

ZOOLOGIA CABOVERDIANA

REVISTA DA SOCIEDADE CABOVERDIANA DE ZOOLOGIA



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REVISTA DA SOCIEDADE CABOVERDIANA DE ZOOLOGIA

Zoologia Caboverdiana é uma revista científica com arbitragem científica (*peer-review*) e de acesso livre. Nela são publicados artigos de investigação original, artigos de síntese e notas breves sobre Zoologia, Paleontologia, Biogeografia, Etnozoologia e Conservação nas Ilhas de Cabo Verde. Também publicamos artigos originais ou de revisão de uma área geográfica mais ampla desde que debruçados sobre espécies que ocorrem no arquipélago de Cabo Verde.

Os artigos podem ser submetidos em inglês (com um resumo em português) ou em português (com um resumo em inglês). *Zoologia Caboverdiana* tem periodicidade bianual, com edições na Primavera e no Outono. Para mais informações, deve contactar o Comité Editorial.

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Nota editorial

Um novo rumo para a *Zoologia Caboverdiana*

A ideia da implantação de uma sociedade científica em Cabo Verde no campo da Zoologia nasce por iniciativa do Doutor Cornelis J. Hazevoet, biólogo holandês com residência em Portugal que tem vindo a estudar a biodiversidade das ilhas de Cabo Verde desde os anos 80. A investigação de Hazevoet tem tido como enfoque principal a filogeografia da avifauna e mamíferos marinhos, abrangendo ainda áreas da Biogeografia, Sistemática e Evolução com suporte na Paleontologia. O seu entusiasmo por estas ilhas da Macaronésia teve um papel importante na conservação de alguns endemismos, em particular de aves e répteis, após a abertura política em 1991. Chamou às autoridades cabo-verdianas a devida atenção para a protecção e divulgação destas espécies únicas, enaltecendo ainda Cabo Verde como zona preferencial de nidificação de certas aves, como o rabo-de-junco e a cagarra, de répteis, como a tartaruga-verde e da reprodução de cetáceos marinhos, como a baleia-de-bossas. Tem deixado várias marcas do trabalho que desenvolveu para a sensibilização acerca do património natural do país. Com especial destaque há que referir a representação da fauna e flora em notas, moedas e selos nacionais, a revista de bordo da TACV (Transportes Aéreos de Cabo Verde) nomeado por ele de *Fragata* (espécie localmente quase extinta), a publicação de brochuras, relatórios e livros sobre as aves de Cabo Verde, de entre outras contribuições relevantes.

Cornelis J. Hazevoet deparou-se nos anos 80 com um país com pouco interesse nas Ciências da Terra e da Vida e vivenciou e impulsionou uma mudança para um país que aposta agora na

educação de biólogos nas vertentes de Saúde, Ambiente e Pescas e Ensino. Assim, a criação de uma sociedade científica surgiu naturalmente com o objectivo de criar uma organização com a missão de promover a investigação e a comunicação de ciência nas áreas da Zoologia e Paleontologia no arquipélago. Após um primeiro contacto de C.J. Hazevoet com um grupo de biólogos da Universidade de Cabo Verde (Uni-CV) em 2009, deu-se início a 19 de Março de 2010, no Departamento de Engenharia e Ciências do Mar em São Vicente, à assembleia constitutiva da Sociedade Caboverdiana de Zoologia (SCVZ) que serviria de plataforma para os zoólogos nacionais envolvidos na investigação.

A etapa seguinte, executada como editor, foi a do estabelecimento duma nova revista científica, *Zoologia Caboverdiana*, a primeira do país com revisão por pares, bianual, disponível na internet e de livre acesso. Desde Abril de 2010 já foram publicados 47 artigos científicos na revista, com um total de 497 páginas editadas em 5 volumes e 11 números. Os temas mais publicados têm sido sobre tartarugas marinhas, cetáceos, artrópodes terrestres e aves. Em 2013, Cornelis J. Hazevoet, com o espírito de iniciativa que o caracteriza, introduziu ainda na SCVZ um outro formato de publicação, focado na divulgação científica; um boletim trimestral disponível na internet, *A Cagarra*, contando já com 13 edições. Este boletim é uma janela para observações interessantes ou notáveis, notícias zoológicas, resumo de artigos, informação sobre investigação e projectos recentes e outras publicações do interesse da SCVZ. Embora a

periodicidade destas publicações não tenha sido a originalmente desejada, o balanço é positivo, pois tanto a revista como o boletim encontram-se activos.

Em Novembro de 2015, Cornelis J. Hazevoet, até então vice-presidente da SCVZ e editor da revista e do boletim, solicita que toda a sua actividade relacionada com a SCVZ seja cessada, pois desde a génese da Sociedade que previu que a sua contribuição seria apenas transitória. Tal representou novos desafios para a Direcção, que até abriu a possibilidade da descontinuidade da revista. No entanto, a Direcção decidiu em Janeiro de 2016 dar início a uma nova era traduzida num processo participativo. Estabelece-se assim, em Março do mesmo ano, um novo Conselho Editorial da *Zoologia Caboverdiana*, expandido para 27 elementos voluntários cabo-verdianos e europeus, todos especialistas e interessados no património natural de Cabo Verde, aumentando desta forma a potencial internacionalização da revista. O processo teve ainda o objectivo de avaliar a possibilidade da abertura da revista para novas áreas científicas e geográficas, alteração da periodicidade e até modificação no nome. Com base num inquérito ao Conselho, foi encontrada uma nova Editora-chefe, a Doutora Raquel Vasconcelos (Universidade do Porto, Portugal) suportada directamente por um comité editorial local permanente. Assim, resumindo as mudanças ocorridas, a revista de cariz bianual aceita actualmente artigos de investigação originais, textos de síntese e notas breves sobre a Zoologia, Paleontologia, Biogeografia, Etnozoologia e Conservação realizado nas ilhas de Cabo Verde. Aceita também artigos originais ou de revisão de uma área geográfica mais ampla desde que debruçados sobre espécies que

ocorrem no mesmo arquipélago. Foram actualizadas ainda algumas normas editoriais para publicação da revista. De salientar ainda que o boletim *A Cagarra* também conta já com novo editor desde Fevereiro de 2016, o Dr. Elves Duarte (IGC / Uni-CV).

Completados quase sete anos, as competências da SCVZ hoje expandiram-se, e a publicação em papel e divulgação de materiais técnico-científicos relacionados com a História Natural de Cabo Verde em forma de panfletos, livros, actas, listas bibliográficas entre outros é já uma realidade. A SCVZ assegura também a partir de 2016 a promoção da investigação científica em Cabo Verde, através da primeira atribuição de bolsas de investigação, bem como da realização de apoio técnico e logístico. Não obstante a crescente internacionalização, a SCVZ ainda persiste como uma sociedade científica não reconhecida em termos legais, o que representa bastantes desafios. Estou convicto de que a oficialização da SCVZ poderia constituir as bases para que outras sociedades de cariz científico surgissem no país e com elas aumentasse a massa crítica científica nacional.

Esta primeira tiragem do volume 6 representa um novo marco que nos motiva, sem dúvida, a dar continuidade à obra iniciada pelo pioneiro Cornelis J. Hazevoet (Kees), largamente citada desde 2010. Aproveito esta oportunidade para, em nome da SCVZ, lhe agradecer a sua dedicação e empenho. Aproveito ainda para encorajar a vasta comunidade científica a contribuir para o nosso boletim e ainda na preparação e/ou submissão de artigos originais, de síntese ou notas breves para a revista *Zoologia Caboverdiana* que começa hoje com um novo rumo.

Mestre Rui Freitas
Presidente da Sociedade Caboverdiana de Zoologia

Editorial note

A new path for *Zoologia Caboverdiana*

The idea of setting up a scientific society in Cabo Verde in the field of Zoology was born on the initiative of Dr Cornelis J. Hazevoet, a Dutch biologist living in Portugal who has been studying the biodiversity of the Cabo Verde Islands since the 1980s. Hazevoet's research has mainly focused on the phylogeography of avian fauna and marine mammals, and to a lesser extent in areas of Biogeography, Systematics and Evolution from a Paleontological framework. After the political opening in 1991, his enthusiasm about these Macaronesian islands played an important role in the conservation of some endemisms, particularly birds and reptiles. He called on the Cabo Verdean authorities to pay the due attention to the protection and dissemination of its unique species, while also extolling Cabo Verde as preferred nesting zone for certain birds, such as red-billed tropicbird and Cabo Verde shearwater, of reptiles such as the green turtle, and as reproduction site of marine cetaceans, such as the humpback whale. His legacy can be seen through the work he developed to raise awareness about the country's natural heritage. Particularly noteworthy is the representation of fauna and flora on the national bills, coins and stamps, the on-board magazine of the TACV (Cabo Verde airlines) named by him *Fragata* (the almost locally extinct frigatebird), the publication of brochures, reports and books on the birds of Cabo Verde, among other relevant contributions.

Cornelis J. Hazevoet encountered in the 1980s a country with little interest in the fields

of Earth and Life Sciences, experiencing and impelling a change to a country that now bets on the education of biologists in the areas of Health, Environment and Fisheries and Education. Thus, the creation of a scientific society came naturally with the aim of creating an organization with the mission of promoting research and science communication in the areas of Zoology and Palaeontology in the archipelago. After a first contact of C. J. Hazevoet with a group of biologists from the University of Cabo Verde (Uni-CV) in 2009, the constituent assembly of the Zoological Society of Cabo Verde (SCVZ) began on March 19th 2010, in the Department of Engineering and Marine Sciences in São Vicente, which would serve as a platform for the local zoologists involved in research.

The next stage, carried out as an editor, was the establishment of a new scientific journal, *Zoologia Caboverdiana*, the first peer review biannual journal in the country, available on the internet and freely accessible. Since April 2010, 47 scientific articles have been published in the journal, with a total of 497 pages edited in 5 volumes and 11 issues. The most published areas of research have focused on sea turtles, cetaceans, terrestrial arthropods and birds. In 2013, Cornelis J. Hazevoet, with the spirit of initiative that characterizes him, also introduced to the SCVZ another publication format, focused on science dissemination; a quarterly newsletter available on-line, *A Cagarra*, counting already with 13 editions. This newsletter is a platform to interesting or

noteworthy observations, zoological news, article abstracts, research information, and recent projects and other publications relevant to SCVZ. Although the periodicity of these publications has not been what was originally desired, the balance is positive, as both the journal and the newsletter remain active on-line.

In November 2015, Cornelis J. Hazevoet, until then Vice-President of SCVZ and editor of the journal and the newsletter, requested to be dismissed of all his activity related to SCVZ, as since the beginning of the Society he foresaw that his contribution would be only transitory. This posed new challenges for the Board that even opened the possibility of the journal's discontinuity. However, the Board decided in January 2016 to start a new era translated into a participatory process. In March of that year, a new Editorial Board of *Zoologia Caboverdiana* was expanded to 27 Cabo Verdean and European volunteers, all experts and interested in Cabo Verde's natural heritage, thus increasing the potential of the journal's internationalization. The process was also aimed at evaluating the possibility of opening the journal to new scientific and geographical areas, changing the periodicity and even a change in name. Based on an inquiry to the Committee, a new Editor-in-Chief was appointed, Raquel Vasconcelos, PhD (University of Porto, Portugal) directly supported by the permanent local editorial committee. Summarizing the changes that have taken place, the biannual journal currently accepts original research articles, review texts and brief notes on Zoology, Paleontology, Biogeography, Ethnzoology and Conservation of the Cabo Verde Islands. It also accepts original or review

articles from a wider geographic area since it focus on species that occur in this same archipelago. Some editorial instructions of the journal were also updated. It should also be noted that *A Cagarra* also has a new editor since February 2016, Elves Duarte, MSc (IGC/Uni-CV).

Over almost seven years, SCVZ's competencies have now expanded, and the publication in print and dissemination of technical-scientific materials related to the Natural History of Cabo Verde in the form of leaflets, books, minutes, bibliographical lists, among others is already a reality. From 2016 onwards, SCVZ also ensures the promotion of scientific research in Cabo Verde, through the first research grants awards, as well as technical and logistical support. Notwithstanding the growing internationalization, SCVZ still persists as a non-recognized scientific society in legal terms, which presents many challenges. I am convinced that the formalization of SCVZ could provide the basis for other scientific societies to emerge in the country and with them an increase of the national scientific critical mass.

This first edition of Volume 6 represents a new milestone that undoubtedly motivates us to continue the work begun by its pioneer, Cornelis J. Hazevoet (Kees), widely cited since 2010. I take this opportunity, on behalf of SCVZ, to thank his dedication and commitment. I would also like to encourage the vast scientific community to contribute to our newsletter and also to prepare and/ or submit original articles, synthesis or brief notes for the journal *Zoologia Caboverdiana*, which begins today under a new path.

Rui Freitas, MSc
President of the Zoological Society of Cabo Verde



Nota breve | Short note

New breeding sites of the red-billed tropicbird *Phaeton aethereus* and the brown booby *Sula leucogaster* on São Nicolau Island, Cabo Verde

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Keywords: native birds, nesting sites, Macaronesian Islands, distribution

Red-billed tropicbirds (*Phaethon aethereus*) are distributed throughout the tropical waters of the Eastern Pacific, the Northwest Indian Ocean and the Atlantic Ocean; in the latter, the species is represented by *P. a. mesonauta* (Del Hoyo *et al.* 1992). The brown booby (*Sula leucogaster*) is the species with the largest distribution within the Sulidae (Patterson *et al.* 2011) with breeding sites across the Atlantic, Indian and Pacific oceans (Morris-Pocock *et al.* 2010).

In the Cabo Verde Archipelago, red-billed tropicbirds were known to breed mainly on the

Raso Islet, and the islands of Santiago, Brava and Boavista (Hazevoet 1995), while smaller colonies are known from Santo Antão (Hazevoet 2003), Sal (Hazevoet 1995), Fogo (Barone & Hering 2010), the Rombo Islet (S. Martins, unpublished data), and possibly on the Ilhéu dos Pássaros, off São Vicente (Hazevoet 2010). This last reference could not be confirmed subsequently (L. Palma, pers. obs.) but small colonies were recently observed at two locations on the coast of São Vicente (I. Rodrigues, pers. comm.). The brown booby is

known to breed on Santiago, Raso, Brava and Boavista (Hazevoet 1995). On São Vicente, Sal, and Rombos they are probably now extinct, as we failed to find any colonies despite repeated searches between 2010 and 2013 (S. Martins, pers. obs.). Until now, red-billed tropicbirds and brown boobies had not been reported breeding on the island of São Nicolau, although a significant breeding colony is located on Raso, roughly 16 km away.

From middle January to late March 2016, the entire coast of São Nicolau Island was

thoroughly surveyed by car and on foot, and by boat where access by land was impractical. In early February we found a small colony of at least 14 red-billed tropicbirds and a second colony of at least 4 individuals about two kilometres to the East (Figs. 1 & 2). All birds seen were adults. Further to the West, we encountered a perched male brown booby at Baía da Chacina, and although we saw only one individual, the thick layers of guano indicated a possible breeding site (Fig. 1).

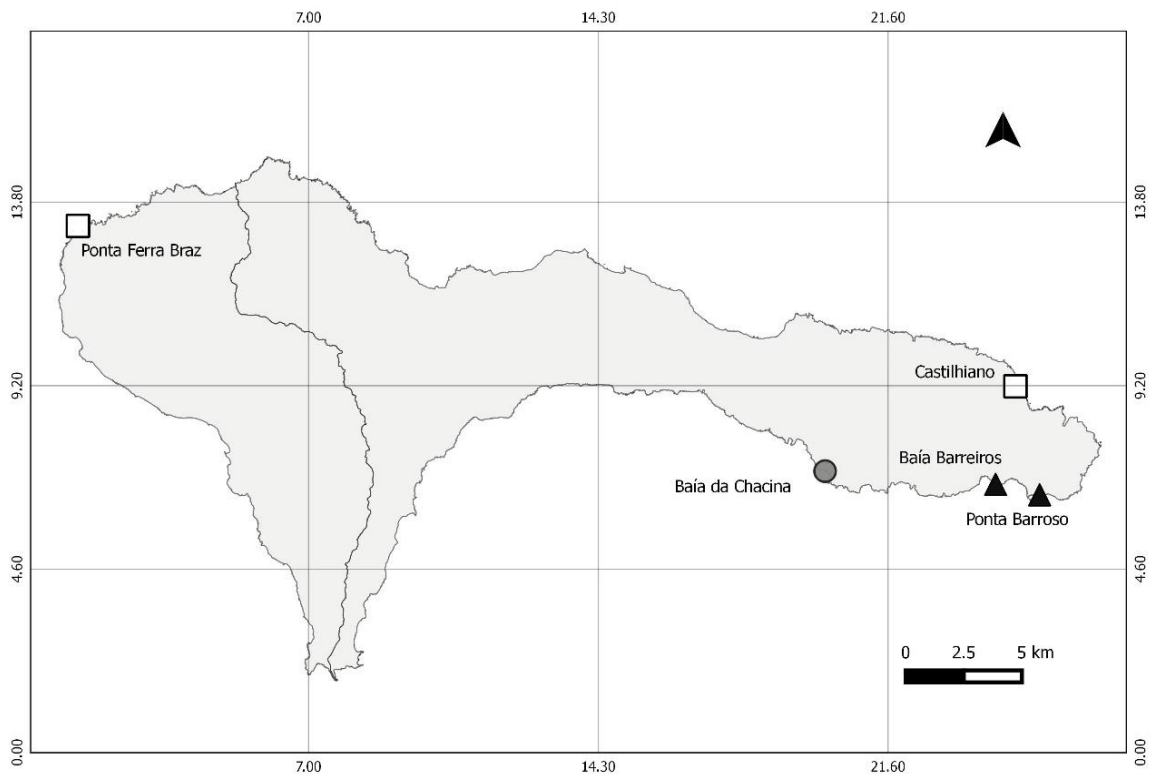


Fig 1. Map of the island of São Nicolau with records of: red-billed tropicbird colonies (black triangles; western colony: N 16° 33' 19.3"/W 24° 02' 59.9", eastern colony: N 16° 33' 04.7"/W 24° 01' 56.1"); putative brown booby colony (grey circle; N 16°34'13"/W 24°07'34"); possible brown booby colonies (open squares; northwest colony: N 16°39' 18.37"/W24°25'11.53", northeast colony: N 16° 35' 25"/W24° 02' 19").

We found two other possible brown booby colonies, as suggested by the abundant whitewash on the sea cliffs, respectively at the northwestern and northeastern ends of the island (Fig. 1). Yet, the distance from our position, the difficult access by land, and the adverse weather

and rough sea conditions precluded a closer look. Further fieldwork is needed to confirm these breeding sites of brown boobies on São Nicolau.



Fig 2. Red-billed tropicbirds at a sea cliff, São Nicolau, 6th February 2016 (photo by S. Martins).

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Nota breve | Short note

First record of Baird's sandpiper *Calidris bairdii* for Cabo Verde

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Keywords: distribution record, São Vicente, transatlantic dispersal, vagrant bird

In Volume 5, Number 2, of *Zoologia Caboverdiana*, Richard Porter and Tony Prater reassessed the two existing records of Baird's sandpiper *Calidris bairdii* for Cabo Verde, concluding that both were misidentified, based on the respective photographs in the 6th and 8th Cabo Verde Bird Reports (Hazevoet 2010, 2014). The photographs showed, respectively, a little stint *Calidris minuta* and a white-rumped sandpiper *Calidris fuscicollis*. We would like to

set the record straight here, and confirm that we did indeed record a juvenile Baird's sandpiper at São Vicente sewage works on 1st-3rd November 2012 (Fig. 1). However, the labelling as a Baird's of the white-rumped sandpiper in the 8th report was an error, for which we can only apologise for any part we played.

In that year, we visited São Vicente sewage works on September 30 and October 1, and then again between October 31 and November 3.

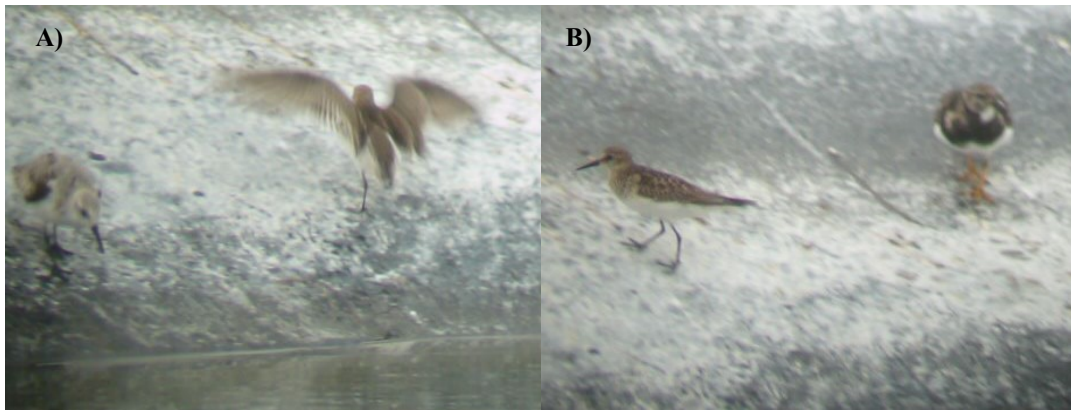


Fig 1. Video snapshots of juvenile Baird's sandpiper together with A) sanderling and B) turnstone, São Vicente sewage works, 3 November 2012 (photo by Juan Brown).

On September 30 and October 1, one American wader (a lesser yellowlegs *Tringa flavipes*) was present. Two white-rumped sandpipers were logged on the first return visit, on October 31, followed by two American golden plovers *Pluvialis dominica*, a Baird's sandpiper, four white-rumped sandpipers and a lesser yellowlegs the next day. American waders peaked on November 2, when three

American golden plovers, one Baird's sandpiper, eight white-rumped sandpipers, and two lesser yellowlegs were all present at the sewage works. All birds were juvenile/ first-winters, with the exception of an adult white-rumped sandpiper. With the removal of the 2007 record, the 2012 Baird's sandpiper now constitutes the first record of the species for Cabo Verde

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Nota Breve | Short Note

First record of smoothtail mobula *Mobula thurstoni* (Myliobatidae) in Cabo Verde

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Mobulinae rays are part of Cabo Verde native biodiversity and belong to two extant genera, *Manta* and *Mobula* (Paig-Tran *et al.* 2013, Ward-Paige *et al.* 2013). *Mobula* spp. can be distinguished from *Manta* spp. by the mouth position, the shape of the cephalic fins and body size (Stevens 2011). Despite their large size, little is known about their population trends and precise distribution. They are particularly difficult to study in the wild and have restricted distributions (Ward-Paige *et al.* 2013, Croll *et al.* 2015). Two species of *Manta* and one of *Mobula* have been confirmed in Cabo Verde: the giant manta ray *Manta birostris*, the reef manta ray *Manta alfredi*, and the Chilean devil ray *Mobula tarapacana* (Reiner 2005, Marshall

2009, D'Oliveira 2010, Wirtz *et al.* 2013). Other Myliobatis such as the spotted eagle ray *Aetobatus narinari* have been recently pointed to Cabo Verde (Debelius 1997) and to Canary and Madeira Islands (Froese & Pauly 2016). However, it is likely that other species are present in these waters, given the similarity among species and the lack of studies, two main factors contributing for challenging species identification (Duffy & Abbott 2003).

The first record of *Mobula thurstoni* Lloyd, 1908 (Fig 1) in Cabo Verde occurred on 31st July 2015 in Praiona beach, 1.7 km from Praia Gonçalo, Maio Island (Fig. 2). It was found by Denis Dias, a FMB member before an in-water survey.



Fig 1. *Mobula thurstoni* caught in Praiona, on 31st July 2015. A) Ventral and B) dorsal views, C) mouth position, D) white-tipped dorsal fin and E) immature male claspers views.



Fig 2. Maio Island map, Cabo Verde, showing the location where the *Mobula thurstoni* specimen was found (X) on 31st July 2015.

According to local fishermen, the specimen was a bycatch of a gill net laid during the previous night. It was a newborn male (Fig. 1 C, D & F) as its disc width (DW) measured only 80 cm (Last & Stevens 1994). The animal was identified as *Mobula* as opposed to *Manta* due to its ventral mouth, and as *Mobula thurstoni* (Fig. 1A & B) as opposed to other *Mobula* species because of its short cephalic fins (length from the tip of one fin to the corner of the mouth lower than 16% of DW), the lack of spine at the base of the tail, the white-tipped dorsal fin, the long thin tail with a dorso-ventrally compressed base, and a double

curvature at the pectoral fins' anterior margin (Stevens 2011). Previous sightings of *Mobula thurstoni* could not be confirmed during surveys due to the long distance to animals and low quality of photographs (FMB pers. comm.). Validation of species identification through molecular analysis is needed to corroborate morphological identification. Given that *Mobula thurstoni* is listed as Near Threatened (Walls *et al.* 2016), and vulnerable to bycatch in driftnets and longlines, further studies are important to identify main habitats and to access its conservation status at a national level.

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Nota Breve | Short Note

First record of *Thelandros* sp. Wedl, 1862 pinworms (Nematoda: Oxyurida: Pharyngodonidae) on São Vicente Island, Cabo Verde

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Parasites represent one of the most abundant lifestyles, and yet, only a small portion is described (Dobson *et al.* 2008). Cabo Verde parasitofauna is mostly unknown and the only study on parasites infecting reptiles, in which a new species of nematodes is referred, highlights the presence of unrecognized taxa (Jorge *et al.* 2012).

The genus *Thelandros* Wedl, 1862 has currently more than 30 species, although its taxonomic status is still under discussion.

This genus, as other belonging to the Oxyurida order, is characterized by their haplodiploidy and direct life-cycle, being found in omnivorous and herbivorous lizards (Adamson 1989, Adamson 1990, Roca 1999, Dung *et al.* 2009). In this study, we report the first finding of *Thelandros* sp. helminths infecting reptiles in Cabo Verde.

Fieldwork was performed in the Cabo Verde Islands of Santo Antão, São Vicente, Santa Luzia and Raso in June 2016. A total of 118

endemic lizards belonging to the species *Tarentola gigas*, *Tarentola raziana*, *Tarentola substituta*, *Tarentola caboverdiana*, *Chioninia stangeri*, and *Chioninia fogoensis* were collected, and 86 faecal pellets were recovered. Parasites were screened in faecal pellets and found in 39 of them. With the resource of light microscopy individuals were identified and measured and sequences of 18S and 28S rRNA nuclear markers (Whiting 2002, Floyd *et al.*

2005) were obtained using previously validated methods for parasitic nematodes (Jorge *et al.* 2014). New sequences are deposited in GenBank (KY541834 and KY541835).

Most of the collected pinworms were identified as *Parapharyngodon* sp., *Spauligodon* sp. and *Spauligodon nicolauensis*. Remarkably, one parasitic nematode from a *C. stangeri* skink from São Vicente was identified as a *Thelandros* sp. male (Fig 1).

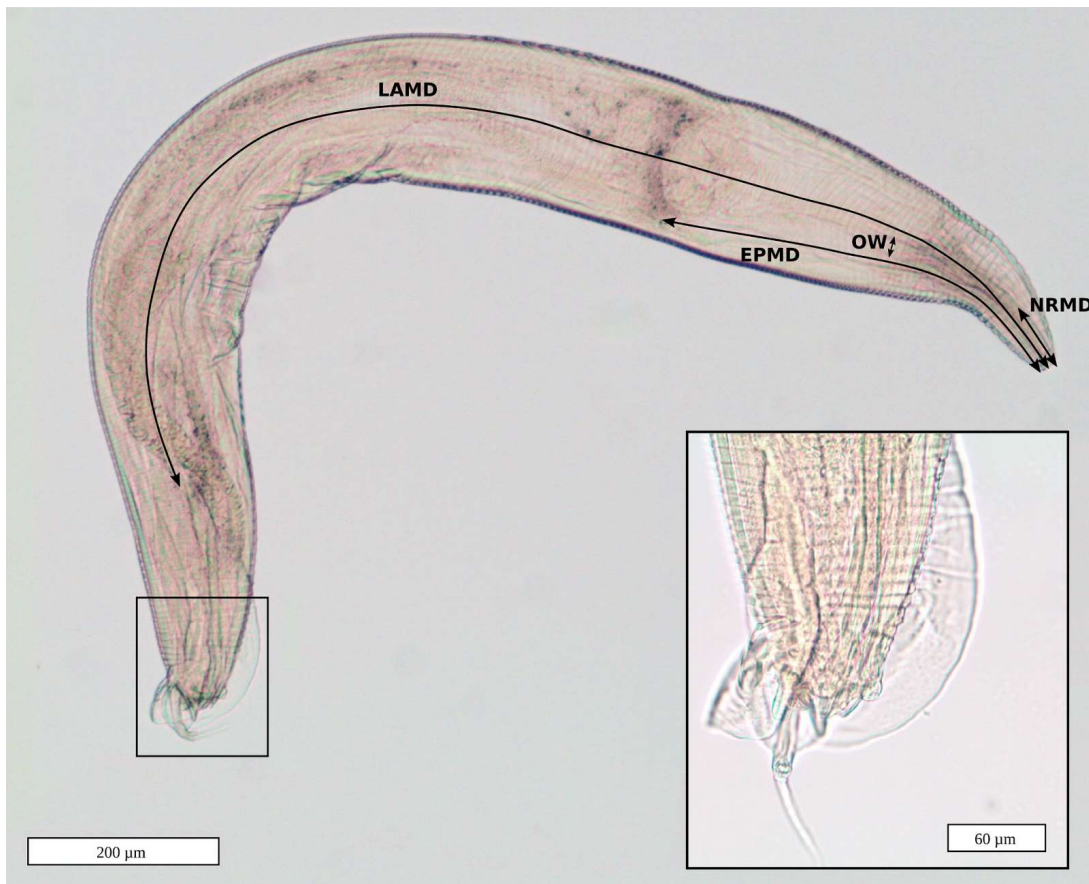


Fig 1. Light microscopy photographs of the general and detailed view of the posterior extremity of a *Thelandros* male found infecting a *Chioninia stangeri* skink from São Vicente Island. Abbreviations correspond to some measurements obtained for the morphological characterization. NRMD: Distance from nervous ring to mouth structure, LAMD: Distance from lateral alae to mouth structure, OW: Oesophagus width measured at the second third of the organ, EPMD: Distance from excretory pore to mouth structure.

Specimen morphology was assessed (Table 1) based on the specimen posterior end (Adamson 1981, Roca 1985). Specimen identity was molecularly confirmed by blasting sequences in GenBank and computing uncorrected

p-distances. We retrieved 99/95% identity with *Thelandros tinerefensis* from the Canary Islands, and 0.4/3.5% p-distance, for 18S (KJ778073) and 28S markers (KJ778089), respectively.

Table 1. Measurements of the variables analysed on the *Thelandros* pinworm specimen infecting a *Chioninia stangeri* skink from São Vicente Island (mean \pm standard error). Measurements of *Thelandros tinerfensis* (Solera–Puertas *et al.*, 1988) were included for comparison (mean \pm standard deviation). * indicates measurements detailed in Fig 1. Linear measurements were taken three times independently (in μm).

	<i>Thelandros tinerfensis</i>	<i>Thelandros</i> sp. (present study)
Linear measurements	Mean \pm SD	Mean \pm SE
Body length	1628 \pm 69	1562.77 \pm 3.26
Body width	209 \pm 6	167.35 \pm 1.15
Nervous ring (NRMD)*	–	40.02 \pm 1.16
Distance to alae (LAMD)*	1321 \pm 125	1293.74 \pm 5.94
Alae size	–	430.17 \pm 1.00
Alae width	–	69.10 \pm 3.18
Oesophageal bulb length	–	81.90 \pm 0.27
Oesophageal bulb width	34 \pm 6	95.90 \pm 1.50
Oesophagus length	493 \pm 0	401.11 \pm 1.69
Oesophagus width (OW)*	124 \pm 3	17.70 \pm 0.01
Excretory pore (EPMD)*	646 \pm 34	466.66 \pm 1.99
Spicule length	79 \pm 8	85.42 \pm 1.32
Tail length	101 \pm 12	94.39 \pm 1.37
Tail width	–	6.07 \pm 0.37
Other variables		
Number of cloacal papillae	4	4
Number of caudal papillae	1	1
Spicule shape	blunt	blunt
Genital cone	present	present
Genital cone shape	v–shape	v–shape
Caudal alae	reaching the caudal papillae	reaching the caudal papillae

This represents the first record of *Thelandros* infecting Cabo Verde lizards. Based on the presence of a well sclerotized V–shaped genital cone, caudal alae reaching the caudal papilla, short lateral alae and five posterior papillae, this specimen resembles *T. tinerfensis*, previously described infecting reptiles from Canary Islands (Solera–Puertas *et al.* 1988). However, 28S sequences showed high divergence with

T. tinerfensis sequences. Therefore, additional molecular markers and more samples are required to correctly determine the relationship to other *Thelandros* spp. This will allow us to assess if this parasite represents a distinctive lineage specific to Cabo Verde and to infer the prime host with whom this parasite colonized the archipelago.

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Alcatraz | The brown booby *Sula leucogaster* (Boddaert, 1783), Raso, Cabo Verde, (fotografia de | photo by: René Pop).

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