966). Islands are presented in more or less west-to-east and north-to-south sequence. Caution: These data are believed to be entirely fraudulent and should never be regarded as representing the actual distribution of organisms in this archipelago.

	ALMEJAS	SEVILLA	BRAVA	PALENQUE	PARIDA	ESPARTAL	INSOLETA	AFUERA	JICARON	GOBERNADORA	CÉBACO
Alouatta palliata	1	5					2				
Saimiri oerstedii	3	3									
Molossus coibensis										1	
Carollia perspicillata		4	6				2		3	1	4
Glossophaga soricina			16	1	2		1		3	4	17
Uroderma bilobatum		1	4				1		1	3	1
Artibeus watsoni		1									2
Platyrrhinus helleri		1									
Potos flavus	2	2			1						
Sciurus variagatoides		3	3				2				1
Sciurus granatensis		1					1				5
Rattus rattus			20								14
Zygodontomys brevicauda											6
Reithrodontomys sp.											2
Sigmodon hirsutus											8
Proechimys semispinosus			2							15	13
Coendou rothschildi		5	1								
Sylvilagus brasiliensis										6	
Tamandua tetradactyla										1	2
Choloepus hoffmanni		1				2					7
Didelphis marsupialis		2	5					2		3	3
Philander opossum		2									
Caluromys derbianus			1							1	2

opossum and *Rattus rattus*. Batty's collection from Gobernadora includes *Sylvilagus* (the only island on which he supposedly found it), *Tamandua*, *Didelphis*, *Caluromys*, and 15 specimens of *Proechimys*. Had *Proechimys* been present on Gobernadora in such abundance, it would not have been overlooked by Tyson, nor would the other taxa have been likely to escape notice. Thus, the primates, edentates, squirrels, porcupines, and three of the other genera of rodents in Batty's supposed 1902 collection are otherwise unknown on any island of the Veragua Archipelago, with the exception of *Alouatta* on Coiba.

There are few Chiroptera in the Batty series, mostly common and widespread species, of which there are but four from Cébaco, all of which were also obtained on the island by Tyson. Batty's single *Molossus coibensis* was supposedly from Gobernadora, but interestingly Tyson did not find that species there or on Cébaco, despite having obtained dozens of specimens of nearly 20 species of bats on the latter.

It is evident that Batty's collection of mammals from the smaller islands of Panama is every bit as suspect as his collection of birds and like them doubtless came from the Panamanian mainland. If so, it would mean that the type locality of the one taxon based on the Batty collection would have to be altered. The porcupine *Coendou rothschildi* Thomas, 1903, was described from a specimen supposedly taken on the mostly mangrove island of Sevilla on 24 January 1902. This is still recognized as a full species with a distribution throughout the lower elevations of Panama except on the western Caribbean coast (Handley, 1966). The locality for the holotype should be changed to "probably the vicinity of Boquerón, Chiriquí, Panama". The specimen would have been collected between 27 September and 17 December 1901.

Insect Specimens from the Smaller Islands

In addition to his ornithological activity, Lord Rothschild had an equal or greater interest in Lepidoptera. Although his bird collection was sold to AMNH, Rothschild retained his insect collection, which passed to BMNH with the Rothschild bequest in 1937. It is certain that Batty sold insects to Rothschild, as in his letter of 2 May 1902, he mentions that "I shall send you with other things about 1,050 'flies [i.e., butterflies] and moths, but as many are imperfect will charge but for 500". Such of these as may have been retained and included in the Rothschild bequest would now be dispersed throughout the huge BMNH collection of Lepidoptera (some 3 million butterflies in 1993) and could not be traced except through random encounters.

My inquiry concerning Batty's specimens of Lepidoptera was answered by W. J. Reynolds (in litt., 4 October 1993), who, in examining 6 to 7 thousand specimens of butterflies in the group Ithomiinae, had encountered only a single specimen collected by Batty. This was a female of *Thyridia psidii melantho* with a label reading "Cebaco I., Col. | 3. to 6. II. 02 | (J. H. Batty)". This coincides with the collecting dates on specimens of birds and mammals from Cébaco. Thus the data on Batty's 1902 specimens of Lepidoptera from Panama would appear to be as suspect as that for birds.

CONCLUSION

In summary, the following set of circumstances and facts pertain to Batty's 1902 specimens from the Veragua Archipelago:

1. There is no external evidence now available that can confirm Batty's presence in Panama in 1902.
2. Specimens in the 1902 collection were sold only to Rothschild and virtually none are found in collections sold or given directly to AMNH or FMNH.
3. There are no specimens with original field labels and all bear stamped labels unlike any of the other Batty specimens from Panama.
4. The specimens were shipped from New York, not from the field.
5. The 1902 dates are not compatible with Batty's written statements to Rothschild that he had thoroughly collected in the small islands in 1901.
6. The itinerary developed from specimen labels makes no sense in the context of a logical progression from one island to another.
7. The time span over which the collection was made is much too short for one or

even two collecting parties to have collected and prepared the number of specimens in the series.

8. The species composition of the collection is not compatible with Batty's statements that the avifauna of the small islands was similar to that of Isla de Coiba.
9. The collection contains many montane birds that have never been found in the lowlands or islands and many lowland birds that have never been recorded on any island in Panama by any other collector.
10. The species composition is not believable ecologically for those islands known to consist almost entirely of mangrove habitat.
11. The distribution of many species among the various islands appears to be completely random.
12. The species composition of the mammals is not consistent with the little that is known about the mammalian faunas of the archipelago.
13. The series of hummingbird nests contains montane and North American species that patently cannot be breeding in the islands and variation in nest structure is less than the diversity of species supposedly represented.
14. The state of plumage and molt of some specimens is incompatible with the January/February dates on the specimen labels.

From this, I think that there can be no other conclusion than that the entire 1902 series consists of specimens from Batty's principal mainland localities at Boquete and Boqueron that were deliberately mislabeled by Batty to meet Rothschild's desire for specimens from islands. That Batty was capable of such fraudulent activity is supported by the mislabeling of specimens in his series from Isla de Coiba documented above and the dubiousness of the data associated with Batty's specimens from Chitra, Veraguas, documented below.

AN ADDITIONAL QUESTIONABLE COLLECTION OF BIRDS FROM THE MAINLAND OF WESTERN PANAMA SOLD BY J. H. BATTY

I encountered another small lot of birds in AMNH collection for which Batty appears to have supplied suspect data. This involves some 83 specimens labeled as being from Chitra, Veraguas. These were received directly from Batty, or his estate, with the first 59 being cataloged in 1902 (numbers ranging from AMNH 77394 to 78053) and another 24 cataloged in 1910 (numbers ranging from AMNH 106316 to 106831). Most of the information regarding these specimens I have taken from the catalogs and I have examined only a few of the specimens, which are clearly not of Batty's style of preparation.

Although some of the labels have only Batty's name, others include that of the collector Arcé. The original Arcé was Enrique Arcé, a Guatemalan who was trained by the English ornithologist Osbert Salvin and who moved to western Panama in the1860s, whence over the years he sent many specimens of birds to Salvin (Olson and Violani, 1996). A brother of his, David, was also involved in collecting birds (Salvin, 1870). A descendent of Enrique Arcé, who went by the name ''Enriquito'', was presumed to have been a son (Olson and Violani, 1996), but there is no direct statement to this effect among the biographical files of Alexander Wetmore in the Division of Birds, USNM, from which information regarding the Arcé family was taken. About 1900–1901, Enriquito is known (Wetmore files) to have obtained birds for the collectors H. J. Watson, who resided in Chiriquí, and W. W. Brown, who worked for the brothers Bangs at Harvard University. Enriquito was still alive and preparing birds with Tollef Mönniche in Chiriquí in 1937 (fig. 5).

Enriquito Arcé would have been collecting during the period when Batty was in Panama and Batty made little or no attempt to disguise the fact that the 83 specimens in question were obtained from the Arcé family. The three dates in April (table 6) coincide with the period that Batty was on Isla de Coiba, so regardless of whose name is on the label of the specimens with those dates, they almost certainly were not collected by Batty. The problem lies with the dates and the locality, which is always given as ''Chitra''. This is a known collecting locality of Enrique Arcé, who first sent specimens from there to Salvin between 1866 and 1870 (Salvin, 1870). Chitra (not to be confused with Chitré, Herrera, on

Fig. 5. "Enriquito" Arcé (on left) preparing birds with Tollef Mönniche at Finca Lérida, Chiriquí, Panama, July 1937. Photograph by Oliver P. Pearson.

the Azuero Peninsula) is in the mountains of the Pacific slope of Veraguas fairly near the continental divide and eastern boundary with Coclé. It does not appear on many maps. In a gazetteer of Panama (United States Board on Geographic Names, 1990), it is designated as an airfield, being an unverified locality at 8°29′ N, 80°49′ W. The collectors Rev. H. T. Heyde and Ernesto Lux also sold specimens labeled "Chitra" to the Smithsonian Institution, collected in June/July 1889 (USNM catalog records).

Salvin's (1870) original list of specimens from Chitra included at least 101 species, so Enrique Arcé must have spent considerable time there. It is clear from this list that more than one biotic zone was visited, as there are both lowland-foothill species and many highland species (e.g., the wrens *Henicorhina leucosticta* and *H. leucophrys*).

When we examine the list of species from Batty's series labeled "Chitra" by date, the improbability of the dates and locality for all or any of them becomes apparent (table 6). No collector in 1901 could have achieved a daily take in Panama such as that of Batty's on 5 March (or even that for 6 March). The lists for these two days contain some of the *rarissima rariorum* of Panamanian ornithology. It is highly doubtful that even with a tape recorder, automobile, and helicopter, anyone could see or hear the first eight species listed under 5 March 1901 in a single day in the Republic of Panama, to say nothing of collecting and preparing specimens of them, along with other species.

TABLE 6

List of the species of birds labeled by J. H. Batty as coming from Chitra, Veraguas, Panama, listed by date of collection in 1901. Data from AMNH catalogs. Number of specimens when greater than one are indicated in parentheses. Some of these specimens may well have come from Chitra, others almost certainly did not. The dates are in all likelihood entirely manufactured.

5 MARCH	6 MARCH	17 APRIL
Amaurolimnas concolor	*Bolborhynchus lineola* (3)	*Odontophorus leucolaemus*
Bolborhynchus lineola	*Campylopterus hemileucurus*	*Geotrygon chiriquensis*
Eubucco bourcierii	*Colibri thalassinus*	*Dendrocolaptes picumnus*
Dendrocincla homochroa	*Chlorostilbon assimilis*	*Tyrannus tyrannus*
Philydor fuscipennis	*Eubucco bourcierii* (2)	*Amblycercus holosericeus*
Formicarius rufipectus (2)	*Chiroxiphia lanceolata*	*Quiscalus mexicanus*
Pittasoma michleri	*Thamnophilus doliatus*	
Grallaria guatimalensis	*Vireo flavoviridus*	
Chiroxiphia lanceolata	*Setophaga ruticilla*	18 APRIL
Tyrannus tyrannus	*Myioborus miniatus* (2)	*Columba speciosa*
Capsiempis flaveola	*Chlorophonia callophrys* (2)	*Electron platyrhynchum* (2)
Cyanolyca cucullata (4)	*Euphonia anneae*	*Tityra semifasciata* (3)
Dendroica petechia aestiva	*Euphonia laniirostris*	*Scaphidura oryzivora*
Chlorophonia callophrys (5)	*Tangara icterocephala*	*Sporophila americana* (2)
Lanio leucothorax	*Tangara gyrola*	
Mitrospingus cassinii	*Buthraupis arcaei* (2)	
Chrysothlypis chrysomelas	*Lanio melanopygius* (2)	27 APRIL
Chlorospingus o. punctulatus	*Tachyphonus delattrii* (3)	*Egretta caerulea*
Tiaris olivacea	*Mitrospingus cassinii*	*Columba speciosa*
	Rhodinocichla rosea (2)	*Geotrygon chiriquensis*
	Coereba flaveola	*Grallaria guatimalensis*
	Arremon aurantiirostris	*Tyrannus tyrannus*
	Arremonops conirostris	*Scaphidura oryzivora*

Without knowing precisely what may have been included under the locality "Chitra" by any Arcé, it is still unlikely that certain lowland forms among the Batty series could have come from there. The best examples are the rail *Amaurolimnas concolor*, which is usually encountered in swampy coastal situations, most often on islands. The grackle *Quiscalus mexicanus* would have been an uncommon bird in western Panama in 1901 and then confined to coastal habitats.

At least one species has never been collected in Veraguas. The four specimens of the Banded Parakeet *Bolborhynchus lineola* in the Batty series "bear a cardboard slip with Batty's name, the dates March 5 and 6, 1901, and the notation 'Chitra, Colombia, D. Arce[.]' These apparently are part of a lot of specimens obtained from Arcé on which Batty placed his own labels. I do not accept the locality as valid" (Wetmore, 1968: 83–84).

My interpretation of Batty's series of specimens labeled "Chitra" is that he must have met up with an Arcé, probably Enriquito, about the time the latter was involved with collecting specimens for Watson. Batty may have picked out the choicest of whatever Arcé may have had on hand and purchased those specimens, along with a few others. I do not recall ever seeing an Arcé specimen with a precise date on the label, and the younger Arcé may not have put any label with localitiy on the specimens. Batty may simply have picked a well-worked Arcé locality and a few arbitrary dates and labeled the specimens he obtained from Arcé accordingly. I would regard the data for the 83 specimens from Batty labeled "Chitra" in AMNH as having the data only "western Panama, most likely Pacific slope, prior to 1901, collector Arcé".

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APPENDIX

Correspondence from J. H. Batty to Walter Rothschild and Ernst Hartert in the Archives of BMNH.

The first of the existing items in this correspondence is the invoice of specimens collected on Isla de Coiba dated 29 June 1901 (see table 2), for which there is no existing cover letter. I have made a few comments on some of the more obvious discrepancies in this correspondence in brackets. Although Batty probably exaggerated his hardships and misfortunes, W. W. Brown's correspondence with Outram Bangs (MCZ archives, letters of 20 July and 3 December 1901) confirms that Panama in 1901 was less than an ideal place to be engaged in collecting. The Colombian province was experiencing a civil war that fostered considerable anti-American sentiment, bands of lawless men roamed the woods, and yellow fever and smallpox were rampant. || = page break.

David Colombia S. A. Aug-14-19[01]

Hon. W. L. Rothschild
Tring
Eng.

Dear Sir

Since writing you, have been on following islands, viz Cebago [sic], Gobernador, Contrera Secas, Parida Canalis + other islands. I have taken another 'possum which is new. On above islands however I found very few birds and but a few

speci[es] different from those of Coiba. It is now the rainy season and my companions and myself took the fever being wet most of the time. However I am nearly well + will be off in two days for the high mountains of the main land in a cold country until the rainy season is over. Shall then push out further to sea + collect thoroughly as I go, on other islands directed.

The climate on the islands about the Isthmus is sickly, on the others, north, south, + seaward the climate is much better + even healthy on some islands. || I have a live doe about one third grown, of the species I sent you from Coiba. I have taken it with me when traveling for several months thinking that perhaps you would like it. It is very tame. I have taken it in hotels, coaches, steamers +c. + it gave me but very little trouble. — It is probably the only domesticated one taken. — I Still have one man working on the islands and I shall ship you again as soon as I get interesting specimens enough to make a shipment. There are two species of deer here that I have never seen before. I think it possible to get specimens alive should you desire them. I inclose list of specimens sent. Hoping we may have an early Verano (dry season) so I can get back at work on the islands early, I remain,

Very truly yours
J. H. Batty

My Address will be for the present.
David, Colombia. S. A.

[Right margin of letter frayed and probable writing is in brackets when decipherable.]

Boquete Col. S. A. Sept. 6, 1901

Hon. W. L. Rothschild
Tring.
Eng.

Dear Sir:

Since writing you last mon[th] one of my party + myself have had the yellow jaunders and all have been sick. I have been able to do light [work for the] past ten days. I cannot do anything in the rainy belt of islands un[til] the dry season. An American doctor advised me to work at a high altitude until completely recovered. I am feeling better daily, and expect to be strong soon. I find here (altitude 6000 ft) a large bl[ack] howler + another on the lowlands. There ar[e] five species of monkeys in this region. Also many other interesting animals and bi[rds] || I shall soon send you another shipment from the islands. If there is anything you require from this region shall be pleased [to] furnish. On visiting other islands ne[ar] the coast, I found about the same spe[cies] as on Coiba which I though[t] you would not be interested in. Anything I did no[t] find on Coiba however I collected. I have "done" the "coast" islands most tho[r]oughly and will now work seaward as so[on] as the dry season commences. I shall [text missing] Coiba + Jicaron as I go to sea, to ge[t] any migrants not already taken.

I am figuring now with builders with U. S. on a special boat to go to sea + collect on the other islands. I have writt[en] Mr. Webster fully, and I sent him list of specimens sent to you in first shipment.

Very truly yours
J. H. Batty.

Present Address David. Col. S. A.

223 E 85th St., New York, NY May 2–1902

Hon. W. Rothschild
London
Eng.

Dear Sir,

On my return when reaching Colon, I was surprised to find balance of my Coiba collections held for new export duties. [This may have been an invention of Batty's that allowed him the time to return to New York with his specimens.] The specimens had been wet and were in bad condition. [Few, if any, show any sign of this.] Fearing my other collections might be injured in transportation, I brought them through to NY + carefully repacked them. It cost me 190.00 export duty and other expenses to get all collections through to NY. The export duty was put on bird skins July 10th '01 by the Colombian Government, whether the case shipped to you June 29th 1901 escaped duty I do not know.—

My party were all sick on Coiba and two of my native hunters and one of their wives are dead. I escaped by going to sea in a very weak condition in my 100 lb canoe. [Hardly likely with all his guns, traps, tents, and other equipment plus hundreds of specimens including 6 deer, 6 King Vultures, 22 macaws, and a live doe.] I finally hailed a steamer and went to Pedregal + from there to high mountains whence I soon recruited and returned to collect on other islands. || Many pearl divers were taken sick, and fled from the island of Coiba. The season was unusually sickly. [Wetmore (1957: 3) related that at the turn of the 20th century on Coiba "the pearl fishery was in operation, with a store, cantina, and other buildings" located at the site of what became the penal colony in 1919. The pearl traffic was probably with Panama City and Colón and Batty could perhaps have taken

advantage of both transportation and some measure of accomodation on the island as a result of the pearl fishery.]

Since regaining my strength, I have made collections on all islands from Costa Rica to Panama Bay. I have been over the islands most thoroughly. I have been greatly annoyed and detained several times by revolutionary factions, in fact, have been handicapped in several ways. However, I finally succeeded in covering the ground completely, and will ship you in a few days sets, and as many species as I got from the islands of Burica–Iguaros–Almejas–Palenka–Sevilla–Brava–Palenque–Parida–Ladrones–Secos–Jicaron–Afuera Gobernador–Cebago–Leones–Espartal–Insoleta +c +c. All the larger islands are hilly, rocky, and covered with thick vegetation to the water's edge. Consequently I only observed a few common murres [?], Brown Pelicans, and a few man-of-war birds (Tachypetes aquila). I shot several but on seeing there was not any thing interesting about them, did not make them up, as you probably have plenty of such stock.

I shall send you with other things about 1,050 'flies [butterflies] and moths, but as many are imperfect will charge but for 500.–I believe there are two species of deer on Coiba. I have a live doe in Col. that is only 16 ½″ high and 23 inches in length. She is a year old, feeds and plays with the dogs, and monkeys, and is particularly fond of children (I enclose photo). I have taken it with me wherever I have traveled, with no more trouble than a dog.

In future if agreeable to you I would like to do all business direct. I deem it my duty to tell you frankly that I have made enemies in the Eastern States by collecting for you on Coiba and ajacent [sic] islands. Some one has told Mr. Webster that I am selling my island collections, which is positively false. I have men working in the field and am agent for several collectors. They ship me regularly and of course I sell all I can. I had a lot of stuff from the interior of Colombia. Some of it I collected myself last season. It was principally from the Cauca Valley + inland mountains. I am working it off as soon as possible, but have not sold any island specimens except a few from Coiba which I flatly refused to sell, until I learned positively that you had received what you wanted from said island and had given for description to Prof O. Thomas, later knowing the specimens had been named and described I then sold a few specimens to the Am-Museum of Natural History. Mr. Outram Bangs + his collector [W. W. Brown] are the parties who are making mischief. Mr. Bangs is one of my customers. He came to NY at once when he heard I had arrived. He wanted to pick out some things which I would not sell and he appeared "nettled" because he could not have first choice. I did not notify Mr. Bangs of my arrival or offer my collections to him. The only island collections I sent with my inland stock was some Coiba duplicates. My other island collections I had sent to NY residence and I have neither spoken of them or shown them to any one. [Hardly any wonder—had Bangs seen the "1902" series he would have known right away that something was amiss.]

I shall return to Panama in about a month + recommence collecting. I fear I will not be allowed to cruise about Col. Waters. The Gov. + rebels have sunken some boats and seize every boat they see. They shot a hole in the Eng. steamer "Quito" and took the steamer "Taloga." If I cannot work about Colombia will have to work off Equador [sic] coast or inland until the revolutionary squabbling is over.

I will ship you any thing that comes from the Pacific islands and hold any duplicates until advised, but I do not want to do any more business through Mr. Webster.

The specimens I am about to send you are properly put up and packed, each having a printed [Batty's emphasis] tag with dimensions +c when necessary. I find many of my letters sent from my camps were probably opened and thrown away by Colombia P. O. officials. Checks have been stolen, also much merchandise sent me by mail. Out of 74 periodicals sent me, I did not receive one. [So many? How would he possibly have known this figure? And again, if this were true, why did he not learn from the first instances and find a more reliable means of communication?] From what Mr. Webster says, you evidently have not received the tags with dimentions [sic] forwarded for the Coiba animals. I will duplicate them from my books.—Hoping you will excuse my seeming dilatoriness, I remain

Very truly yours
J. H. Batty

223 E 85th NY. May 13th 1902

Hon Walter Rothschild
London.
Eng.

Dear Sir

I ship you per Am. Express today specimens of Natural History as per inclosed bill. Knowing you are particularly interested in "Hummers" I made a collection of 53 nests. When first collected nearly all had eggs and some young, but the traveling ants destroyed the young, and many of the eggs. However there are yet many eggs left and "hum-

mers" with all nests but three. Many of the birds I caught alive on the nests at night.

I have not put any price on the nests you can add to memorandum sent what you consider them worth.

Four of my young men who are trained collectors have been working in the field since I left the country. Two of them I instructed to work in the islands, and the other two are working on the back of the "Volcan" locality specified by four crosses on inclosed map. There has never been a collector in the locality designated and I expect to get some good things. In comparing notes with my friend Mr. G. K. Cherrie and others I find out about what has been done, and what territory has been gone over. My friend Mr. Perry O. Simons (said to have been lately murdered in Chili) on invitation worked in one of my camps on the border, or near the border of Mexico. He never went further south in locality mentioned than Ter. of Tepec Mex.

I have not heard from my men since I arrived in NY and I fear they have had trouble with the natives. I have had ten horses stolen p[?] by the Government officials and doubt very much whether I can run a boat about among the islands without having it taken from me. Both parties, liberals and conservatives have steamers cruising all about and they are seizing all small craft, regardless of the laws of nations. I shall leave for the south in about thirty days. I dare not fit out a large boat and take it to Colombia at present as I would surely lose it. If I find I cannot continue my researches in the islands I shall accept an offer from the Am. Museum of Natural History for one year only to make special collections for large groups of animals to be mounted in large cases for exhibition.

I shall reproduce exactly the immediate surroundings where large animals are taken reproducing foliage from casts, and securing natural bushes +c.—

I have the best of lenses and cameras for all kinds of work and understand making lantern slides and photographs fairly well. I lost two hundred and sixty two (262) fine negatives [This would have represented a huge investment of time and material for which Batty could hope to reap little monetary reward.] of the islands visited and many animal and bird pictures by "a capsize" in thirty fathoms of water. Otherwise I should have sent you complete set of photos. [Thus, he conveniently lost any photographic proof of having been in the islands, while the specimens, and presumably his cameras and lenses, all survived the "capsize."]

One of your gallapago turtles sold to the Bronx Park NY. died two days ago. It has been given to the Am. Mus. of Nat. History NY and will be mounted.

I am going to photograph the remaining live turtles + some animals the coming week. When reaching my outfit I will forward you direct any island specimens taken, but will not duplicate species already sent except to make up quota as you have designated.

If you desire anything in my mountain collections now being made, I shall be pleased to forward collections for examination? Mr. J. A. Allen of Am Mus. Nat. History has selected some of the Coiba duplicates as second choice. Have not sold anything else from islands.

From the smaller islands I have but a few duplicates which I shall hold until I hear from you.

[Following this are nearly two pages dealing with problems Batty had with Mr. Webster, who was evidently Rothschild's agent, in which Batty expressed the desire to deal directly with Rothschild rather than through Webster.]

Hoping the specimens will reach you in good condition and thanking you for your patronage I remain.

Very truly yours
J. H. Batty

223 E 85th NY. May 21–1902

Hon Walter Rothschild
London.
Eng.

Dear Sir.

Your specimens are on way to Eng. Among other specimens are six porcupines. I collected twenty one + forward you the best ones. They are very difficult to prepare, especially when fat. The spines can easily be shaken from the l[?] in dead animals. I skinned them on sheets of metal and brought them to NY in metal tubes have repacked them in separate boxes and I think they will arrive in good condition. Mr Webster has written me two long letters yesterday + today. He sees he has done wrong. I hope what I have written you will not make any difference with Mr. Webster's business relations with you. I simply wrote to vindicate myself. I have not yet heard from my island collectors. It is more than likely they cannot get clearance for boat or passports, and probably mails are interupted [sic] or or [sic] not running.—

Respectfully yours.
J. H. Batty.

223 E. 85th St. NY. June 17–1902

Hon. W. Rothschild
Tring
Eng.

Dear Sir

Your kind letter came duly to hand. I am very sorry to hear you have suffered with pneumonia. It is a dangerous disease. Be careful of drafts and dampness. I lost my mother and an old business friend with pneumonia while I was away last year. I made a home for my mother twenty-eight years on Long Island—now she has passed away I shall spend nearly all my time in researching for specimens of Nat. history in unexplored territory. I note fully what you say in your letter and have entered extracts from it in my reference book. You shall have pick of what my young men get from the locality I designated on map sent you. In the future, before I part with any private collections I will give you preference.

I had many rare things from the main,—large black n[?] gophers[?], B[?] Gophers[?], Rats Mice, Golden tree anteater (probably entirely new) three hundred + twenty monkeys of various || species. 85 2 toed sloths in various colored p[?]. I had also some very large and undescribed vampires taken in nets about 5,000 ft. alt. and many other things.—I hear from M. Webster this morning. I forward your condensed account according to his figures. Hoping you will have a speedy recovery and thanking you for your prompt reply and kindness I remain

Very truly yours
J. H. Batty.

223 E. 85th St. NY. July 14–1902

Mr. E. Hartert
Tring Eng.

Dear Sir,

Your favor to hand. I agree with you that it is easy to make mistakes in changing labels on specimens. However I always make the changes myself and am very careful, never removing more than one label from a skin at once. In the field I use small narrow labels so they will not interfere with the wrapping and forming of skins. However I will have some labels printed on good linen paper same as those send [sic] and use them in field.

In regard to the "Bellbirds" I would say those with the bills made straight with bodies I killed + made up myself. Those more roughly made are the work of one of my native workmen who was at work on the islands when I was sick on the main. He turned over to me 628 skins. || Skins will mould badly in three days when I was working, and have to be constantly dried in open air when a few hours sunning can be had. Such treatment gives the skins an old appearance. I do not see where my collector could get any old skins from. However I will question him closely when I go back as he is still in my employ. The bellbirds are only casual visitors on the islands when certain fruits are ripe.

Yes Prof. O. Thomas kindly sent the descriptions of my animals collected on Coiba. When the other animals I collected are described shall be pleased to receive any paper from you on these. I will keep you advised of my whereabouts as requested. I am very glad to hear Mr. Rothschild has fully recovered. I lost my mother not long ago with pneumonia. Thanking you for points given and wishing you a pleasant and healthful trip I remain

Very truly yours
J. H. Batty

223 E. 85th St. NY. Aug 19–1902

Mr. E. Hartert
Tring
Eng.

Dear Sir,

I have had some labels printed exactly like those you sent me.—type paper size +c. and will write out in full data as sug[g]ested. In regard to the few "Bell" Birds make the proper reduction on account for them. I will question the native employee who collected them closely and see if he has made any mistake or willfully put them in the collection. If I find he has "tricked" me in any way, I shall not allow him to make any more side trips. Hoping that Mr. Rothschild and you are recuperating in the fresh air of the Alps. I remain

Very truly yours
J. H. Batty

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