

ALBERT MOCQUERYS IN VENEZUELA (1893–1894): A COMMERCIAL COLLECTOR OF PLANTS, BIRDS, AND INSECTS

LAURENCE J. DORR,¹ FRED W. STAUFFER,² AND LEYDA RODRÍGUEZ³

Abstract. Albert Mocquerys, a commercial collector of natural history specimens, visited Venezuela from September 1893 through May 1894 and collected a wide range of organisms; plants, birds, insects, fishes, mammals, and fossil shells. Walter Rothschild evidently was his principal zoological patron and Emmanuel Drake del Castillo his botanical one. In Venezuela, Mocquerys established himself at Puerto Cabello and made three trips inland. The first was to localities near Barquisimeto; the second to the cave of the “guácharo” near Caripe; and the third was to the Venezuelan Andes near Mérida. Details concerning his collections and their present-day whereabouts are presented as is a gazetteer of localities associated with his collecting trips. Biographical data also clarify that Mocquerys was the third generation of a family of French dental surgeons, all of whom were accomplished naturalists with a special interest in entomology.

Resumen. Albert Mocquerys, colector comercial de especímenes de historia natural (collector of natural history specimens), visitó Venezuela desde septiembre de 1893 hasta mayo de 1894 y colectó una amplia gama de organismos; plantas, aves, insectos, peces, mamíferos y conchas fósiles. Walter Rothschild era evidentemente su principal cliente zoológico y Emmanuel Drake del Castillo su correspondiente botánico. En Venezuela, Mocquerys se estableció en Puerto Cabello y realizó tres viajes al interior. El primero fue a localidades cerca de Barquisimeto; el segundo a la cueva del “guácharo” cerca de Caripe; y el tercero fue a los Andes venezolanos cerca de Mérida. Se presentan los detalles sobre sus colecciones y su paradero actual, como un diccionario de localidades asociadas con los viajes de recolección. Los datos biográficos también aclaran que Mocquerys fue la tercera generación de una familia de cirujanos dentales franceses, todos ellos notables naturalistas con especial interés en la Entomología.

Keywords: Albert Mocquerys, Venezuela, commercial natural history collecting

Detailed information regarding the identity and activities of Albert Mocquerys (1860–1926) proved to be somewhat elusive until recently even though he was a prolific and well-traveled natural history collector with prominent patrons and clients. In late 1893 and early 1894 Mocquerys spent roughly eight months in Venezuela and collected a wide range of natural history specimens including plants. The Swiss botanist Henri Pittier (1931) speculated that Mocquerys’ focus in Venezuela was ornithological rather than botanical, but we suspect it may have originally been entomological. In addition to birds, plants, and insects, Mocquerys also collected other small vertebrate animals (including bats, rabbits, rodents, amphibians, and fish), insect nests, and fossil shells (NHM: TM 1/3/11).

The vascular plant collection, made in diverse localities in northern and western Venezuela, is a substantial one and even though these specimens are regularly cited in revisions, monographs, and floras, Mocquerys’ contribution to Neotropical and Venezuelan botany invariably is mentioned only in passing if mentioned at all (Bureau, 1904; Pittier, 1931; Arnal, 1943; Wurdack, 1972; Vegter, 1976; Pérez-Vila, 1988; Dorr, 1997, 2004, 2014; Huber et al., 1998; Espinoza and Rodríguez, 2007; Lindorf, 2008; JSTOR Global Plants, 2017). Sufficient details concerning Mocquerys and his Venezuelan collecting trip have been found such that we now can sketch his career, identify several of the patrons of this particular sojourn, discuss where he collected, and describe the subsequent fate of most of his collections.

PRELUDE

It is not surprising that Albert Mocquerys developed an interest in natural history. His father Émile Mocquerys (1825–1916) and paternal grandfather Simon Mocquerys (1792–1879) collected insects and participated in local natural history societies. His grandfather especially was fascinated by Coleoptera and amassed a world-wide collection with an emphasis on teratological specimens (Anonymous,

1879; Fauvel, 1880; Horn and Kahle, 1936). Both his father and grandfather concentrated their own collecting activities in Normandy and especially Seine-Inférieure. However, his father Émile, a member of the French Entomological Society for over 60 years (Anonymous, 1916), eventually retired to Sfax, Tunisia where he died. We have not established where Albert was born, but suspect it was

We thank Rose Gullede (National Museum of Natural History) for scanning specimen labels, locating zoological literature, and preparing the maps and figures; Dr. Lucile Allorge (Muséum national d’Histoire naturelle, Paris) for sharing her knowledge and contacts regarding French naturalists; Dr. Harald Pieper (formerly Zoologisches Museum, Kiel) for providing biographical information; and Paul R. Sweet (American Museum of Natural History) for sharing information about bird collections. We are also indebted to the Bibliothèque, Conservatoire et Jardin botaniques de la Ville de Genève and the Library and Archives, Natural History Museum, London for copies of Mocquerys correspondence. Two anonymous reviewers made helpful suggestions for improving the manuscript.

¹ Department of Botany, National Museum of Natural History, MRC-166, Smithsonian Institution, P.O. Box 37012, Washington, D.C. 20013–7012, U.S.A.; dorr1@si.edu

² Conservatoire et Jardin botaniques de la Ville de Genève, Université de Genève, laboratoire de systématique végétale et biodiversité, CP 60, CH-1292 Chambésy, Switzerland; fred.stauffer@cjb.ville-ge.ch

³ Instituto Experimental Jardín Botánico Dr. Tobías Lasser, Herbario Nacional de Venezuela, Universidad Central de Venezuela, Apartado 2156, Caracas 1010-A, Venezuela; leyda.rodriguez@ucv.ve

either Rouen or Évreux in Normandy. His brother Georges (1865–1948) was born in the latter city where their father who had lived in both cities became established as a dental surgeon; a profession shared also by Simon and later by Albert and Georges.

Albert Mocquerys began his career as a commercial natural history collector when he visited French possessions in West Africa from 1889 to 1891. He collected primarily insects (see e.g., André, 1889, 1890; Jordan, 1894; Régimbart, 1895), but also plants (see e.g., Hua, 1893) and he acquired ethnographic objects (Koenig, 1900). His expedition or series of expeditions allowed him to collect in present-day Gabon, The Gambia, The Republic of the Congo, Senegal, and Sierra Leone. Details of his activities during this period remain somewhat obscure and are being

reconstructed from his collections, correspondence, and other indirect pieces of evidence (Dorr, in prep.).

We assume that Mocquerys returned to France after leaving West Africa. What made him then select South America for his second major collecting expedition is unclear. In the 1840s his father had visited Brazil and collected wasps (Carpenter, 1999: 13, 20, 23), at least, and recorded the use by Amerindians of biting ants to suture wounds (Mocquerys, 1844; Middleton, 1896). Whether or not stories of this trip influenced Albert is unknown. In any case, Albert's Venezuelan trip provides us some insight into how a commercial natural history collector operated in northern South America at the end of the 19th century and the networks that then existed in Europe for acquiring, shipping, and distributing specimens.

VENEZUELAN ITINERARIES, SEPTEMBER 1893–MAY 1894

Mocquerys arrived in Venezuela in September 1893 and spent the next eight months collecting there. A letter (NHM: TM 1/3/11) written in early October 1893 to Walter Rothschild (1868–1957) suggests that Mocquerys may have originally visited Venezuela to collect insects and only switched his focus to birds, another group that fascinated Rothschild, because as Mocquerys explained to his patron he had arrived in the dry season and insects would not be abundant until the rainy season began the following March. The nature of the financial relationship between Rothschild, who was building a large collection of insects and birds at Tring in Hertfordshire, England (Rothschild, 1983; Birkhead et al., 2014), and Mocquerys is not altogether clear. It appears that Rothschild extended him a line of credit (NHM: TM 1/8/20), but there also is evidence that Mocquerys was paid by the specimen (NHM: TM 1/2/23). Rothschild had several methods for compensating his collectors; he sometimes temporarily employed them at a flat rate and/or with a salary, or he defrayed expenses, or he paid his collectors or their dealer(s) by the specimen (Rothschild, 1983). In the October 1893 letter, Mocquerys also mentioned recently receiving a letter from Ernst Hartert (1859–1933), Rothschild's newly-appointed curator of birds.

We do not know precisely what Hartert wrote Mocquerys, but we do know that Hartert was keen on Venezuelan birds because in May 1892 he had set out on his own ornithological expedition to that country. Political instability, however, made visiting Venezuela impractical and Hartert and his wife instead visited and collected birds in St. Thomas, Puerto Rico, and the Dutch islands of Curaçao, Aruba, and Bonaire. Venezuela's "Revolución Legalista," a challenge to presidential succession that devolved into civil war (Rondón Márquez, 1973), made the country unsafe from March 1892 until a new constitution was adopted in June 1893. Despite his unanticipated change in plans Hartert nonetheless profited from his rerouted trip and in September 1892, ten months after his return to England and after becoming Rothschild's curator of birds, he published an account of the birds (Hartert, 1893) found on the three Dutch islands off the coast of Venezuela.

Zimmer and Phelps (1954) wrote that the center of operations for most of Mocquerys' work in Venezuela was

Puerto Cabello and this appears to be confirmed by the correspondence that survives; several of Mocquerys' letters are signed "Naturaliste à Puerto Cabello" ("a naturalist at Puerto Cabello"). In September 1893, Mocquerys collected birds and plants in the dense lowland forests of San Esteban in the Cordillera de la Costa just south of this port. By early October 1893, Mocquerys wrote (NHM: TM 1/3/11) Rothschild from San Esteban to relate that he had just sent him his first shipment of specimens, which included birds, butterflies, wasp nests, a bat, a spider's nest, a crab, a chameleon with a very long tale, fish, a salamander, and two squirrels. He also promised to send beetles to Rothschild the following month.

Mocquerys then ventured inland collecting at Duaca, Barquisimeto, El Tocuyo, and Bucarito in Lara state (Fig. 1A). Exact dates for this excursion are not known but it took place between October and the end of the year. Likewise, the precise sequence of localities visited is not known but we assume that Mocquerys availed himself of the existing rail line that ran from Puerto Cabello to Tucacas and then into the interior via the copper mines at Aroa and the village of Duaca before terminating in Barquisimeto. The Venezuelan botanist José Saer D'Héguert (1904–1976), born slightly more than a decade after Mocquerys visited, reported that "Alberto Mocquerys" was friendly with his parents while collecting birds and plants in Duaca (Saer D'Héguert in Hurtado León, 1999). Mocquerys went into some detail when he described to Rothschild (NHM: TM 1/3/11) the personal inconveniences associated with collecting on a mountain that terminated the "savanne de Bucarito" ("savanna of Bucarito"), a day's horseback ride from El Tocuyo. It is unclear as to whether or not Mocquerys returned to the coast during this excursion into Lara state. We do know from his correspondence that he visited Valencia on the western shore of the Lago de Valencia before 6 November 1893, but he may have visited at other times as well between October and December 1893.

Mocquerys wrote letters to Rothschild from Puerto Cabello in early November and early December 1893, and also in early January 1894. Whether or not Mocquerys was in Puerto Cabello continuously during these months is unclear. In early December he wrote Rothschild

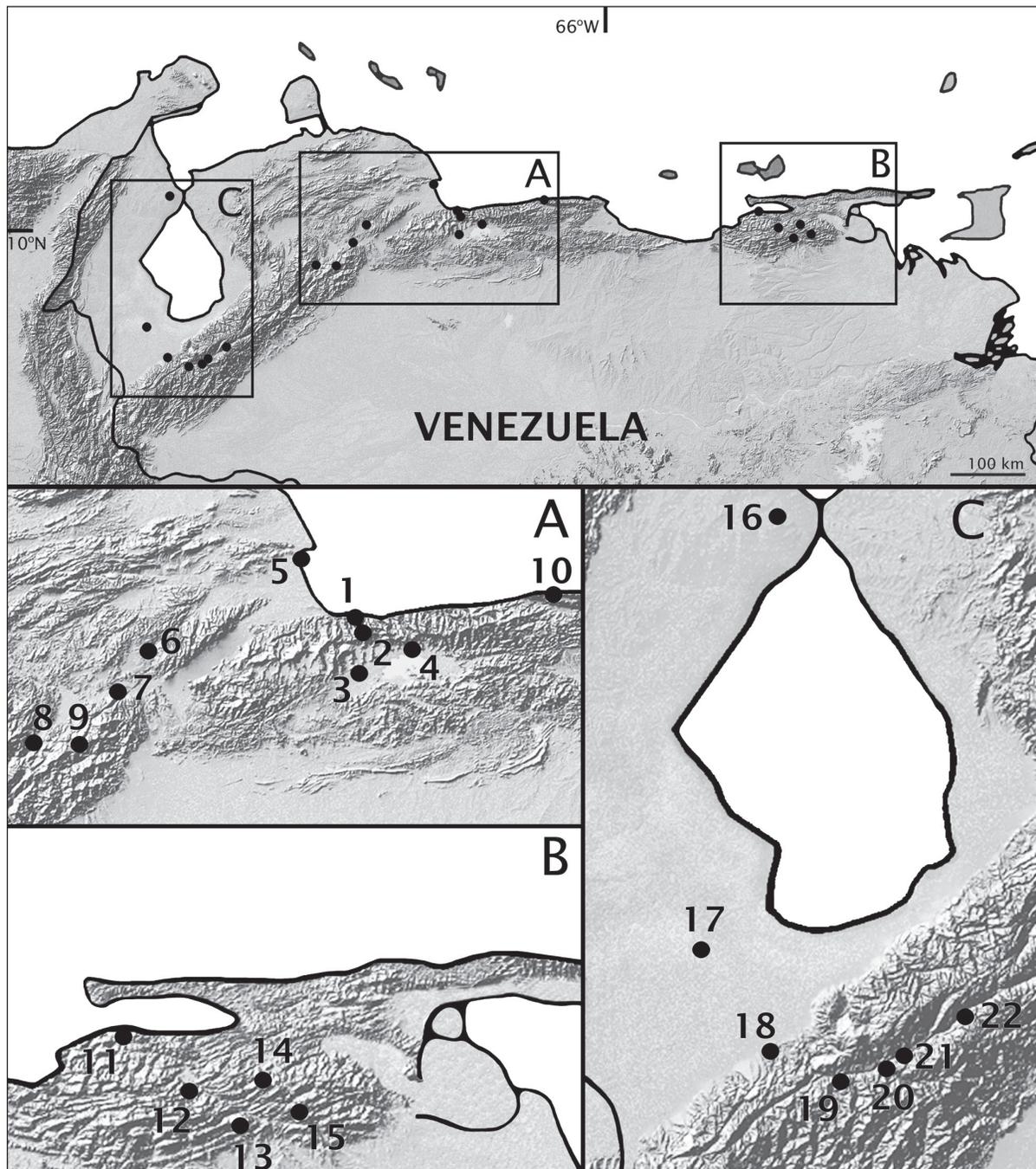


FIGURE 1. Localities associated with the 1893–1894 collecting trip to Venezuela undertaken by Albert Mocquerys. 1, Puerto Cabello. 2, San Esteban. 3, Valencia. 4, Mariara. 5, Tucacas. 6, Duaca. 7, Barquisimeto. 8, Tocuyo. 9, Bucarito. 10, La Guaira. 11, Cumaná. 12, Cumanacoa. 13, San Antonio de Maturín. 14, El Caripe. 15, El Guácharo. 16, Maracaibo. 17, Santa Bárbara de Zulia. 18, El Vigía. 19, Lagunillas. 20, Ejido. 21, Mérida. 22, Mucuchies.

(NHM: TM 1/3/11) that the box he said that he had shipped the previous month, presumably the one he discussed in his early October letter, had not been sent because the person he had entrusted with this task had forgotten to do it. Mocquerys also mentioned that he had received letters from Hartert who spoke of the “cavernes de Caripé” (“caves of Caripe”) and that Mocquerys thought of going there later in December. Asking for a renewal of his credit he also

told Rothschild that he intended to head to the Andes but that such a trip would be expensive; at the very least he would have to purchase a mule for himself and one for his “muchacho” (assistant).

In the early January 1894 letter Mocquerys continued to plead his straitened circumstances to Rothschild (NHM: TM 1/8/20). The Andes trip and the trip to Caripe were both on hold until he had additional funds. Outlining what

would be a long and very expensive trip to collect the “guácharo” (the oil bird, *Steatornis caripensis* Humboldt, 1817, Steatornithidae) Mocquerys wrote Rothschild that it would require three days travel by steamer to Carúpano, another five days by horse to Caripe, and then he would still have to travel an additional three leagues to get to the caves.

Shortly after writing Rothschild, Mocquerys made a hurried trip to Monagas state, visiting Caripe, El Guácharo (Cueva del Guácharo), and San Antonio de Maturín (Fig. 1B). He did not follow exactly the route that he had outlined to Rothschild. It appears that he sailed from Puerto Cabello to Cumaná (not Carúpano) and we know that he then traveled by land south to Caripe and El Guácharo where he presumably was intent on collecting the cave-dwelling oilbird or “guácharo.” This bird had been described by Alexander von Humboldt (Humboldt, 1817) who had visited these caves almost a century earlier in 1799. Plants were collected by Mocquerys in and around Cumaná, but not further south in Monagas state. Several years later in a letter to Hartert (NHM: TM 1/2/23), Mocquerys mentioned this trip again and complained that not only had he spent ten days on horseback and three days in a steamer, but also that the trip had cost him approximately “quatre cents francs!” (four hundred French Francs, ca. US\$2,000 today). Interestingly in the margin of this letter Hartert wrote “Why was he so foolish, if it is true.”

After his hurried excursion in search of the “guácharo,” Mocquerys shifted his attention again to the west of Venezuela. In March and April 1894 plants and birds were gathered from Maracaibo and San Carlos de Zulia. During these same months Mocquerys made natural history collections in Ejido, Lagunillas, Mérida, and Mucuchies (Fig. 1C). Typically travelers from Maracaibo to Mérida would sail or take a steamer across the Lago de Maracaibo

to the river port of Santa Bárbara (i.e., Santa Bárbara de Zulia) near the southwestern end of the lake and then travel by mule to El Vigía and from there to Mérida by way of Lagunillas; at least five days of rough travel. Mocquerys’ work in the Venezuelan Andes ended abruptly when a strong earthquake struck Mérida on 28 April 1894. Several years later Mocquerys complained to Hartert (NHM: TM 1/2/23) that he had lost everything in that unexpected and locally devastating event.

On this last excursion Mocquerys was almost certainly assisted by “Salomón Briceño Gabaldón é hijos.” Salomón Briceño-Gabaldón (1826–1912), based in Mérida, had been engaged in commercial collecting of natural history specimens since the early 1870s (Phelps, 1944) and he and his sons supplied bird skins to Rothschild among other clients. Mocquerys’ father Émile obliquely confirmed that Albert had a connection to Briceño when he wrote the following year to Rothschild or one of Rothschild’s curators and stated that he would contact Briceño’s agent in Paris or Briceño himself about a missing parcel shipped from Venezuela (NHM: TM 1/14/22).

We also know that Mocquerys collected plants at the Hacienda “Mariara,” either when he visited Valencia or sometime in 1894. Evidence for the latter date is from a photograph taken at Hacienda “Mariara” showing Mocquerys and other members of what appears to be a shooting party (Zimmer and Phelps, 1954, Fig. 1). Interestingly there are no bird or small animal collections labeled with this locality, only plants. The other persons in this photograph are identified, but we do not know what interest, if any, they had in natural history.

Finally, Mocquerys visited Curaçao in May 1894 (fide AMNH skin 472482, as “Curacao I.”). This may have been a stop while en route home, but details as to how Mocquerys returned from Venezuela to Europe are wanting.

SPECIMENS COLLECTED IN VENEZUELA

Birds: Mocquerys did not collect birds on his earlier trip to West Africa and somehow in the relatively brief period between concluding that expedition and heading to South America he learned how to collect and prepare them. We can only speculate that Rothschild or Hartert taught him these specialized skills, which are not trivial, and certainly for Mocquerys expanding the range of natural history objects that he could collect and sell was advantageous financially.

Mocquerys’ Venezuelan bird collections have proved, in part, to be controversial. Almost from the moment they were first critically examined questions arose about the provenance of some of the skins (Cory and Hellmayr, 1924: 295; Hartert, 1927: 29; Phelps and Phelps, 1940; Zimmer and Phelps, 1954; Fitzpatrick and Stotz, 1997: 42). Cory and Hellmayr (1924: 295) questioned the type locality of the Venezuelan Rufous-tailed Antthrush (now known as Schwartz’s Antthrush) (*Chamaeza turdina* (Cabanis & Heine, 1859), Formicariidae) and thought the locality “El Guácharo” was confused with “San Esteban.” Hartert (1927: 29) speculated that some of the birds collected by Mocquerys may have been purchased live because he was

aware that some of the taxa were “sold in cages alive, for food and for aviaries.” Zimmer and Phelps (1954) listed at least 14 taxa collected by Mocquerys where the label data are suspect and wrote, “We find it incredible that Mocquerys, who made a brief and hurried excursion to Caripe for the express purpose of collecting the ‘Guácharo’ (*Steatornis caripensis*), should have obtained as many unique records as his labels would indicate, especially since he obtained only one ‘Guácharo’!”

The Venezuelan bird collections made by Mocquerys were sent to Europe in the 1890s and added to Rothschild’s collection in Tring. In early 1932, however, they were transferred to the American Museum of Natural History in New York City. In late 1931 Rothschild, facing financial hardships because of a scandal, reluctantly decided to offer for sale the greater part of his ornithological collection and it was purchased for the American Museum by one of its patrons (Murphy, 1932; Phelps, 1944; Snow, 1973; Rothschild, 1983; Birkhead et al., 2014).

Fishes: In a letter dated 3 October 1893 (NHM: TM1/3/11), Mocquerys informed Rothschild that the first

package that he planned to send from Venezuela to England would include eleven fishes that he found living under rocks in a torrent on top of the mountains. These freshwater fishes were collected in the small rivers flowing north from the Cordillera de la Costa near San Esteban into the Caribbean. Rothschild, whose interests did not encompass ichthyology, donated the specimens to the British Museum (Natural History) (now Natural History Museum, London) where they were accessioned on 9 November 1904 (<http://data.nhm.ac.uk/dataset/collection-specimens/resource/05ff2255-c38a-40c9-b657-4ccb55ab2feb/record/2218085>). Regan (1905) based one new species of armored catfish on this collection. It is doubtful that Charles Regan (1878–1943), a British ichthyologist who joined the British Museum (Natural History) in 1901 (Burne and Norman, 1943), would have had direct contact with Mocquerys.

Insects: Inasmuch as insects had been the primary focus of Mocquerys' collecting in West Africa it is somewhat surprising that his Venezuelan insect collections ultimately proved to be less important than his bird and plant collections. In the surviving correspondence with Rothschild, Mocquerys mentioned several different times that he had collected and shipped Lepidoptera (including microlepidoptera and sphingids) and Coleoptera (NHM TM1/3/11) to his patron. As noted above, we strongly suspect that Mocquerys' original connection to Rothschild had formed around insect rather than bird collections. Rothschild had previously acquired West African Coleoptera collected by Mocquerys (see e.g., Jordan, 1894). In 1893, Rothschild hired Karl Jordan (1861–1959) to curate Coleoptera at the Tring Museum (Rothschild, 1955) and Mocquerys must have been aware of this when he set off for Venezuela. In 1894, Rothschild switched the focus of his entomological pursuits from Coleoptera to Lepidoptera and this meant that his curator Jordan changed his focus, too (Rothschild, 1955). Some of the Lepidoptera collected by Mocquerys in Venezuela were cited in monographs published by Rothschild (see e.g., Rothschild and Jordan, 1903: 422; Rothschild, 1919: 6).

There is some evidence that Mocquerys used the network of dealers interested in buying entomological specimens that his family and he had established over the years although we are left to wonder how extensively he exploited these contacts while in South America. Maurice Régimbert (1852–1907), a specialist on aquatic beetles (Dytiscidae, Gyrinidae, and Hydrophilidae), received some collections made by Mocquerys in Venezuela (Régimbert, 1902, 1903) via Rothschild. When Mocquerys asked Rothschild to communicate these specimens to Régimbert he explained (NHM TM1/3/11) that the two were friends from secondary school in Évreux. Régimbert's collection is now at the Muséum national d'Histoire naturelle, Paris. Other Venezuelan Coleoptera collected by Mocquerys are in the collection of René Oberthür (1852–1944) (Casari, 2002: 289); whether or not these were acquired through Rothschild as opposed to being sold directly to Oberthür is unknown. Likewise, Coleoptera collected in Venezuela by Mocquerys are in the Museum für Naturkunde in Berlin (Joly and

Escalona G., 2010), which suggests that Mocquerys may have sold beetles to the German entomologist and natural history dealer Otto Staudinger (1830–1900). Mocquerys earlier sold African Coleoptera to Staudinger whose personal collection eventually went to the Museum für Naturkunde in Berlin in 1907.

Rothschild apparently did not expect an exclusive relationship with Mocquerys although he may have expected to have the right of first refusal for specimens collected with his financial assistance. Several years after leaving Venezuela, Mocquerys asked Rothschild (NHM TM1/14/22) to help arrange for a natural history dealer in London to purchase the duplicates that Rothschild did not want; Mocquerys even mentioned a dealer who was mute (unidentified by us) who Rothschild had recommended that Mocquerys contact before his departure for Venezuela.

Mammals: Mocquerys trapped or netted small mammals at diverse locations in Venezuela and M. R. Oldfield Thomas (1858–1929), mammalogist in the Zoology Department of the British Museum (Natural History), based several novelties (species and subspecies) on these specimens (see e.g., Thomas, 1894: 351, 1897: 553, 1898: 274, 1903: 382). Among the novelties are a species of shrew from Mérida, a species of bat from Valencia, a species of rabbit from Cumaná, and a subspecies of agouti from Caripe. It is interesting to speculate that Oldfield paid Mocquerys for these specimens. Oldfield certainly had the capacity to do this because his wife, whom he married in 1890, was heiress to a small fortune and he often hired mammal collectors and then presented their specimens to the British Museum (Natural History) (Hinton, 1929).

Plants: Emmanuel Drake del Castillo (1855–1904) almost certainly was Mocquerys' botanical patron. We know that Drake, before Mocquerys began his Venezuelan adventure, had acquired vascular plant specimens that Mocquerys had collected in West Africa (see e.g., Hua, 1893) and it is easy to imagine that Mocquerys, knowing that he was on his way to South America, entered into a commercial relationship with Drake who was in the process of amassing a world-wide herbarium in excess of 500,000 specimens (Bureau, 1904: cxxiii). Whether or not this was the case, we do know that before April 1895 Émile Mocquerys received in Évreux on his son's behalf a shipment of Venezuelan plants (NHM: TM 1/14/22) and it is possible that Émile, not Albert, was the intermediary with Drake. In any case, all of the Mocquerys plant collections from Venezuela by virtue of labeling are associated with the "Herbier E. Drake." In a number of instances "MOCQUERYS, VENEZUÉLA" is stamped in purple ink on the original ticket provided by Mocquerys (see e.g., *Lockhartia acuta* (Lindl.) Rehb. f., P barcode P00456054) or stamped on a separate label on these specimens. According to Bureau (1904: cxxiii), Drake and his curator were in the habit of placing on the left of a sheet the original label or ticket of the collector and on the right, the label of the botanist who provided the determination.

Many, but not all, of the Mocquerys specimens are numbered. The numbered collections are not ordered in a way that reflects the known chronology of Mocquerys'

itineraries and, as with his bird collections, the implication is that the specimens were processed out of chronological sequence (Zimmer and Phelps, 1954). It is unclear as to whether or not the numbers have corresponding field books or any other particular significance; field books and notes have not been found. We have seen or are aware of herbarium specimens with numbers between 1 and 1263, but in organizing our data we see large gaps in the number sequence. As a rule, locality data are sparse and imprecise by current standards (Fig. 2).

Interestingly, Mocquerys collected almost exclusively herbaceous and shrubby material and rarely, if ever, trees. This suggests a certain degree of opportunism or even a mercenary attitude toward this endeavor. He left us some clues as to his plant collecting practices and compensation when after his trip to Venezuela he wrote Casimir de Candolle (1836–1918) soliciting the latter's patronage for a proposed collecting trip to Madagascar (CJBG: 22 May 1896). Mocquerys mentioned that he had sent from Venezuela to Paris approximately 20,000 herbarium specimens for which he received 50 centimes (cents) each. As part of his sales pitch to de Candolle, Mocquerys described his plant collecting habits: each dried specimen is provided with a label that indicates whether the plant is an herb, shrub or

tree; also whether it is crawling, climbing or erect; and each label states the habitat, altitude, and locality where the plant was found. Also, as best as possible each specimen consists of flowers and seeds or fruits. If the latter are plentiful (and can be dried) they are set apart and numbered with the same number as the dried specimen. In addition, Mocquerys described how he tried to spend a month in each locality, leaving only when he had determined that he had exhausted the collection of interesting specimens.

In 1913, the Drake herbarium was acquired by the Muséum national d'Histoire naturelle, Paris (Bureau, 1904; Stafleu and Cowan, 1976) and as a consequence the primary set of Venezuelan plants collected by Mocquerys is now in the herbarium of that museum (P). After acquiring the Drake herbarium, Paris (P) distributed duplicate specimens to other herbaria and these duplicates are now found in A, AMES, B, BR, COL, CTES, F, G, K, LIL, MO, NY, RB, S, SI, TEX, U, US, VEN, and W, at least (Vegter, 1976; Espinoza and Rodríguez, 2007; JSTOR Global Plants, 2017; Dorr, unpubl.; acronyms follow Thiers, 2017). Most of the data on the labels of specimens outside of Paris, and a good number within, are copied data; duplicate labels handwritten by one or more technicians or assistants working in the herbarium in Paris. Almost without exception the



FIGURE 2. Labels used on Venezuelan plant specimens collected by Mocquerys and distributed by Paris. A, Printed label with hand-written data. B, Label with data copied by hand. C, Label with Mocquerys' handwriting. D, Label accompanying the preceding and associating the specimen with Drake del Castillo and the herbarium in Paris. (All labels courtesy of US).

material distributed by Paris indicates that the specimens were part of the “HERBIER E. DRAKE” (Fig. 2B, D) or “Ex HERBIER E. DRAKE” (Fig. 2A). Occasionally specimens also have a printed label “MOCQUERYS.—PLANTES DE VENEZUELA (1893–94),” but invariably hand-lettered locality data (Fig. 2A). One also sometimes finds specimens that have labels with field notes handwritten by Mocquerys (see e.g., Fig. 2C).

A handwritten label on one of the orchids collected by Mocquerys, “*Oncidium ampliatum* Lindl.” (= *Chelyorchis pardoi* Carnevali & G.A. Romero; see Carnevali et al. 2009; P barcode P00437010), tells us that he also collected living material in Venezuela for Alexandre Godefroy-Lebeuf (1852–1903). The label on this specimen reads “Fleurs jaune; d’une orchidée à bulbe aplati, dont j’envoie une

certaine quantité par ce même courier, pour M^r Godefroy-Lebeuf.” As with Drake, Mocquerys had established prior to his South American expedition a relationship with this French horticulturist who was one of the principal French importers of exotic orchids (Dorr, 1997; Dorr and Nicolson, 2009). It was only a few years earlier that Mocquerys had sent Godefroy-Lebeuf living material of orchids from West Africa (Godefroy-Lebeuf, 1892).

Fossil shells: In early November 1893 Mocquerys wrote Rothschild that among other items he was about to send from Puerto Cabello (NHM: TM 1/3/11) were two boxes of fossils. The fossils had been found at Lago de Valencia and were later (NHM: TM 1/3/11) described as fossil shells. The contents of these two boxes have not been traced.

EPILOGUE

After leaving Venezuela, Mocquerys continued his itinerant lifestyle. From December 1894 to February 1895 he collected birds and insects on and near the southwestern coast of the Caspian Sea (Roselaar and Aliabadian, 2007; NHM: TM 1/14/22). He was not, however, done with Venezuela. He wrote Rothschild from Bakou (i.e., Baku, Azerbaijan) that his father had written him from Évreux to let him know that another box from Venezuela had arrived after his departure for Persia. He thought that this box would have specimens of interest for Rothschild, but his father Émile wrote Hartert that all that he had received from Venezuela since his son’s departure was a box of plants and that he hoped the box intended for Rothschild was not lost (NHM: TM 1/14/22).

Following his quick trip to Persia, Mocquerys settled briefly in Bône (now Annaba), Algeria to practice dentistry, but having secured new (and some old) patrons he explored Madagascar from 1897 to 1898 where he collected birds, small vertebrates, crustacea, insects, and plants on the East coast and adjacent Île Ste Marie (Dorr, 1997, 2004, 2014). Subsequently Mocquerys collected birds, insects, and plants off the coast of West Africa in São Tomé from 1899 to 1900 (Dorr, 2014). There is evidence that he collected birds, at least, as late as 1904 in Angola, Príncipe, and the

Cape Verde Islands; whether or not this was a continuation of his São Tomé trip or a separate trip or trips is unclear. A final collecting trip from late 1908 until early 1910 focused on birds of the Pantanal in southern Brazil (Simon, 1912; Menegaux, 1917). We suspect that Mocquerys ultimately settled in Tunisia where his father and brother resided and we assume this is where he died in 1926.

There were no dramatic discoveries or consequences emanating from Mocquerys’ collecting activities in Venezuela. Although a number of animals were described as new, we know of only two species of plant described from his Venezuelan collection; *Andropogon mocquerysii* Benoist (Poaceae) and *Miconia mocquerysii* Wurdack (Melastomataceae). The number of plant specimens sent to France, however, was remarkable and represents a different type of botanical legacy. The specimens (along with his zoological collections) are part of the slow but important accretion of new records that eventually lead to a better understanding of species distributions and morphology. Certainly the commercial aspect of Mocquerys’ collecting influenced what he gathered; when one is paid by the piece then any piece will suffice. A sharper focus on plants and an effort to collect trees might have produced more interesting results for the botanist.

VENEZUELAN LOCALITIES ON MOCQUERYS SPECIMENS

Mocquerys used relatively few Venezuelan place names on his specimens. The following list accounts for all the names of localities that we have encountered. In this gazetteer the locality used on a specimen is first given in bold letters. It is then followed in brackets by the state and first order subdivision (“municipio”), geographical coordinates, a brief description, dates (when known but invariably imprecise), and the nature of the material collected. If no source is cited after the coordinates then we have inferred the latitude and longitude from maps of the relevant state.

Barquisimeto [Lara: Iribarren]: 10°04'N, 069°19'W (Paynter, 1982); now largest city and capital of Lara state; no precise date, probably October and November 1893; plants. Note: Barquisimeto was connected by railroad with Puerto Cabello (Filsinger, 1922; Yarrington, 1997: 78) and

we assume this is how Mocquerys traveled to this city from the coast.

Bucarito [Lara: Morán]: ca. 09°47'N, 069°48'W; a mountainous ridge terminating the “savanne de Bucarito” south of El Tocuyo (see below), a locality that is not found on present-day maps; October and November 1893 (Hartert, 1894: 674, as “hills near Bucarito, in the state of Tocuyo,” 1922: 365, as “Mt. Bucarito, Tucuyo;” Hellmayr, 1903: 530, as “ad mons Bucarito, Tucuyo;” 1908: 19, as “Mount Bucarito, state of Tocuyo;” Phelps, 1944: 331, as “Cerro Bucarito;” Zimmer and Phelps, 1944: 3, as “Mt. Bucarito;” birds and plants. Note: Paynter (1982) placed Bucarito 50 km northwest of Barquisimeto, but Mocquerys clearly indicated in a letter to Rothschild (NHM: TM 1/3/11) that it was south of El Tocuyo. Also, with bird specimens, at least, the many

variations of this place name are invariably associated with El Tocuyo (see below). One herbarium specimen (*Pleurophora anomala* (A. St.-Hil.) Koehne, *Mocquerys 15*, VEN) is labeled "Sanare, Bucarito". Sanare is a village ca. 15 km south southeast of El Tocuyo. Paynter's (1982) mistake is understandable because there are many localities in Venezuela named "Bucarito".

Bucarito, Cerro (see Bucarito).

Bucarito, Sanare (see Bucarito).

Bucarito, Savane de (see Bucarito).

Caripe [Monagas: Caripe]: 10°12'N, 063°29'W (Paynter, 1982); near the head of the Río Caripe, 46 km west of Caripito and 23 km east of San Antonio de Maturín near Cueva del Guácharo; January 1894 (Phelps, 1944: 331; Zimmer and Phelps, 1954: 3); birds, insects, mammals, and plants. Note: There is a suspicion that some of the birds that are labeled Caripe were actually collected elsewhere (see text).

Cumaná [Sucre: Sucre]: 10°28'N, 064°10'W (Paynter, 1982); largest city and capital of Sucre state, it is a Caribbean port 70 km northeast of Barcelona; January and May 1894 (Hartert, 1927: 29; Phelps, 1944: 331; AMNH skin 472557); birds, mammals, and plants. Note: The May record is based on label data transcribed from birds skins at the AMNH.

Cumanacoa [Sucre: Montes]: 10°15'N, 063°55'W (Paynter, 1982); upper valley of Río Manzanares, 40 km southeast of Cumaná; no precise date, but probably January 1894; birds and plants.

Duaca [Lara: Crespo]: 10°18'N, 069°10'W (Paynter, 1982); village between the Sierra de Bobare and the Sierra de Aroa, 30 km northeast of Barquisimeto; October to December 1893 (Phelps, 1944: 331); birds and plants. Note: When Mocquerys visited Duaca, the village was connected by railroad with Barquisimeto and Puerto Cabello (Filsinger, 1922; Yarrington, 1997: 78) and we assume this is how Mocquerys traveled there from the coast.

Ejido [Mérida: Campo Elías]: 08°33'N, 071°14'W (Paynter, 1982); 10 km southwest of Mérida on the Río Chama; March and April 1894 (Hartert, 1897: v, as "April 1897"; Phelps, 1944: 331); birds and plants.

Guácharo, El [Monagas: Caripe]: 10°09'N, 063°32'W (Paynter, 1982); the cave of the "Guácharo," 5 km southwest of Caripe and 19 km east of San Antonio de Maturín; January 1894 (Hartert, 1922: 396; Hellmayr, 1906: 91; Phelps, 1944: 331); birds.

Guaira, La [Vargas: Vargas]: 10°36'N, 066°56'W (Paynter, 1982); a Caribbean port 10 km north of Caracas; no precise date; plants.

Lagunillas [Mérida: Sucre]: 08°31'N, 071°24'W (Paynter, 1982); 28 km southwest of Mérida on the Río Chama; March 1894 (Phelps, 1944: 331, without precise date); birds.

Maracaibo [Zulia: Maracaibo]: 10°40'N, 071°37'W (Paynter, 1982); city on west side of the strait that connects the Lago de Maracaibo and the Golfo de Venezuela; March and April 1894 (Phelps, 1944: 331); birds, insects, and plants. Note: Régimbart (1902: 191) cited a Mocquerys insect collection made here under electric street lamps in November but that month seems implausible.

Mariara [Carabobo: Diego Ibarra]: 10°18'N, 067°43'W; ca. 15 km west of the city of Maracay (Aragua state) on the railroad and the north shore of Lago de Valencia; 1894 without month(s); plants. Note: This is undoubtedly the Hacienda "Mariara" mentioned by Zimmer and Phelps (1954, Fig. 1). It is unclear as to whether or not it was a stop on the "Gran Ferrocarril de Venezuela" when Mocquerys visited; construction of this railroad connecting Caracas and Valencia was completed in February 1894.

Mérida [Mérida: Libertador]: 08°36'N, 071°08'W (Paynter, 1982); largest city and capital of Mérida state, it is located in the valley of the Río Chama between the Sierra del Norte and the Sierra Nevada de Mérida; April 1894 (Hartert, 1897: v, as "April 1897"; Phelps, 1944: 331); birds, mammals, and plants. Note: Some plants were collected "Près Mérida" at 2000 m or in "páramo" at 2700 m and clearly were gathered from the surrounding mountains rather than the city proper. In a letter to Rothschild (NHM: TM 1/14/22), Mocquerys mentions visiting the Páramo de Zumbador (ca. 08°00'N, 072°05'W; Paynter, 1982), but no individual collection or collections can now be tied to this locality in Táchira state southwest of the city of Mérida. One bird skin (AMNH skin 731040) is said to be from "Río Marregas," which undoubtedly is a transcription error for the Río Albarregas that runs through the city.

Mucuchíes [Mérida: Rangel]: 08°45'N, 070°55'W (Paynter, 1982); 29 km northeast of Mérida in the upper valley of the Río Chama; March and April 1894 (Phelps, 1944: 331); birds.

Puerto Cabello [Carabobo: Puerto Cabello]: 10°28'N, 68°01'W (Paynter, 1982); a Caribbean port 33 km north of Valencia; November and December 1893, January 1894 (correspondence); fishes, insects, and plants.

San Antonio de Maturín [Monagas: Acosta]: 10°07'N, 063°43'W (Paynter, 1982); 25 km southeast of Cumanacoa (Sucre state); January 1894 (Phelps, 1944: 331, as "San Antonio"); birds. Note: Also known as San Antonio de Capayacuar or San Antonio del Río Colorado.

San Carlos del Zulia [Zulia: Colón]: 09°40'N, 071°55'W (Paynter, 1982); on the Río Escalante 20 km from the southwest coast of Lago de Maracaibo; March 1894 (Phelps, 1944: 331, as "San Carlos, Zulia"); birds.

San Esteban [Carabobo: Puerto Cabello]: 10°26'N, 068°01'W (Paynter, 1982); a small cocoa-producing village in a valley on the north slope of the Cordillera de la Costa 5 km south of Puerto Cabello; September and October 1893 (Phelps, 1944: 331; correspondence); birds, fishes, and plants.

Tocuyo, El [Lara: Morán]: 09°47'N, 069°48'W (Paynter, 1982); 60 km southwest of Barquisimeto near the head of the Río Tocuyo; October and November 1893; birds. Note: This locality is invariably cited as "Tucuyo" and is clearly the city of Tocuyo (or El Tocuyo) and not a former district in Lara state with the same name (see also NHM: TM 1/3/11). This name is also associated with "Cerro Bucarito" (see above).

Valencia [Carabobo: Valencia]: 10°11'N, 068°00'W (Paynter, 1982); largest city and capital of Carabobo state, it is located 10 km west of Lago de Valencia and 30 km

inland from Puerto Cabello; October to December 1893 (Thomas, 1903: 383; Phelps, 1944: 331; correspondence); birds, mammals, and fossil shells. Note: At least one bird skin (AMNH skin 500731) is said to be from the “Laguna de Valencia”. Similarly, fossils collected before 6 November 1893 (NHM: TM 1/3/11) are from the “lagune de Valencia”.

Valencia, Lago de (see Valencia).

Valencia, Laguna de (see Valencia).

Vigía, El [Mérida: Alberto Adriani]: 08°38'N, 071°39'W (Paynter, 1982); on the Río Chama 55 km west of Mérida; no precise date, probably March and April 1894; plants.

Zulia: A Venezuelan state that almost entirely surrounds Lago de Maracaibo and also borders Colombia on the west and the Venezuelan states of Táchira, Mérida, Trujillo, Lara, and Falcón on the east; no precise date, probably March and April 1894; plants.

ARCHIVAL SOURCES

AMNH = Ornithology Collections Database, American Museum of Natural History, New York. [<http://research.amnh.org/vz/ornithology/collection-database>].

CJBG = Archives des Conservatoire et Jardins botaniques, Genève.

NHM = Library and Archives, Natural History Museum, London. [<http://www.nhm.ac.uk/our-science/departments-and-staff/library-and-archives/collections.html>].

LITERATURE CITED

- ANDRÉ, E. 1889. Hyménoptères nouveaux appartenant au groupe des formicides. *Rev. Entomol.* 8: 217–231.
- . 1890. Matériaux pour servir à la faune myrmécologique de Sierra-Leone (Afrique occidentale). *Rev. Entomol.* 9: 311–327.
- ANONYMOUS. 1879. Nécrologie. *Petites Nouv. Entomol.* 2: 311.
- . 1916. Nécrologie. *Bull. Soc. Entomol. France* 1916(18): 277.
- ARNAL, P. 1943. Exploraciones Botánicas en Venezuela. Tipografía Americana, Caracas.
- BIRKHEAD, T. R., J. WIMPENNY, AND R. D. MONTGOMERIE. 2014. Ten thousand birds: Ornithology since Darwin. Princeton University Press, Princeton, New Jersey.
- BUREAU, ÉD. 1904. Notice sur Emmanuel Drake del Castillo. *Bull. Soc. Bot. France* 51: cxvii–cxxxiii.
- BURNE, R. H., AND J. R. NORMAN. 1943. Charles Tate Regan 1878–1943. *Obit. Not. Fellows Roy. Soc.* 4(12): 411–426.
- CARNEVALI FERNÁNDEZ-CONCHA, G., R. DUNO DE STEFANO, G. A. ROMERO-GONZÁLEZ, AND R. BALAM. 2009. A reappraisal of the turtle-orchids, genus *Chelyorhis* (Oncidiinae: Orchidaceae): Molecular, phylogenetic, and morphometric approaches. *J. Torrey Bot. Soc.* 136(2): 164–185.
- CARPENTER, J. M. 1999. Taxonomic notes on paper wasps (Hymenoptera: Vespidae: Polistinae). *Amer. Mus. Novit.* 3259: 1–44.
- CASARI, S. A. 2002. Review of the genus *Chalcolepidius* Eschscholtz, 1829 (Coleoptera, Elateridae, Agrypninae). *Rev. Bras. Entomol.* 46: 263–428.
- CORY, C. B., AND C. E. HELLMAYR. 1924. Catalogue of birds of the Americas. Part III. Pteroptochidae–Conopophagidae–Formicariidae. *Publ. Field Mus. Nat. Hist.* 223, Zool. Ser. 13 (3): i–vii, 1–369, t. 1.
- DORR, L. J. 1997. Plant collectors in Madagascar and the Comoro Islands. Royal Botanic Gardens, Kew.
- . 2004. Albert Mocquerys. *Newslett. Soc. Hist. Nat. Hist.* 80: 10–11.
- . 2014. Albert Mocquerys (1860–1926): An attempt to understand the African itineraries of a commercial collector. *Scripta Bot. Belg.* 52: 130.
- AND D. H. NICOLSON. 2009. *Taxonomic Literature*, 2d ed., Supplement 8. A.R.G. Gantner Verlag K.G., Ruggell, Liechtenstein.
- ESPINOZA, Y., AND L. RODRÍGUEZ. 2007. Colección de muestras históricas del Herbario Nacional de Venezuela (VEN). XVII Congr. Venez. Bot. 2007: 419–421.
- FAUVEL, A. 1880. S. Mocquerys. *Annuaire Entomol.* 1880: 121–122.
- FILSINGER, E. 1922. Commercial travelers' guide to Latin America, Revised ed. Government Printing Office, Washington, D.C.
- FITZPATRICK, J. W., AND D. F. STOTZ. 1997. A new species of tyrannulet (*Phylloscartes*) from the Andean foothills of Peru and Bolivia. *Ornithol. Monogr.* 48: 37–44.
- [GODEFROY-LEBEUF, A.]. 1892. Petites nouvelles. *Orchidophile* 12: 160.
- HARTERT, E. 1893. On the birds of the islands of Aruba, Curaçao, and Bonaire. *Ibis*, ser. 6, 5: 289–338, tt. 8–9.
- . 1894. On two new Venezuelan birds. *Novit. Zool.* 1: 674–675, t. 15.
- . 1897. A new species of *Leptotriccus* was also exhibited by Mr. Hartert... *Bull. Brit. Ornithol. Club* 7: v.
- . 1922. Types of birds in the Tring Museum. *Novit. Zool.* 29: 365–412.
- . 1927. Types of birds in the Tring Museum. *Novit. Zool.* 34: 1–38.
- HELLMAYR, C. E. 1903. Bemerkungen über neotropische Vögel. *J. Ornithol.* 51: 527–539.
- . 1906. Mr. C. E. Hellmayer described and exhibited the types of two new species of Neotropical birds *Bull. Brit. Ornithol. Club* 16: 90–92.
- . 1908. An account of the birds collected by Mons. G. A. Baer in the state of Goyaz, Brazil. *Novit. Zool.* 15: 13–102.
- HINTON, M. A. C. 1929. MR. M. R. OLDFIELD THOMAS, F. R. S. *Nature* 124: 101–102.
- HORN, W., AND I. KAHLE. 1936. Über entomologische Sammlungen (Ein Beitrag zur Geschichte der Entomo-Museologie). *Entomol. Beih. Berlin-Dahlem* 3: 161–296, tt. 17–26.
- HUA, H. 1893. *Mocquerysia*, nouveau genre à fleurs épiphyllées de l'Afrique tropicale occidentale. *J. Bot. (Morot)* 7: 257–260, t. 3.
- HUBER, O., R. DUNO, R. RIINA, F. STAUFFER, L. PAPTERRA, A. JIMÉNEZ, S. LLAMOZAS, AND G. ORSINI. 1998. Estado actual del conocimiento de la Flora en Venezuela. *Doc. Técn. Estrategia Nac. Divers. Biol.* 1: 1–153.
- HUMBOLDT, A. VON. 1817. Mémoire sur le Guacharo de la caverne de Caripe, nouveau genre d'oiseux nocturnes de la famille des Passereaux. Pages 139–144 in A. VON HUMBOLDT AND A. BONPLAND. *Recueil d'observations de zoologie et d'anatomie comparée, faites dans l'océan atlantique, dans l'intérieur du nouveau continent et dans la mer du sud pendant les années 1799, 1800, 1801, 1802 et 1803*, volume 2, Zoologie, no 3. J. Smith, Paris.

- HURTADO LEÓN, I. 1999. José Saer D'Héguert: Botánico e intelectual venezolano del siglo XX: Estudio introductorio y compilación documental. Fundación Jardín Botánico Naguanagua y Herbario de Carabobo: Consejo de Desarrollo Científico y Humanístico de la Universidad de Carabobo, Valencia, Venezuela.
- JOLY, L. J., AND H. E. ESCALONA G. 2010. El género *Dyscinetus* Harold (Coleoptera: Scarabaeidae: Dynastinae: Cyclocephalini) en Venezuela y la descripción de una nueva especie. Pap. Avulsos Zool. (São Paulo) 50: 203–231.
- JORDAN, K. 1894. On African Longicornia. Novit. Zool. 1: 139–266, tt. 8–10.
- JSTOR GLOBAL PLANTS. 2017. Trademark of ITHAKA. <http://plants.jstor.org/> (Accessed March 1, 2017).
- KOENIG, CH. 1900. "Un lot d'objets pahouins provenant du Congo français...." Bull. Soc. Hist. Nat. Colmar, n.s., 5: lxi–lxii.
- LINDORF, H. 2008. Historia de las exploraciones botánicas en Venezuela. Pages 17–40 in O. HOKCHE, P. E. BERRY, AND O. HUBER, EDs. Nuevo catálogo de la flora vascular de Venezuela. Fundación Instituto Botánico de Venezuela Dr. Tobías Lasser, Caracas.
- MENEGAUX, A. 1917. Étude d'une collection d'oiseaux du Matto Grosso. Rev. Franç. Ornithol. 5: 24–26, 37–40, 84–88.
- MIDDLETON, R. M., JR. 1896. On a remarkable use of ants in Asia Minor. Zool. J. Linn. Soc. 25: 405–406.
- MOCQUERYS, É. 1844. "M. Reiche donne, d'après M. E. Mocquerys, quelques détails sur une fourmi du genre *OEcodome*...." Ann. Soc. Entomol. France, sér. 2, 2: lxxvii.
- MURPHY, R. C. 1932. Moving a museum. Nat. Hist. 32(6): 497–511.
- PAYNTER, R. A., JR. 1982. Ornithological gazetteer of Venezuela. Bird Department, Museum of Comparative Zoology, Harvard University, Cambridge.
- PÉREZ-VILA, M., grupo ed. 1988. Diccionario de historia de Venezuela 3: 1142–1143. Fundación Polar: Caracas.
- PHELPS, W. H. 1944 [1945]. Resumen de las colecciones ornitológicas hechas en Venezuela. Bol. Soc. Venez. Ci. Nat. 9: 325–444.
- AND W. H. PHELPS, JR. 1940. Notas sobre aves venezolanas. Bol. Soc. Venez. Ci. Nat. 11: 189–210.
- PITTIER, H. 1931. El estado actual de nuestros conocimientos acerca de la flora de Venezuela. Bol. Soc. Venez. Ci. Nat. 4: 133–152.
- REGAN, C. T. 1905. Description of a new Loricariid fish of the genus *Xenocara* from Venezuela. Novit. Zool. 12: 242.
- RÉGIMBART, M. 1895. Révision des Dytiscidae et Gyrinidae d'Afrique, Madagascar et îles voisines en contribution à la faune entomologique du Congo. Mém. Soc. Entomol. Belg. 4: 1–244.
- . 1902. Révision des grand Hydrophiles. Ann. Soc. Entomol. France 70: 188–232, tt. 7–8.
- . 1903. Liste des Dytiscidae & Gyrinidae recueillis par le D^r Philippe Silvestri dans l'Amérique méridionale de 1898 à 1900. Bull. Soc. Entomol. Ital. 35: 46–74.
- RONDÓN MÁRQUEZ, R. A. 1973. Crespo y la Revolución Legalista. Ediciones de la Contraloría: [Caracas].
- ROSELAAR, C. S., AND M. ALIABADIAN. 2007. A century of breeding bird assessment by western travellers in Iran, 1876–1977. Podoces 2: 77–96.
- ROTHSCHILD, M. 1955. Karl Jordan—a biography. Trans. Roy. Entomol. Soc. London 107: 1–9.
- . 1983. Dear Lord Rothschild: Birds, butterflies and history. ISI Press, Philadelphia.
- ROTHSCHILD, W. 1919. Supplementary notes to the review of Houlbert and Oberthür's monograph of Castniinae by Talbot and Prout. Novit. Zool. 26: 1–27.
- AND K. JORDAN. 1903. A revision of the lepidopterous family Sphingidae. Novit. Zool. 9 (Suppl.): i–cxxxv, 1–972, tt. 1–67.
- SIMON, É. 1912. Note sur quelques Trochilidae du Matto-Grosso (Brésil). Bull. Mus. Natl. Hist. Nat. 18: 500–502.
- SNOW, D. W. 1973. Robert Cushman Murphy and the 'Journal of the Tring Trip.' Ibis 115: 607–611.
- STAFLEU, F. A., AND R. S. COWAN. 1976. Taxonomic literature. 2d ed., volume 1. Bohn, Scheltema and Holkema, Utrecht.
- THIERS, B. 2017. Index Herbariorum: A global directory of public herbaria and associated staff. New York Botanical Garden's Virtual Herbarium. <http://sweetgum.nybg.org/science/ih/> (Accessed March 1, 2017).
- THOMAS, O. 1894. Descriptions of some new Neotropical Muridae. Ann. Mag. Nat. Hist., ser. 6, 14: 346–366.
- . 1897. Descriptions of new bats and rodents from America. Ann. Mag. Nat. Hist., ser. 6, 20: 544–553.
- . 1898. Descriptions of new mammals from South America. Ann. Mag. Nat. Hist., ser. 7, 2: 265–275.
- . 1903. Two South-American forms of *Rhogeessa*. Ann. Mag. Nat. Hist., ser. 7, 11: 382–383.
- VEGTER, I. H. 1976. Index Herbariorum. Part II(4). Collectors M. Regnum Veg. 93: 475–576.
- WURDACK, J. 1972. Certamen Melastomataceae XVIII. Phytologia 22: 399–418.
- YARRINGTON, D. 1997. A coffee frontier: Land, society, and politics in Duaca, Venezuela, 1830–1936. University of Pittsburgh Press, Pittsburgh, Pennsylvania.
- ZIMMER, J. T. AND W. H. PHELPS. 1944. New species and subspecies of birds from Venezuela. I. Amer. Mus. Novit. 1270: 1–16.
- AND ———. 1954. A new flycatcher from Venezuela, with remarks on the Mocquerys collection and the piculet, *Picummus squamulatus*. Amer. Mus. Novit. 1657: 1–7.