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Herpetological observations on Cape Verde: a tribute to the Italian naturalist LEONARDO FEA, with complementary notes on *Macroscincus coctei* (DUMÉRIL & BIBRON, 1839)
(Squamata: Scincidae)

Herpetologische Beobachtungen auf den Kapverdischen Inseln: Eine Würdigung des italienischen Naturforschers LEONARDO FEA, mit Bemerkungen über *Macroscincus coctei* (DUMÉRIL & BIBRON, 1839)
(Squamata: Scincidae)

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KURZFASSUNG

Während seines Aufenthaltes auf dem Kapverdischen Inselarchipel besuchte der italienische Naturforscher LEONARDO FEA im Jahre 1898 die Inseln São Vicente, Ilhéu Raso, São Nicolau, Boavista, Santiago, Fogo, Brava und Ilhéus do Rómbo. Auf Ilhéu Raso sammelte er unter anderem einige Exemplare des gegenwärtig als ausgestorben geltenden Kapverdischen Riesenskinks *Macroscincus coctei* (DUMÉRIL & BIBRON 1839). Hundert Jahre danach besuchte der Autor der vorliegenden Arbeit einige dieser Inseln und gibt eine Tabelle der von ihm beobachteten herpetologischen Taxa. Interessante Exemplare des Riesenskinks in den italienischen Naturkundesammlungen von Turin, Treviso, Genua und Florenz und die Herkunft dieser Sammlungsobjekte werden diskutiert. Insbesonders lassen sich 32 in Turin und Treviso wiederentdeckte Exemplare von *M. coctei* auf einen Import des Turiner Herpetologen M. G. PERACCA im Jahr 1891 zurückführen. In der Sammlung in Genua befinden sich weitere Exemplare sowie andere bisher nicht nachuntersuchte Skinke und Geckos, die auf FEAs Sammlungstätigkeit auf den Kapverden zurückgehen. Ein Exemplar von *M. coctei* des Museums in Florenz trägt die Fundortbezeichnung São Vicente, eine Insel, die bisher nicht als Vorkommensgebiet von *M. coctei* bekannt war. Die ehemalige Verbreitung des Taxons wie auch Aspekte seiner Auslöschung werden diskutiert.

ABSTRACT

In 1897 and 1898 the Italian naturalist LEONARDO FEA made an expedition to western Africa, including the Cape Verde Archipelago. During his residence in the archipelago, he visited the islands of São Vicente, Ilhéu Raso, São Nicolau, Boavista, Santiago, Fogo, Brava, and Ilhéus do Rómbo. On Ilhéu Raso he collected some specimens of *Macroscincus coctei* (DUMÉRIL & BIBRON 1839), a giant skink currently considered as extinct. One hundred years later, the author of this paper visited some of these islands and made observations on their herpetofauna. Moreover, the presence of interesting specimens of the Cape Verde Giant Skink in the Italian natural history collections of Turin, Treviso, Genoa, and Florence, and their provenance are discussed. In particular, 32 specimens rediscovered in the museums at Turin and Treviso are referable to an importation by the Turinese herpetologist M. G. PERACCA made in 1891. At the Genoa collection, further specimens (partly referable to FEA's collections) are housed together with other not yet re-examined skinks and geckos from this archipelago. At the museum of Florence, a single specimen of *M. coctei* was found labelled São Vicente. This island was not known to belong to the repartition area of *M. coctei*. Finally, the former distribution of *M. coctei* and aspects of its extinction are discussed.

KEY WORDS

Reptilia, Squamata, Scincidae; *Macroscincus coctei*, LEONARDO FEA, Italian natural history collections; Cape Verde Islands, Portugal

INTRODUCTION

In 1897 and 1898, the Italian naturalist LEONARDO FEA (fig. 1) made an expedition to western Africa and the Cape Verde Islands. This zoologist, born in Turin and employed as assistant at the Natural History Museum in Genoa (Museo Civico "G. DORIA" di Storia Naturale), was an enthusiast traveller and explorer. To him, the visit of the Cape Verde Islands lying about 500 km off the Senegalese coast (fig. 2), was a "quiet travel" since he just had come from a long-time expedition to Bur-

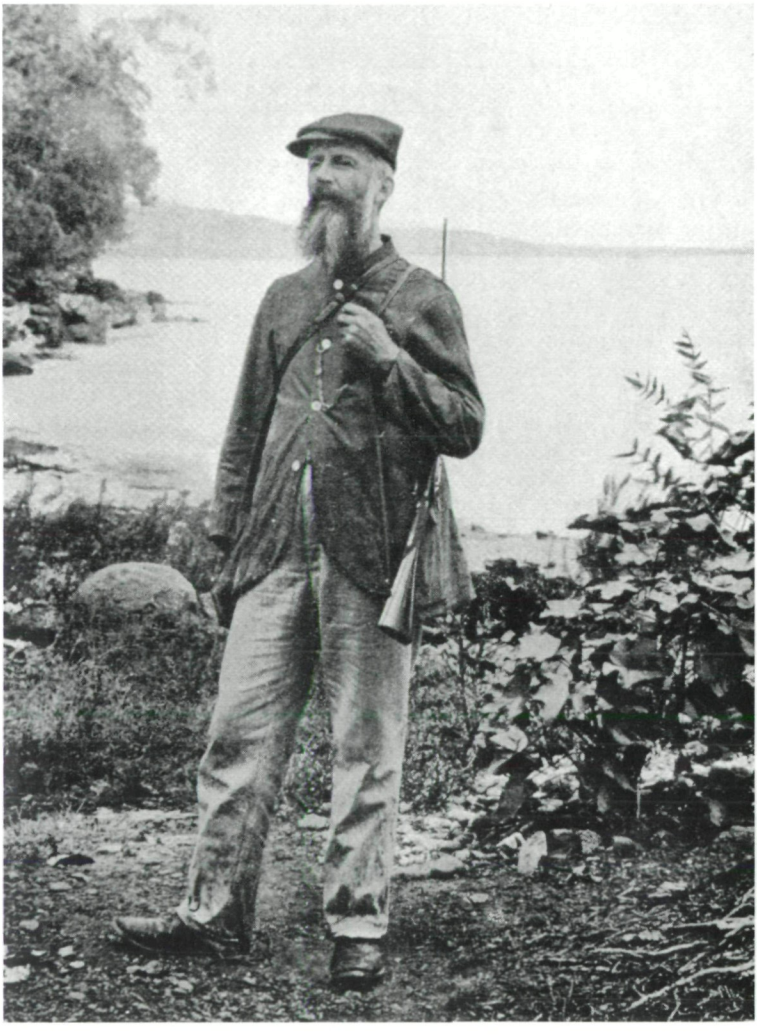

Fig. 1: LEONARDO FEA photographed at São Thomé (from GESTRO 1904).
Abb. 1: LEONARDO FEA photographiert auf São Thomé (aus GESTRO 1904).

ma (Myanmar) (FEA 1896; GESTRO 1904).

On the Cape Verde Islands, which have been periodically affected by terrible droughts, FEA made some remarkable collections and observations, witnessed and illustrated by nice incisions in his "lettere" published in the "Bollettino della Società Geografica Italiana" (FEA 1898 a, 1898 b, 1899 a, 1899 b, 1899 c).

FEA, who was used to the richness and specific diversity of the fauna of Burma, was rather "disappointed" by the scarcity of "subaerian" animals in the Cape Verde Islands. Notwithstanding FEA's "feeling", the Cape Verde Islands are characterized by a high number of endemic plants and animals (SCHLEICH & SCHLEICH 1995). After all, FEA collected many animals and plants, and found even some new taxa, such as the sea bird *Pterodroma feae* SALVADORI, 1899, and the reptiles *Mabuya spinalis* BOULENGER, 1906, *Hemidactylus boavistensis* BOULENGER, 1906, and *Tarentola rudis* BOULENGER, 1906 (now *M. spi-*

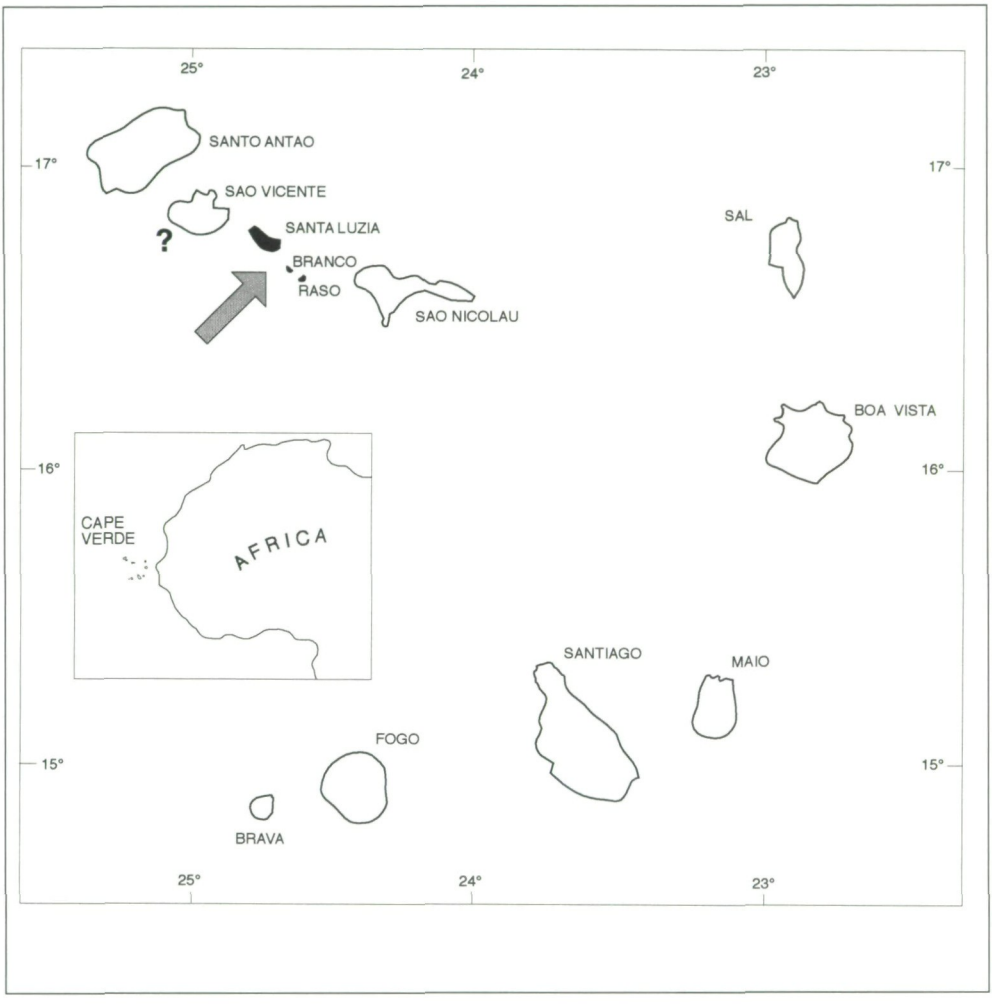

Fig. 2: Map of the Cape Verde Archipelago.
The arrow indicates the three "Ilhas Desertas" (Santa Luzia, Branco, and Raso) from which findings of *M. coctei* are known; the question mark indicates São Vicente Island, the doubtful provenance locality of the Florence specimen.

Abb. 2: Karte des kapverdischen Archipels.
Der Pfeil weist auf die drei "Ilhas Desertas" (Santa Luzia, Branco und Raso), von denen Funde von *M. coctei* bekannt sind; das Fragezeichen bezeichnet die Insel São Vicente, den zweifelhaften Herkunftsort des Exemplars aus der Sammlung von Florenz.

nalis spinalis, *H. bouvieri boavistensis*, and *T. rudis rudis*).

Most of the herpetological specimens collected by FEA have not yet been re-examined since. According to our present knowledge, the largest bulk of this material is stored at the Genoa Natural History Museum. Among the most interesting animals are some specimens of the Cape Verde Giant Skink, *Macroscincus coctei* (DUMÉRIL & BIBRON, 1839), a species which has been said to be extinct (SCHLEICH 1982; BALOUET & ALIBERT 1989; BAILLIE & GROOMBRIDGE 1996; ANDREONE & GAVETTI 1998). FEA was one of the last naturalists to observe (and capture) this skink. Any-

Fig. 3: The alcohol preserved specimen MZST R2 (left) and the mounted specimen MZST R4 (right) of *Macroscincus coctei* at the Treviso collection can be referred to PERACCA's importation.

Abb. 3: Das in Alkohol konservierte Exemplar MZST R2 (links) und das montierte Trockenpräparat MZST R4 (rechts) von *Macroscincus coctei* an der Treviser Sammlung können auf einen Import PERACCAs zurückgeführt werden.

way, it is worth stressing that he was not the only Italian naturalist interested in *M. coctei*. Some years before, in 1891, M. G. PERACCA (assistant at the Zoological Museum in Turin) received about forty live specimens. As stressed by ANDREONE & GAVETTI (1998, 1999) this herpetologist was especially interested in keeping amphibians and reptiles in terraria which he had set up in his "estate" in Chivasso, next to Turin. The uniqueness of *M. coctei* endemic to some of the Cape Verde Islands made him buy and import a considerable series of this skink. The "rediscovered" 26 specimens in the Herpetological Collection of the University of Turin (currently managed by the Museo Regionale di Scienze Naturali: GAVETTI & ANDREONE 1993; ANDREONE & GAVETTI 1999) and six more specimens at Treviso (fig. 3) constitute - almost certainly - the largest series of this species worldwide.

The study of this material stimulated me to make a short herpetological excursion to Cape Verde, just one century after FEA. Like him, I visited the islands of Fogo, São Vicente, São Nicolau, Boavista, and Ilhéu Raso. I also looked for possible traces of *M. coctei* during a short stay on Ilhéu Raso, but without success.

Aim of this paper is to give a short account on the reptile taxa found during this survey and to compare these records with the data provided by FEA whose specimens are deposited at Genoa. Furthermore, some supplementary data on the specimens of *M. coctei* in Italian natural history museums are given, along with additional information about its distribution and possible causes of extinction.

MATERIALS AND METHODS

The Cape Verde Archipelago and the homonymous republic (17°13' - 14°48' N, 22°42' - 25°22' W) is part of the region Macaronesia (GUERRERO et al. 1997). The archipelago is composed of nine inhabited islands (island names according to HAZEVOET 1995): Santo Antao, São Vicente, São Nicolau ("Barlavento" sub-archipelago), Sal, Boavista, Maio, Santiago, Fogo, and Brava ("Sotavento" sub-archipelago). Three more islands (Santa Luzia, Ilhéu Branco, and Ilhéu Raso), almost midway between São Vicente and São Nicolau, are currently uninhabited and for this reason named "Ilhas desertas".

The 1998 survey was carried out as follows: São Vicente (11-16 March, 25-26 March, 1-2 April), São Nicolau (27-28 March), Boavista (3-6 April), Santiago (19-21 March), Ilhéu Raso (29-31 March), Fogo (22-24 March). Opportunistic searching and refuge examination were conducted in various natural habitats. Photographs were taken from all specimens to document their coloration and morphological features. Additionally, specimens from Cape Verde now stored in Italian natural history museums were analyzed.

Acronyms used throughout the paper are as follows: MZUT = Museo di Zoologia dell'Università degli Studi di Torino (collection now managed by Museo Regionale di Scienze Naturali, Torino); MSNG = Museo Civico "G. Doria" di Storia Naturale di Genova; MZUF = Museo di Storia Naturale dell'Università di Firenze, sezione di Zoologia "La Specola"; MZST = Museo Zoologico "G. Scarpa" di Treviso.

The lizard specimens of Cape Verde currently present at the museum of Genoa are enumerated (appendix I; preliminary taxonomic allocation) and a list of the lizard taxa of the various islands is given (table 1). Names and occurrence of the taxa in the various islands are indicated according to SCHLEICH (1987), JOGER (1993), and SCHLEICH & SCHLEICH (1995).

RESULTS

Macroscincus coctei (DUMÉRIL & BIBRON, 1839) in Italian natural history museums

The specimens *M coctei* at Turin (Museo Regionale di Scienze Naturali) and Treviso (natural history collection at the "Seminario Vescovile") are in part referable to the series imported by PERACCA at the end of the last century (ANDREONE & GAVETTI 1998). In two occasions (1891 a, 1891 b) PERACCA referred to the importation of about forty specimens, at present represented by 32 adults (MZUT R1981.1-26, MZST R1-6) and six eggs (MZUT R1981.27-32). All these specimens bear the collecting year "1891" and the provenance "Ilhéu Branco". This year was also the date of importation of several specimens of *M. coctei* now housed at London (ANDREONE & GAVETTI 1998). PERACCA had obtained the names of some animal dealers of that time from G. A. BOULENGER (or, perhaps, from A. GÜNTHER, head of the Zoological Department in London at that time). On May 9, 1902, the Portuguese collector F. NEWTON wrote a letter [Lisbon Museum - letter CN/N-147) to an unknown person telling us that he had been invited by PERACCA to visit some (Atlantic) islands, and to collect *M. coctei* ("...en grande quantidade 5 francos cada."), and *Tarentola* and other saurians ("...en quantidade, 1 franco cada."). This letter provides good reasons to believe that - after about ten years - the specimens collected in 1891 were dead, and PERACCA would have liked to receive some new specimens. Anyway, it seems that this 1902 importation was never made and all specimens actually preserved at Turin and Treviso are those of 1891. Some of these individuals were exchanged with or donated to other naturalists by PERACCA. This was indeed a common practice, since PERACCA had contacts to several zoologists and it was exactly what happened at Treviso, where the local naturalist G. SCARPA obtained *M. coctei* specimens (as well as other taxa) from PERACCA. Detailed information about these

specimens is reported elsewhere (ANDREONE & GAVETTI, 1998).

The mean snout-vent length (± SD) of PERACCA's *M. coctei* specimens at Turin and Treviso is 285.85 ± 25.12 mm (13 males) and 253.50 ± 17.00 mm (18 females). The mean length (± SD) of the six eggs stored at Turin is 36.55 ± 4.34 mm, with the diameter being 21.95 ± 1.43 mm. [In figure 7 of ANDREONE & GAVETTI (1998) the scale referring to the egg MZUT R1981.27 was erroneously given as 0 - 50 mm: the caption must be read as 0 - 50 mm. In table I of the same paper, the sex of the specimen MZUF 176 (a male), is erroneously given as 2¢ due to a typographic error]. As reported in ANDREONE & GAVETTI (1998) no information was given about their collector, although it is likely that the specimens were obtained through one of the natural history object dealers who acted at that time, or even through the aforementioned collector F. NEWTON.

Searching for more information about PERACCA's activity in his letters kept at the London Natural History Museum, some further details regarding *M. coctei* were discovered: PERACCA had some contacts with A. GÜNTHER, who suggested him to locate an islet off the Italian coast where to release tuataras *Sphenodon punctatus* (GRAY, 1842). In fact, in a letter addressed to GÜNTHER and dated 19 December 1891, PERACCA wrote: "J'ai exploré en Novembre quelques ilôts sur la côte mediterranéenne à la hauter de Orbetello (Cap Argentario) ...". There he had found two apparently deserted islets where he planned to "...introduire 4 *Macroscincus Coctaei*, une autre espèce qui ne tardera guère a disparaitre - et qui pourra y vivre...". According to our information he never attempted to proceed with such an introduction, especially because he "feared" that the exotic (and precious) species could have been found (and captured) by somebody else.

The specimens of *M. coctei* currently housed at the Genoa Museum are two males (MSNG 8769.1-2), collected (or donated) in 1891 by D. SCHIAVETTI, and (according to the label) coming from Ilhéu Branco. Another male specimen (MSNG 43132) is bare of any information, except for the presumed provenance (Ilhéu Branco). This series is completed by FEA's specimens (MSNG 34516, and MSNG 28891.1-2), all collected during his residence at Ilhéu Raso (27.X. - 07.XI.1898).

The last individual found in an Italian natural history museum (Florence) is the male MZUF 176, which was donated by G. CECCONI and bears São Vicente as provenance locality. This locality and the distribution of *M. coctei* will be discussed later in more detail.

Other Cape Verde reptiles at the museums of Turin and Genoa

At Turin, a few other Cape Verdean reptiles are present, beside the large series of *M. coctei*. Six specimens of *Mabuya stangeri* (GRAY, 1845) from São Vicente (MZUT R3234) were donated by G. CECCONI, while another specimen from Ilhéu Raso (MZUT R480) does not bear any clear

Table 1 (opposite page): Lizard taxa found by LEONARDO FEA [based upon the specimens housed at the Museo Civico "G. DORIA" di Storia Naturale di Genova (Genoa Natural History Museum)] and by the author on the Cape Verde Islands. Names and occurrence of the taxa in the various islands according to SCHLEICH (1987), JOGER (1993), and SCHLEICH & SCHLEICH (1995). The number of specimens housed at the Genoa Natural History Museum is provided, together with their status as types; complementary data is given in the appendix.

Author 1998 - occurrence according to the author's observations; FEA 1898 - occurrence in FEA's collection (Genoa). Underlined islands were visited by the author. Dates and duration of FEA's stays in parentheses; * - FEA's residence at São Vicente was not explicitely stated in his "letters".

Tab. 1 (gegenüberliegende Seite): Die von LEONARDO FEA [auf Grundlage der im Museo Civico "G. DORIA" di Storia Naturale di Genova (Naturhistorisches Museum Genua)] und vom autor auf den Kapverdischen Inseln gefundenen Echsentaxa. Namen und Vorkommen der Taxa auf den verschiedenen Inseln nach SCHLEICH (1987), JOGER (1993), und SCHLEICH & SCHLEICH (1995). Die Anzahl der im Naturhistorischen Museum von Genua befindlichen Exemplare und ihr Typenstatus sind angeführt. Zusätzliche Angaben finden sich im Appendix.

Author 1998 - Vorkommen aufgrund der Beobachtungen des Autors; FEA 1898 - Vorhandensein in FEAs Aufsammlung (Genua); Unterstrichene Inseln wurden vom Autor besucht. Daten und Dauer von FEAs Aufenthalten in Klammern; * - FEA's Aufenthalt auf São Vicente ist in seinen "Briefen" nicht ausdrücklich erwähnt.

	Author 1998	FEA 1898	Type material / Typenmaterial
São Vicente (→ 14. XII. 1897 *)			
Hemidactylus bouvieri bouvieri (BOCOURT, 1870)	+		
Hemidactylus brooki angulatus HALLOWELL, 1852	+		
Tarentola caboverdiana substituta JOGER, 1984	+		
Mabuya fogoensis (O'SHAUGNESSY, 1874) ssp.			
Mabuya stangeri stangeri (GRAY, 1845)	+		
Ilhéu Raso (27. X. - 7. XI. 1898)			
Hemidactylus bouvieri razoensis GRUBER & SCHLEICH, 1982			
Tarentola caboverdiana raziana SCHLEICH, 1984	+	2	
Tarentola gigas gigas (BOCAGE, 1875)	+	2	
Mabuya stangeri (GRAY, 1845)	+	40	
Macroscincus coctei (DUMÉRIL & BIBRON, 1839)		3	
São Nicolau (4. X. - 14. XII. 1898)			
Tarentola caboverdiana nicolauensis SCHLEICH, 1984	+	3	
Tarentola darwini JOGER, 1984			
Mabuya delalandii (DUMÉRIL & BIBRON, 1839)		2	
Mabuya fogoensis nicolauensis SCHLEICH, 1987	+	22	
Mabuya spinalis spinalis (BOULENGER, 1906)		1	
Boavista (17. XII. 1897 - 16. II. 1898)			
Hemidactylus bouvieri boavistensis BOULENGER, 1906	+	25	25 syntypes
Hemidactylus brooki angulatus HALLOWELL, 1852	+		
Tarentola rudis boavistensis JOGER, 1993	+	9	
Mabuya delalandii (DUMÉRIL & BIBRON, 1839)			
Mabuya spinalis salensis (ANGEL, 1935)	+	32	
Mabuya stangeri (GRAY, 1845)			
Santiago (17. II. - 28. V. 1898)			
Lygodactylus sp.			
Hemidactylus brooki angulatus HALLOWELL, 1852		28	
Hemidactylus bouvieri bouvieri (BOCOURT, 1870)			
Tarentola darwini JOGER, 1984			
Tarentola rudis rudis BOULENGER, 1906		5	2 syntypes
Mabuya delalandii (DUMÉRIL & BIBRON, 1839)		44	
Mabuya spinalis spinalis (BOULENGER, 1906)			
Mabuya vaillanti BOULENGER, 1887			
Fogo (29. V. - 17. VII. 1898)			
Hemidactylus bouvieri bouvieri (BOCOURT, 1870)			
Hemidactylus brooki angulatus HALLOWELL, 1852		3	
Tarentola darwini JOGER, 1984			
Tarentola rudis protogigas JOGER, 1984	+	9	
Mabuya delalandii (DUMÉRIL & BIBRON, 1839)	+	34	
Mabuya fogoensis fogoensis (O'SHAUGNESSY, 1874)		6	
Mabuya spinalis spinalis (BOULENGER, 1906)		88	7 syntypes
Mabuya vaillanti BOULENGER, 1887	+	19	
Brava (18. VII. - 30. IX. 1898)			
Hemidactylus bouvieri bouvieri (BOCOURT, 1870)		1	
Hemidactylus brooki angulatus HALLOWELL, 1852			
Tarentola rudis protogigas JOGER, 1984		10	
Mabuya delalandii (DUMÉRIL & BIBRON, 1839)		17	
Mabuya stangeri (GRAY, 1845)			
Ilhéus do Rombo (5. - 7. VIII. 1898)			
Hemidactylus brooki angulatus HALLOWELL, 1852			
Tarentola rudis hartogi JOGER, 1993		5	
Mabuya delalandii (DUMÉRIL & BIBRON, 1839)		3	
Mabuya vaillanti BOULENGER, 1887		1	

indication. Concerning the gekkonids, a large series of *Tarentola caboverdiana substituta* JOGER, 1984 (21 specimens, MZUT R2555) was collected or donated by A. BORELLI, while another twenty-six specimens (MZUT R3233) were donated by CECCONI.

Much more interesting, since all collected by FEA, is the Cape Verdean lizard collection at the Genoa Museum (table 1 and appendix).

At São Vicente, FEA collected *Tarentola caboverdiana substituta* which constitutes 20 % of the known reptile fauna of this island (including the not yet confirmed taxa). The author's stay at São Vicente led to the observation of *Hemidactylus bouvieri bouvieri* (BOCOURT, 1870), *Tarentola caboverdiana substituta*, *Mabuya stangeri*, and *Hemidactylus brooki angulatus* HALLOWELL, 1852.

At Ilhéu Raso, FEA found a considerable portion of the known herpetofauna, i. e. 4 out of 5 species (= 80 %) occurring there according to SCHLEICH (1987). The only missing taxon was *Hemidactylus bouvieri rasoensis* GRUBER & SCHLEICH, 1982. The absence of this gecko in FEA's collection may be due to its objective rarity at Ilhéu Raso or to the difficulty to find it. This species was also missed (as well as *M. coctei)* during the author's visit while *Tarentola gigas gigas* (BOCAGE, 1896) was abundant in a wide range of habitats, from the cavities on the cliff to the flattened area inside the islet. Interestingly, several specimens were observed in the cavities next to the shore, where they lived together with several sea birds, such as *Sula leucogaster* (BODDAERT, 1783), *Phaethon aethereus* LINNAEUS, 1758, and *Calonectris edwardsii* (OUSTALET, 1883). These geckos may be commensals of the sea birds in that they feed on their regurgitated food, carrion, and bird parasites. Most likely this kind of habit was also shared by *M. coctei*, as stressed by HAZEVOET (1994, 1995).

On São Nicolau, FEA found *Tarentola caboverdiana nicolauensis* SCHLEICH, 1984, *Mabuya fogoensis nicolauensis* SCHLEICH, 1987, and, as witnessed by specimens at the Genoa museum, *Mabuya delalandii* (DUMÉRIL & BIBRON, 1839) (MSNG 50001) and *Mabuya spinalis spinalis* BOULENGER, 1906 (MSNG 50000). Since these taxa - at least according to SCHLEICH (1987) - are not known from this island, it is likely that this geographic attribution is due to mislabelling. In fact, these specimens were kept together in the same jar with specimens of *Mabuya vaillanti* BOULENGER, 1887 from Fogo (MSNG 28464). It is more probable that all these specimens came from this island.

On Boavista, the two months stay allowed FEA to collect a large series of *Hemidactylus bouvieri boavistensis* (which indeed is a very common reptile there, as confirmed by my observations), representing the syntypes of this taxon (BOULENGER 1906). Furthermore, FEA collected nine specimens of *Tarentola rudis* and 30 of *Mabuya stangeri* (50 % of the herpetological taxa known).

On Santiago, three taxa were collected by FEA: *Hemidactylus brooki angulatus*, *Tarentola rudis rudis* BOULENGER, 1906, and *Mabuya delalandii* (37.5 % of the known herpetofauna). He missed to collect *Lygodactylus* sp., *Hemidactylus bouvieri bouvieri*, *Mabuya spinalis spinalis*, *Mabuya vaillanti*, and *Tarentola darwini* JOGER, 1984.

From Fogo, eight taxa are currently known, two of which belong to *Hemidactylus*, two to *Tarentola*, and four to *Mabuya*. During his about two months visit to this island, FEA collected specimens of six taxa (75.0 % of the known herpetofauna), among which two series constituted the basis for BOULENGER's (1906) description of *Tarentola rudis rudis* and *Mabuya spinalis spinalis*. The syntype series of the latter skink is very large indeed (88 specimens). Other quite large series are those of *Mabuya delalandii* (34 specimens), and *M. vaillanti* (19 specimens). The expedition of FEA to Cape Verde was completed by his visit to Brava, where he collected *Hemidactylus bouvieri bouvieri* (a taxon not reported from this island before), *Tarentola rudis protogigas* JOGER, 1984, and *Mabuya delalandii* (60.0 % of the known herpetofauna) and Ilhéus do Rombo (next to Brava), where he caught *Tarentola rudis hartogi*, *Mabuya delalandii*, and *M. vaillanti* (75.0 % of the known herpetofauna) within three days.

DISCUSSION

Macroscincus coctei inhabited at least the islands of Ilhéus Branco and Raso, and, possibly, Santa Luzia (SCHLEICH 1982). In an earlier paper (ANDREONE & GAVETTI 1998) it was claimed that the last observations of living specimens of *M. coctei* were on the occasion of the expeditions to Cape Verde by ALEXANDER (1898 a, b) and FEA (1898). Subsequent visitors, such as NAUROIS (1969), SCHLEICH (1982) and MATEO et al. (1997) were unable to find evidence of *M. coctei* in any of the islands. According to C. J. HAZEVOET (1999 pers. comm.) and NEWTON's letters [CN/N-135; CN/N-147], some giant skinks were caught in 1901 and 1902 after FEA's and ALEXANDER's visits (BOCAGE 1902). A specimen collected by STEINDACHNER in 1906 is stored at the Natural History Museum in Vienna (NMW 885). Later, the German geologist I. FRIEDLAENDER still observed the taxon in 1912 (FRIEDLAENDER 1913), but in 1916 it was considered extinct, according to a COSTA's (1939) note (see CARREIRA 1986). NEWTON's specimens were kept at the Museu Bocage in Lisbon, but were lost during a fire in 1978. Between 1986 and 1998, HAZEVOET visited Ilhéu Raso six times and was on Branco once (mainly for ornithological studies) without finding any sign of the giant skink. Equally, the German herpetologist H.-H. SCHLEICH, who visited Raso, Branco, and Santa Luzia during the late seventies and early eighties, did not find any trace of *M. coctei*. These negative results make *M. coctei* most likely appear to be an extinct species.

The causes of its extinction already discussed by ANDREONE & GAVETTI (1998) and SCHLEICH (1982) were, most likely, related to a combination of factors such as collecting for museums and local collecting (the skin was used to make sandals by the islanders) (HAZEVOET 1995). Moreover, during the 18th and 19th century, Branco was used as a "prison" for local "outlaws" by the Portugueses. These people were just dropped there and left on their own; they had to eat everything that they could get their hands on, probably including giant skinks. To these possible reasons the disturbance caused by introduced cats should be added. HAZEVOET (1999) reported on the finding of cat faeces in several parts of Ilhéu Raso. But on the basis of lacking observations of living cats during his stay on Raso, this author hypothesized that the cat population is no more present on this islet.

Concerning the specimens imported by PERACCA at the end of the last century, we cannot be certain about the island of origin. Although *M. coctei* was already known from the nearby Ilhéu Raso (TROSCHEL 1875), PERACCA believed that it was restricted to Ilhéu Branco, which was therefore indicated as the only consequent provenance of his specimens.

The specimens of Genoa confirm the well known provenance localities of Ilhéus Branco and Raso, while the finding of a specimen in the Florence collection labelled "São Vicente", might suggest that it could have been present at this island (ANDREONE & GAVETTI 1998). Anyway, the fact that the localities of two specimens are given as Santa Luzia and São Vicente on the labels is not a consequent proof that the taxon occurred on these islands in historical times. According to HAZEVOET (1999 pers. comm.) the Cape Verdean islanders themselves are not always very precise in naming the uninhabited islands and they often refer to the "Desertas" jointly as "Santa Luzia". This may have been even more so in the past. The São Vicente specimen may have been brought there from the islets by locals and obtained on São Vicente by a Portuguese or other foreigner. The São Vicente specimen was donated by CECCONI, a collector who worked mainly in collaboration with the Florence Museum, and also collected part of the *Mabuya stangeri* and *Tarentola caboverdiana substituta* specimens still stored in the Turin historical collection.

Finally, it is not unlikely that this species was once present in other islands beside Ilhéu Branco and Raso. In fact, São Vicente is not so far from these islets, and indeed - although this has not been explicitly stated by ANDREONE & GAVETTI (1998) - it is likely that the presence at the Ilhas Desertas represents the vestige of a wider distribution in the sub-archipelago of Barlavento before human settlement. This may

well have been the case, especially because the sea between Raso, Branco, Santa Luzia, and São Vicente are within the 100 m depth (SCHLEICH 1987; SCHLEICH & SCHLEICH 1995). These islands must have formed a single island until the end of the last ice age. On the other hand, the sea between Raso and São Nicolau is much deeper and these islands would not have been connected even during the ice age.

From the Genoa specimens belonging to other taxa I wish to stress the exceptionally large numbers, and, especially, the presence of the syntypes of three forms described by BOULENGER (1906): *Hemidactylus bouvieri boavistensis*, *Tarentola rudis rudis*, *Mabuya spinalis spinalis*. For only a few of the specimens referable to these taxa their status as a type is provided on the accompanying label.

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APPENDIX

Specimens of Cape Verde lizards at the Museo Civico "G. DORIA" di Storia Naturale - Genova. The name of the collector is indicated if it was not L. FEA. Topograpic information according to the accompanying labels. s. - specimen(s).

Gekkonidae

Hemidactylus bouvieri bouvieri (BOCOURT, 1870) MSNG 28718, Brava, 600-700 m; IX.1898, 1 s.

Hemidactylus bouvieri boavistensis BOULENGER, 1906 MSNG 37533, Boavista, I.1898, 13 s. (syntypes); MSNG 28166, Boavista, I.1898, 10 s. (syntypes); MSNG 49999, Boavista, M.te Estância, 500-600 m, I.1898, 2 s. (syntypes).

Hemidactylus brooki angulatus HALLOWELL, 1852 MSNG 28378, without data, 1 s.; MSNG 28582, Fogo, S. Filipe, VI.1898, 3 s.; MSNG 28581, Santiago, Orgãos Grandes, V.1898, 2 s.; MSNG 28376, Santiago, Praia surroundings, III.1898, 5 s.; MSNG 49251, Santiago, Praia surroundings, Calheta de S. Martinho, III.1898, 21 s.

Tarentola caboverdiana nicolauensis SCHLEICH, 1984 MSNG 49998, S. Nicolau, X-XI.1898, 3 s.

Tarentola caboverdiana raziana SCHLEICH, 1984 MSNG 49273, Ilhéu Raso, X-XI.1898, 2 s.

Tarentola caboverdiana substituta JOGER, 1984 MSNG 29221, São Vicente, Mindelo, 15.XII.1908, A. Andreini leg., 7 s.; MSNG 36007, São Vicente, Mindelo, 15.XII.1908, A. Andreini leg., 5 s.

Tarentola gigas gigas (BOCAGE, 1875) MSNG 22150, Ilhéu Raso, X-XI.1898, 1 s. MSNG 37517, Ilhéu Raso, X-XI.1898, 1 s.

Tarentola rudis hartogi JOGER, 1993 MSNG 37514, Ilhéus do Rombo, 5-7.VIII.1898, 5 s.

Tarentola rudis protogigas JOGER, 1984 MSNG 28147, Brava, IX.1898, 3 s.; MSNG 49994, Brava, 0-300 m, VII-VIII.1898, 6 s.; MSNG 49995, Brava, 0-300 m; VIII-IX.1898, 1 s.; MSNG 28148, Fogo, Igreja, VI-VII.1898, 1 s.; MSNG 37515, Fogo, S. Filipe, VI.1898, 2 s.; MSNG 37516, Fogo, S. Filipe, VI.1898, 1 s.; MSNG 49249, Fogo, S. Filipe, VI.1898, 2 s.; MSNG 49250, Fogo, S. Filipe, VI.1898, 3 s.

Tarentola rudis rudis BOULENGER, 1906 MSNG 28149, Santiago, Praia surroundings, Calheta de S. Martinho, III.1898, 2 s. (syntypes); MSNG 37561, Santiago, Praia surroundings, Calheta de S. Martinho, III.1898, 2 s.; MSNG 49997, Santiago, Pedra Badejo, IV-V.1898, 1 s.

Tarentola rudis boavistensis JOGER, 1993 MSNG 37560, Boavista, I.1898, 8 s.; MSNG 49996, Boavista, II.1898, 1 s.

Scincidae

Macroscincus coctei (DUMÉRIL & BIBRON, 1839) MSNG 43132, Ilhéu Branco, unknown collector, 1 s.; MSNG 8769, Ilhéu Branco, D. Schiavetti don., 2 s.; MSNG 28891, Ilhéu Raso, 27.X.-7.XI.1898, 2 s.; MSNG 34516, Ilhéu Raso, 27.X.-7.XI.1898, 1 s.

Mabuya delalandii (DUMÉRIL & BIBRON, 1839) MSNG 50003, Brava, 900-1,000 m, IX.1898, 1 s.; MSNG 49254, Brava, 0-300 m; VII-VIII.1898, 12 s.; MSNG 49258, Brava, 0-300 m, VII-VIII.1898, 4 s.; MSNG 28466, Fogo, Igreja and S, Filipe, VI.1898 and VI-VII.1898, 4 s.; MSNG 49260, Fogo, Igreja, VI-VII.1898, 2 s.; MSNG 49262, Fogo, S. Filipe, VI.1898, 10 s.; MSNG 49257, Ilhéus do Rombo, 5-7.VIII.1898, 3 s.; MSNG 50001, S. Nicolau, X-XII.1898, 2 s.; MSNG 28467, Santiago, surroundings of Praia, Calheta de S. Martinho, III.1898, 3 s.; MSNG 37557, Santiago, Orgãos Grandes, 250 m a.s.l., III-IV.1898, 38 s.; MSNG 37558, Fogo, Igreja, VI-VII.1898, 18 s.; MSNG 50002, Santiago, surroundings of Praia, Calheta de S. Martinho, III.1898, 3 s.

Mabuya fogoensis fogoensis (O'SHAUGNESSY, 1874) MSNG 28464, Fogo, S. Filipe, VI.1898, 2 s.; MSNG 49255, Fogo, Igreja, VI-VII.1898, 4 s.

Mabya fogoensis nicolauensis SCHLEICH, 1987 MSNG 37536, S. Nicolau, X-XII.1898, 22 s.

Mabuya spinalis salensis (ANGEL, 1935) MSNG 28465, Boavista, I.1898, 2 s.; MSNG 37533, Boavista, I.1898, 30 s.

Mabuya spinalis spinalis (BOULENGER, 1906) MSNG 28168, Fogo, Igreja, 1898, 6 s. (plus four eggs), (syntypes); MSNG 37533, Fogo, Igreja, VI-VII.1898, 76 s.; MSNG 49252, Fogo, S. Filipe, VI.1898, 1 s. (syntype); MSNG 49256, Fogo, VI.1898, 5 s.; MSNG 50000, S. Nicolau, X-XII.1898, 1 s.

Mabuya stangeri (GRAY, 1845) ssp. MSNG 28470, Ilhéu Raso, 28.X.-7.XI.1898, 32 s.; MSNG 49253, Ilhéu Raso, X-XI.1898, 2 s.; MSNG 49263, Ilhéu Raso, X-XI.1898, 6 s.

Mabuya vaillanti BOULENGER, 1887 MSNG 28469, Fogo, Igreja, V.VII.1898, 8 s.; MSNG 37552, Fogo, Igreja, VI-VII.1898, 11 s.; MSNG 37551, Ilhéus do Rombo, 5-7.VIII.1898, 1 s.

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