

A CAGARRA



Newsletter of the Zoological Society of Cabo Verde

Boletim de Sociedade Caboverdiana de Zoologia

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**Have you seen, heard or read something of zoological interest?
Let us know!**

**Viu, leu ou ouviu algo com interesse zoológico recentemente?
Informe-nos!**

Olive ridley sea turtle return to Cabo Verde beaches

Early in the first week of August 2017, an olive ridley sea turtle (*Lepidochelys olivacea*) was found nesting in João Barrosa, one of the beaches located inside the Marine Turtle Nature Reserve, Boavista Island, by [BIOS.CV](http://bios.cv)'s monitoring team. The small turtle was 65 cm long and 67 cm wide. It deposited 140 eggs that are currently under the supervision of BIOS.CV team. Experts from this non-governmental organization hope to see the first offspring within 50-55 days, the average incubation time of sea turtle species in Cabo Verde.

The nesting of this turtle species in Cabo Verde is a rare phenomenon. It was registered for the first time on Boa Esperança beach, also on the island of Boavista, in August 2014. By comparing the

Tartarugas-oliváceas voltam a desovar nas praias de Cabo Verde

Na primeira semana de Agosto de 2017, uma tartaruga-olivácea (*Lepidochelys olivacea*) foi encontrada, pela equipa de monitorização da [BIOS.CV](http://bios.cv), a nidificar em João Barosa, uma das praias situadas dentro da Reserva Natural das Tartarugas Marinhas, ilha de Boavista. A pequena tartaruga tinha 65 cm de comprimento curvo da carapaça e 67 cm de largura. Depositou 140 ovos que se encontram sob a vigilância da BIOS.CV. Os especialistas desta organização não-governamental esperam ver as proles dentro de 50-55 dias, tempo médio de incubação das tartarugas marinhas em Cabo Verde.

A nidificação das tartarugas oliváceas em Cabo Verde é um fenómeno raro. Ocorreu pela primeira vez na praia de Boa Esperança, também na ilha de Boavista, também em Agosto, no verão de 2014. Através da comparação das fotos das referidas

images of these turtles, namely the pattern and the arrangement of the marginal scales, it was concluded that they are different individuals.

The olive ridley sea turtle is one of the most abundant species of sea turtles in the world. They have a circumtropical distribution and their nesting occurs in all tropical areas except the Gulf of Mexico. Its occurrence in the West African region is also quite rare. They were only occasionally reported in Senegal and Guinea-Bissau. Previous occurrences of this species in Cabo Verde took place in Sal, Boavista and Maio and these were mainly due to death or injuries. It is an omnivorous species. At the level of reproductive behavior, some populations exhibit a synchronized emergency, a phenomenon known as “*arribada*” in which hundreds or thousands of females emerge simultaneously to nest during the daytime. However, solitary or dispersed nesting is most common and in some places they exhibit both reproductive behaviours. In general, an individual can nest up to three times during the same season, with an average of 100-110 eggs. Similarly to other species of sea turtles, the olive ridley turtle is also threatened. Worldwide the species is classified as Vulnerable in the Red List of Endangered Species.

Although several logbooks of former sailors point to the nesting of the green turtle in Cabo Verde, they were misidentifications. Historical and current records of the vast majority of nesting events correspond without any doubts only to the common turtle (*Caretta caretta*). Furthermore, in the last years the sporadic nesting of other two species has been verified: the green turtle (Boavista, Sal and Maio Islands) and the olive ridley turtle (Boavista). (Contributed by Samir Martins & Adolfo Marco).

tartarugas, nomeadamente do padrão e da disposição das escamas marginais, concluiu-se que são indivíduos diferentes.

A tartaruga-olivácea é uma das espécies de tartarugas marinhas mais abundantes no mundo, com uma distribuição circuntropical, e a sua nidificação ocorre em todas as zonas tropicais com excepção do Golfo do México. A ocorrência da mesma na região da África Ocidental também é bastante rara. Existem alguns registos de nidificação no Senegal e na Guiné-Bissau. Ocorrências anteriores desta espécie deram-se sobretudo nas praias das ilhas do Sal, Boavista e Maio e estavam associadas a casos de morte ou ferimentos. É uma espécie omnívora. A nível de comportamento reprodutor, algumas populações exibem uma emergência sincronizada, fenómeno conhecido por “*arribada*” em que dezenas ou centenas de fêmeas emergem simultaneamente na praia para nidificarem ao mesmo tempo, durante o dia, podendo demorar vários dias. No entanto, a nidificação solitária ou dispersa é a mais comum e em alguns locais elas apresentam ambos os comportamentos reprodutor. Em geral, um indivíduo pode nidificar uma, duas ou três vezes durante a mesma temporada, com uma média de 100-110 ovos. Da mesma forma que todas as outras espécies de tartarugas marinhas, a tartaruga-olivácea também se encontra ameaçada de extinção. Mundialmente a espécie é catalogada como Vulnerável na Lista Vermelha de Espécies Ameaçadas.

Nos registos correntes de nidificação das tartarugas em Cabo Verde figura exclusivamente a tartaruga comum, apesar de vários diários de bordo de antigos marinheiros apontarem para a nidificação da tartaruga verde. Nestes três últimos anos têm-se verificado a nidificação das outras espécies. Facto comprovado pela nidificação da tartaruga verde na ilha da Boavista, do Sal e do Maio. (Contribuição de Samir Martins & Adolfo Marco).



A female olive ridley sea turtle (*Lepidochelys olivacea*) nesting at João Barrosa beach, Boavista Island. Photo by Sara Alba. | Tartaruga-olivácea (*Lepidochelys olivacea*) fêmea desovando na praia de João Barrosa, ilha da Boavista. Fotografia de Sara Alba.

Zoological Society of Cabo Verde strengthens research in the Desertas Islands

The Zoological Society of Cabo Verde recently selected three more research proposals to be funded by Fundo Desertas. Desertas Fund aims at contributing to the conservation of Desertas (Santa Luzia, Branco e Raso) flora and fauna by supporting nationals and international researchers. Applicants were allowed to apply during April 2017 and three projects, two from national researchers and one from international researchers, were selected and these intended to study a diverse group of organisms including sharks, gastropods (genus *Conus*) and fish of commercial value.

Desertas Fund was first launched in 2016 by the society. It is maintained through the selling of the book entitled “Cabo Verde – Natural History of the Desertas Islands – Santa Luzia, Branco & Raso”, edited by nationals and international researchers and is currently available for selling at [CIBIO UP](#), [NHBS](#) and [ORYX](#).

A Sociedade Caboverdiana de Zoologia aposta na investigação nas Desertas

A Sociedade Caboverdiana de Zoologia seleccionou mais três projectos de investigação para serem contemplados com o Fundo Desertas. Durante o mês de Abril, a Sociedade abriu a segunda chamada às bolsas do Fundo Desertas, que tem como objectivo contribuir para a conservação das ilhas desertas (Santa Luzia, Branco e Raso) através da produção de conhecimento científico. Nesta última chamada, três projectos, dentre os quais dois por investigadores nacionais e um por investigadores internacionais, foram seleccionados e estes pretendiam estudar vários organismos tais como tubarões, gastropodes (género *Conus*) e peixes de grande comercial.

O Fundo Desertas da Sociedade Caboverdiana de Zoologia é uma iniciativa iniciada em 2016. O fundo é garantido através da venda do livro “Cabo Verde – História Natural das Ilhas Desertas – Santa Luzia, Branco e Raso” editada por investigadores de várias instituições nacionais e internacionais e encontra-se disponível para venda no [CIBIO-UP](#), [NHBS](#) e [ORYX](#).

ZOOLOGICAL NEWS FROM THE NEWSPAPERS NOTÍCIAS ZOOLOGICAS DE JORNAIS

Cabo Verde receives Go-Wamer award

The Caboverdean Association of West African Women (RAMAO), a Caboverdean non-Governmental organization, was awarded in January 2017, by the Go-Wamer Program, with “Prémio Conservação” (Conservation Award). Together with Cabo Verde, projects from Senegal and Guiné-Bissau were also granted.

RAMAO's project included both social activities and awareness targeting mainly women who have sand theft as the primary source of income. Also, the project aimed at contributing to the conservation of the littoral habitat as well as providing an alternative source of revenue to these women. In the award ceremony, the players discussed various environmental issues to better plan and implement conservation policies targeting marine resources.

Lusa, January 18th 2017. Link: <http://noticias.sapo.cv/lusa/artigo/21792486.html>.

Study on Caboverdean Western osprey reproductive success and diet composition

A recent study was carried out on the western osprey (*Pandion haliaetus*) from São Nicolau Island by researchers from the University of Cabo Verde, Zoological Society of Cape Verde, BIOS.CV and CIBIO-InBIO. This study, funded by a local company, the Cabeólica and by The International Osprey Foundation (TIOF) in the USA, aimed to contribute to the knowledge of the biology and ecology of the species and to revise the western osprey's demographic population data.

The field work took place in the entire São Nicolau Island from January to April 2016. From this study, the authors estimated 17-21

Cabo Verde recebe o prémio Go-Wamer

A Associação Caboverdiana das Mulheres da África Ocidental (RAMAO) foi premiada em Janeiro deste ano, pelo programa Go-Wamer, com o Prémio Conservação. Além de Cabo Verde, projectos de outros países africanos como Senegal e Guiné-Bissau também foram laureados.

O projecto da associação Caboverdiana incluía tanto a vertente social como também a vertente educativa, visado principalmente as mulheres chefes de família que têm a apanha de areia como principal fonte de renda. O projecto visava ainda contribuir para a conservação da biodiversidade do litoral como também em oferecer fontes alternativas de renda a essas mulheres. Durante a cerimónia, aproveitou-se ainda para discutir as várias questões ambientais de forma a permitir um melhor gestão e implementação das políticas de conservação dos recursos marinhos.

Lusa, 18 de Janeiro de 2017. Link: <http://noticias.sapo.cv/lusa/artigo/21792486.html>.

Sucesso reprodutor e dieta do guincho estudado em Cabo Verde

Recentemente, o guincho (*Pandion haliaetus*) da ilha de São Nicolau, Cabo Verde, foi estudado por investigadores de várias instituições nacionais e internacionais, a saber da Universidade de Cabo Verde, da Sociedade Caboverdiana de Zoologia, da BIOS.CV e do CIBIO-InBIO. O estudo foi financiado pela empresa Cabeólica, de Cabo Verde, e pela “*The International Osprey Foundation*”, dos Estados Unidos da América. O estudo teve como principal objectivo contribuir para o conhecimento da biologia e ecologia do guincho e actualizar a demografia populacional desta espécie.

couples and a high nest abandonment rate, probably due to human activities which still the major threat to this species. Approximately 1000 food remains were collected and analyzed, from which the opportunistic and generalist western osprey's diet was characterized. In short, this study allowed detailed characterization of the *Pandion haliaetus* from São Nicolau Island. Moreover, the study allowed to monitor the reproductive success and diet composition of this species, which is a good environmental indicator.

University of Cabo Verde, February 23rd 2017. Link: <http://tinyurl.com/y8vqpcjm>.

O trabalho de campo, que decorreu entre Janeiro e Abril de 2016 em São Nicolau, permitiu aos investigadores estimar um total de 17-21 casais na ilha. Além disso, foi evidente a alta taxa de abandono dos ninhos, provavelmente por causa de interferências humanas que continua a ser a principal ameaça para esta espécie. Foram ainda recolhidos quase 1000 restos de alimentos nos ninhos, o que, depois da análise, revelou que os guinchos de São Nicolau viviam à base de uma dieta oportunista e generalista. Em suma, o trabalho permitiu uma detalhada caracterização do *Pandion haliaetus* da ilha de São Nicolau. Além disso, o estudo permitiu a monitorização do sucesso reprodutor e da composição da dieta desta espécie, que é vista por muitos, como um indicador ambiental.

Universidade de Cabo Verde, 23 de Fevereiro de 2017. Link: <http://tinyurl.com/y8vqpcjm>.



Caboverdean researcher collecting samples for posterior analysis. Picture source: University of Cabo Verde, link: <http://tinyurl.com/y8vqpcjm>. | Investigadora Caboverdiana recolhendo amostras para análises futuras. Fonte da imagem: Universidade de Cabo Verde; link: <http://tinyurl.com/y8vqpcjm>.

Engagement of the community in biodiversity conservation

Sónia Araújo, the focal point of the Biodiversity Conservation, claimed for the need of more commitment of the society to the

Envolvimento da comunidade nas políticas de conservação

Segundo o ponto focal para Conservação da Biodiversidade, Sónia Araújo, é importante e necessário envolver a comunidade local nas

conservation policies. According to her, Cabo Verde biodiversity diversifies in both terrestrial and marine habitats, and by including local communities in conservation policy, it will allow a better implementation of the programs and the achievement of better results. Sonia spoke during the formalities of the International Day of the Biodiversity, the May 22th, in the Maio Island.

Inforpres, May 25th 2017. Link: <http://tinyurl.com/yc2vmyoj>.

Sand theft: biodiversity killer but family savior

In Cabo Verde Islands, sand theft is seen as a biodiversity killer. So, this activity was interdicted by the Government back in 1997, by the Law n° 69/97 from November 3rd. However, many Caboverdean families rely almost exclusively on this as a source of income. Lusa Agency recently published an on-line video, where sand mining was analysed from both the perspectives, a natural resource depletion and the income of several families. The video portrays the life of many women from Ribeira da Barca, Santiago Island.

Sand theft not only degrades the fragile biodiversity of Cabo Verde Islands. It also harms practitioners' health status. Isalina Semedo, one of the interviewed women, attested her will to quit this illegal activity in exchange of a healthier source of income. Indeed, the local community agrees that the lack of others source of revenue is what forces them to keep this practice.

The side effects of sand theft in women health do not go unnoticed. Indeed, Josefina Chantre, from the Caboverdean Association of West African Women, and her team is working on these issues and hope to be able to persuade the policymakers to increase their help to these families. The government, however, disagrees that the poverty has to be taken as a reason to kill the biodiversity. While waiting for better alternatives, women from Ribeira da Barca, Santiago Island, will continue to mine sand, ignoring its impact on their health and biodiversity.

políticas de conservação. Segundo ela, o envolvimento da comunidade permitirá uma melhor implementação dos programas e a obtenção de melhores resultados. Sónia falava durante a comemoração do Dia Internacional da Biodiversidade, passado 22 de Maio, na ilha do Maio.

Inforpres, 25 de Maio de 2017. Link: <http://tinyurl.com/yc2vmyoj>.

Apanha de areia, uma faca de dois gumes

A apanha de areia é uma prática proibida pelo Governo desde 1997, pelo Decreto-Lei n° 69/97, de 3 de Novembro. Esta medida deve-se pelos danos que esta actividade produz na biodiversidade. No entanto, muitas famílias Caboverdianas dependem quase que unicamente da apanha da areia como a única fonte de renda. A Agência Lusa, publicou um documentário online, onde a questão da apanha de areia é vista das duas perspectivas, a remoção de um importante recurso da natureza e uma fonte de renda de muitas famílias. O documentário retrata a vida de muitas famílias da localidade de Ribeira da Barca, ilha de Santiago.

A apanha de areia não degrada unicamente a biodiversidade frágil de Cabo Verde. Esta também causa inúmeros problemas, principalmente de saúde, aos praticantes. Isalina Semedo, uma das mulheres entrevistadas, reconhece os problemas e mostra-se disponível a deixar a prática, caso houver alternativas. Na verdade, toda a comunidade atribui a culpa de terem que extrair areia à falta de outros meios de subsistência.

Os impactos negativos da apanha de areia na saúde das mulheres não passam despercebidos à Josefina Chantre, da Associação Caboverdiana das Mulheres da África Ocidental. Ela e a sua equipa estão trabalhando nesta problemática e esperam poder sensibilizar ainda mais os decisores políticos nesta matéria. Por seu lado, o governo considera que a falta de meios

Lusa, May 29th, 2017. Link: <http://videos.sapo.cv/5wvIK6ZU4bCuUDEIue8o>.

alternativos de subsistência não deve ser uma razão para comprometer a biodiversidade. Enquanto esperam por alternativas, as mulheres de Ribeira da Barca, continuam a ter a apanha da areia como principal fonte de renda, ignorando assim os impactos na saúde e biodiversidade.

Lusa, 29 de Maio de 2017. Link: <http://videos.sapo.cv/5wvIK6ZU4bCuUDEIue8o>.



Screenshot from the Lusa's video documentary at 1min, 28seg. The image shows sand and gravels extracted for selling. Video source: <http://videos.sapo.cv/5wvIK6ZU4bCuUDEIue8o>. | Captura de monitor da reportagem da Lusa a 1min e 28seg. A imagem mostra areia e cascalhos extraídos da praia para ser vendida. Fonte do video: <http://videos.sapo.cv/5wvIK6ZU4bCuUDEIue8o>.

Turtles watching yields half a million

Turtle's conservation not only helps to protect this species but also yielded half a million as direct profit. According to Albert Taxonera, a biologist at the Biodiversity Project, approximately 20000 tourists went to Boavista and Sal Islands to watch turtles, at the cost of 25-30€ per person. Also, he mentioned that this achievement is due to the protection campaigns because fishers consistently capture turtles on unprotected beaches. Moreover, he said that the inefficient enforcement measures to those who capture and commercialise turtles and its derivatives also contribute negatively to the turtle's conservation programs.

A study was planned to access the social and economic impact of turtles' conservation programs in local communities. The need for this study relies on the persistence of turtle's hunting

Observação de tartarugas rende meio milhão em receitas

A conservação das tartarugas ajuda a proteger uma espécie em extinção mas ao mesmo tempo rende, em Cabo Verde, meio milhão de euros em receitas. De acordo com Albert Taxonera, biólogo do Projecto Biodiversidade, cerca de 20000 turistas foram às praias da ilha da Boavista e do Sal para verem tartarugas, a um custo de 25-30€ por pessoa. Segundo a mesma fonte, este ganho foi possível graças às consistentes campanhas de conservação uma vez que nas praias não protegidas, as tartarugas são constantemente capturadas por pescadores. A fonte revelou ainda que as medidas de coação para os que capturam, comercializam ou consomem são inexistentes ou pouco eficazes o que contribui para a persistência desta prática.

Um estudo foi previsto para determinar o impacto social e económico dos programas de

besides all the benefits they bring to the local communities. The results of such a study will help to better understand this issue, plan and implement conservation programs.

Albert Taxonera believes that by showing to the community the earnings of the conservation programs, it will help not only its implementation but also contribute to the local tourism and economy.

Lusa, July 23rd 2017. Link: <http://noticias.sapo.cv/info/artigo/1509032.html>.

conservação de tartarugas nas comunidades locais. A principal motivação deveu-se ao facto da captura continuar apesar dos benefícios que estes programas trazem para as comunidades. Resultados deste estudo ajudarão a melhor compreender essa problemática, melhor planear e implementar programas de conservação.

Alter Taxonera acredita que ao expor os ganhos dos programas de conservação às comunidades irá ajudar não só na implementação das actividades mas também no desenvolvimento do turismo e economia local.

Lusa, 23 de Julho de 2017. Link: <http://noticias.sapo.cv/info/artigo/1509032.html>.

RECENT PUBLICATIONS ON CAPE VERDE ZOOLOGY PUBLICAÇÕES RECENTES SOBRE ZOOLOGIA CABOVERDIANA

Recent publications on Cape Verde zoology are listed and an abstract – if available – is given. Should you know of any omissions in this (or previous) listing(s), please let us know. We appreciate receiving copies of your latest publications for inclusion in future editions. Please contact ehelegam@gmail.com or ruifreitas@docente.uniev.edu.cv.

Ceríaco, L. P. & Sousa, A. C. (2017). **African Red-Sided Skink in Cape Verde**. *African Herp News*, 64, 44-45.

ABSTRACT Not Available.

Cunha, R. L., Assis, J. M., Madeira, C., Seabra, R., Lima, F. P., Lopes, E. P., Williams, S. T. & Castilho, R. (2017). **Drivers of Cape Verde archipelagic endemism in keyhole limpets**. *Scientific Reports*, 7, 41817. doi:[10.1038/srep41817](https://doi.org/10.1038/srep41817).

ABSTRACT Oceanic archipelagos are the ideal setting for investigating processes that shape species assemblages. Focusing on keyhole limpets, genera *Fissurella* and *Diodora* from Cape Verde Islands, we used an integrative approach combining molecular phylogenetics with ocean transport simulations to infer species distribution patterns and analyse connectivity. Dispersal simulations, using pelagic larval duration and ocean currents as proxies, showed a reduced level of connectivity despite short distances between some of the islands. It is suggested that dispersal and persistence driven by patterns of oceanic circulation favouring self-recruitment played a primary role in explaining contemporary species distributions. Mitochondrial and nuclear data revealed the existence of eight Cape Verde endemic lineages, seven within *Fissurella*, distributed across the archipelago, and one within *Diodora* restricted to Boavista. The estimated origins for endemic *Fissurella* and *Diodora* were 10.2 and 6.7 MY, respectively. Between 9.5 and 4.5 MY, an intense period of volcanism in Boavista might have affected *Diodora*, preventing its diversification. Having originated earlier, *Fissurella* might have had more opportunities to disperse to other islands and speciate before those events. Bayesian analyses showed increased

diversification rates in *Fissurella* possibly promoted by low sea levels during Plio-Pleistocene, which further explain differences in species richness between both genera.

González, J. A., Triay-Portella, R., Martins, A., & Lopes, E. (2017). **Checklist of brachyuran crabs (Crustacea: Decapoda) from the Cape Verde Islands, with a biogeographic comparison with the Canary Islands (Eastern Atlantic)**. *Cahiers de Biologie Marine*, 58, 137-151.

ABSTRACT In the current scenario of defaunation and bioinvasion, increasing the knowledge about the composition in marine species and monitoring are an emergency need to control the biodiversity. Nearly 35 years have passed since Türkay (1982) published the decapod crustaceans of the Cape Verde islands. No checklists of decapod fauna specifically covering this area have been published since then, and an update is needed. The current list of Cape Verdean brachyuran crabs comprises 125 species, grouped in 83 genera and 40 accepted families. Additional species have been mainly recorded thanks to intensified research into deep water and description of new taxa. *Anamathia rissoana* and *Macropipus rugosus* are recorded for the first time and the occurrence/absence of some species confirmed in the area. This work summarizes all recent changes in Cape Verdean brachyurans and makes biogeographic remarks, with a comparison with the Canary Islands brachyurans. It presents a literature review and overview about the species previously recorded in the area. It still aims to be a tool to support further monitoring to identify the absence or appearance of invasive species.

González, J. A., Triay-Portella, R., Santana, J. I., Correia, S., Monteiro, C., & Martins, A. (2017). **Three new decapods (Aristeidae, Chirostylidae, Pandalidae) from the Cape Verde Islands (NE Atlantic)**. *Crustaceana*, 90(3), 349-358. doi:[10.1163/15685403-00003649](https://doi.org/10.1163/15685403-00003649).

ABSTRACT In the present article three benthic decapods, *Aristeus varidens* Holthuis, 1952 (Aristeidae), *Gastroptychus formosus* (Filhol, 1884) (Chirostylidae) and *Plesionika longicauda* (Rathbun, 1901) (Pandalidae), are recorded for the first time from the Cape Verde Islands. This is the southernmost record of *G. formosus*, as well as the northernmost of *P. longicauda* ever recorded from the eastern Atlantic. Preliminary data on batch fecundity and egg size of the pandalid shrimp are provided. Studied specimens were caught in the frame of a scientific trapping survey.

Guedes, D. R., Gomes, E. T., Paiva, M. H., de Melo-Santos, M. A., Alves, J., Gómez, L. F., & Ayres, C. F. (2017). **Circulation of DENV2 and DENV4 in *Aedes aegypti* (Diptera: Culicidae) mosquitoes from Praia, Santiago Island, Cabo Verde**. *Journal of Insect Science*, 17(4), 86. doi: [10.1093/jisesa/iex057](https://doi.org/10.1093/jisesa/iex057).

ABSTRACT Arthropod-borne viruses, such as Dengue (DENV), Chikungunya (CHIKV), and Zika (ZIKV), pose a challenge to public health, due to their worldwide distribution and large-scale outbreaks. Dengue fever is currently one of the most important diseases and it is caused by four serotypes of DENV and is mainly transmitted by the mosquito *Aedes aegypti*. It is estimated that 50–100 million cases are reported every year worldwide. More recently, CHIKV and ZIKV, which are also transmitted by *Ae. aegypti*, have caused epidemics in countries in the Caribbean region, the Pacific region, and Americas. Cabo Verde faced its first dengue outbreak in 2009, with more than 21,000 reported cases and four registered deaths. The epidemic was caused by DENV-3 transmitted by *Ae. aegypti* mosquitoes. In addition, the country faced a Zika outbreak with more than 7,500 notified cases from October 2015 to May 2016. In the present study, we conducted a survey in mosquito samples to detect arboviruses circulating in the local vector population. Collections were performed from November 2014 to January 2015, in the City of Praia, the capital of Cabo Verde, using aspirators and BG-sentinel traps. Samples were examined by multiplex

Reverse Transcription-polymerase chain reaction. A total of 161 *Ae. aegypti* adult females were analyzed (34 pools) and from these samples, eight pools were found positive for DENV-2 and DENV-4. Our results revealed a very high natural infection rate in the vector population and showed two different serotypes co-circulating in the island that differ from the one detected in the 2009 outbreak in Cabo Verde.

Laloë, J. O., Cozens, J., Renom, B., Taxonera, A., & Hays, G. C. (2017). **Climate change and temperature-linked hatchling mortality at a globally important sea turtle nesting site.** *Global change biology*, 1-10. doi:[10.1111/gcb.13765](https://doi.org/10.1111/gcb.13765).

ABSTRACT The study of temperature-dependent sex determination (TSD) in vertebrates has attracted major scientific interest. Recently, concerns for species with TSD in a warming world have increased because imbalanced sex ratios could potentially threaten population viability. In contrast, relatively little attention has been given to the direct effects of increased temperatures on successful embryonic development. Using 6603 days of sand temperature data recorded across 6 years at a globally important loggerhead sea turtle rookery – the Cape Verde Islands – we show the effects of warming incubation temperatures on the survival of hatchlings in nests. Incorporating published data (n = 110 data points for three species across 12 sites globally), we show the generality of relationships between hatchling mortality and incubation temperature and hence the broad applicability of our findings to sea turtles in general. We use a mechanistic approach supplemented by empirical data to consider the linked effects of warming temperatures on hatchling output and on sex ratios for these species that exhibit TSD. Our results show that higher temperatures increase the natural growth rate of the population as more females are produced. As a result, we project that numbers of nests at this globally important site will increase by approximately 30% by the year 2100. However, as incubation temperatures near lethal levels, the natural growth rate of the population decreases and the long-term survival of this turtle population is threatened. Our results highlight concerns for species with TSD in a warming world and underline the need for research to extend from a focus on temperature-dependent sex determination to a focus on temperature-linked hatchling mortalities.

Militão, T., Dinis, H. A., Zango, L., Calabuig, P., Stefan, L. M., & González-Solís, J. (2017). **Population size, breeding biology and on-land threats of Cape Verde petrel (*Pterodroma feae*) in Fogo Island, Cape Verde.** *PloS One*, 12(4), e0174803. doi:[10.1371/journal.pone.0174803](https://doi.org/10.1371/journal.pone.0174803).

ABSTRACT Cape Verde petrel (*Pterodroma feae*) is currently considered near threatened, but little is known about its population size, breeding biology and on land threats, jeopardizing its management and conservation. To improve this situation, we captured, marked and recaptured (CMR) birds using mist-nets over 10 years; measured and sexed them; monitored up to 14 burrows, deployed GPS devices on breeders and analyzed activity data of geolocators retrieved from breeders in Fogo (Cape Verde). We set cat traps over the colony and investigated their domestic/feral origin by marking domestic cats from a nearby village with transponders, by deploying GPS devices on domestic cats and by performing stable isotope analyses of fur of the trapped and domestic cats. The population of Fogo was estimated to be 293 birds, including immatures (95% CI: 233–254, CMR modelling). Based on geocator activity data and nest monitoring we determined the breeding phenology of this species and we found biometric differences between sexes. While monitoring breeding performance, we verified a still ongoing cat predation and human harvesting. Overall, data gathered from trapped cats without transponder, cats GPS trips and the distinct isotopic values between domestic and trapped cats suggest cats visiting the colony are of feral origin. GPS tracks from breeders showed birds left and returned to the colony using the sector NE of the islands, where high level of public lights should be avoided specially during the fledging period. Main threats for the Cape Verde petrel in the remaining breeding islands are currently unknown but likely to be similar to Fogo, calling for an urgent

assessment of population trends and the control of main threats in all Cape Verde Islands and updating its conservation status.

Oleastro, M., Rocha, R. & Vale, F. F. (2017). **Population genetic structure of *Helicobacter pylori* strains from Portuguese-speaking countries.** *Helicobacter*, 22(4), e12382. doi:[10.1111/hel.12382](https://doi.org/10.1111/hel.12382).

ABSTRACT The human gastric colonizer *Helicobacter pylori* is useful to track human migrations given the agreement between the bacterium phylogeographic distribution and human migrations. As Portugal was an African and Brazilian colonizer for over 400 years, we hypothesized that Portuguese isolates were likely genetically closer with those from countries colonized by Portuguese in the past. We aimed to characterize the population structure of several Portuguese-speaking countries, including Portugal, Brazil, Angola, and Cape Verde. We included strains isolated in Portugal from Portuguese and from former Portuguese colonies. These strains were typed by multilocus sequence typing (MLST) for seven housekeeping genes. We also retrieved from Multi Locus Sequence Typing Web site additional housekeeping gene sequences, namely from Angola and Brazil. We provided evidence that strains from Portuguese belong to hpEurope and that the introgression of hpEurope in non-European countries that speak Portuguese is low, except for Brazil and Cape Verde, where hpEurope accounted for one quarter and one half of the population, respectively. We found genetic similarity for all strains from Portuguese-speaking countries that belong to hpEurope population. Moreover, these strains showed a predominance of ancestral Europe 2 (AE2) over ancestral Europe 1 (AE1), followed by ancestral Africa 1. *H. pylori* is a useful marker even for relative recent human migration events and may become rapidly differentiated from founder populations. *H. pylori* from Portuguese-speaking countries assigned to hpEurope appears to be a hybrid population resulting from the admixture of AE1, AE2 and ancestral hpAfrica1.

Passos, L., Tiwari, M., Teixidor, A., Silva, E., Morais, A., Adriano, D., Ramos, A. & Varela, J. (2017). **First Record of a Green Turtle, *Chelonia mydas*, Nest on Maio Island, Cabo Verde.** *African Sea Turtle Newsletter*, 7, 20-21.

ABSTRACT Not available.

Paxton, H., & Arias, A. (2017). **Unveiling a surprising diversity of the genus *Diopatra* Audouin & Milne Edwards, 1833 (Annelida: Onuphidae) in the Macaronesian region (eastern North Atlantic) with the description of four new species.** *Zootaxa*, 4300(4), 505-535. doi:[10.11646/zootaxa.4300.4.3](https://doi.org/10.11646/zootaxa.4300.4.3).

ABSTRACT This study reviews previous records and reports on newly sampled species of the genus *Diopatra* from Macaronesia, a region comprising five volcanic archipelagos in the eastern North Atlantic Ocean. Of the three species previously known from the eastern North Atlantic and the Mediterranean, *D. marocensis* and *D. micrura* are newly reported from the Canary Islands, and the record of *D. neapolitana* from Madeira is confirmed. The earliest descriptions of *Diopatra* from Madeira are *D. brevicirrus* and *D. madeirensis*; the former is here considered as a nomen dubium, whilst the latter is redescribed, based on new collections from Madeira and the Canary Islands. *Diopatra gallardoi*, recently described from Namibia, is reported from the Canary Islands. Four new species are described: *D. mariae* sp. nov. and *D. mellea* sp. nov. with peristomial cirri (typical *Diopatra*), and *D. budaevae* sp. nov. and *D. hektoeni* sp. nov. (lacking peristomial cirri, previously considered as Epiopatra); the former three species are from the Canary Islands and the fourth is from Cape Verde Islands. This brings the *Diopatra* fauna from the Macaronesian region to nine species. Diagnoses and full descriptions are presented for new and redescribed species and extended diagnoses for others, accompanied by detailed illustrations,

including scanning electron micrographs and drawings. A dichotomous key to all recognized species is included plus a table summarizing specific diagnostic characters.

Russini, V., Fassio, G., Modica, M. V., deMaintenon, M. J., & Oliverio, M. (2017). **An assessment of the genus *Columbella* Lamarck, 1799 (Gastropoda: Columbellidae) from eastern Atlantic.** *Zoosystema*, 39(2), 197-212.

ABSTRACT Three species of the neogastropod genus *Columbella* Lamarck, 1799 are recognised from the northeastern Atlantic and the Mediterranean. One is the common Mediterranean *C. rustica* (Linnaeus, 1758), with paucispiral protoconch, extending its range in the Atlantic South to Senegal and North to Portugal. *Columbella adansoni* Menke, 1853, with multispiral protoconch is restricted to the Macaronesian archipelagoes. A third species, also with multispiral protoconch, from West Africa is recognised through molecular methods, and the name *C. xiphitella* Duclos, 1840 is employed by correcting the original erroneous locality (“Californie”) to Gabon. Except for protoconch features, no major morphological characters are available to separate the three species; however diagnostic species-level differences in specific positions in the cytochrome c oxidase I (COI) sequences are present between all three species.

Silva, E., Marco, A., da Graça, J., Pérez, H., Abella, E., Patino-Martinez, J., Martins, S., & Almeida, C. (2017). **Light pollution affects nesting behavior of loggerhead turtles and predation risk of nests and hatchlings.** *Journal of Photochemistry and Photobiology B: Biology*, 173, 240-249. doi:[10.1016/j.jphotobiol.2017.06.006](https://doi.org/10.1016/j.jphotobiol.2017.06.006).

ABSTRACT The introduction of artificial light into wildlife habitats is a rapidly expanding aspect of global change, which has many negative impacts on a wide range of taxa. In this experimental study, which took place on a beach located on the island of Boa Vista (Cabo Verde), three types of artificial light were tested on nesting loggerhead sea turtles as well as on ghost crabs, which intensively predate on nests and hatchlings, to determine the effects they would produce on the behavior of both species. Over the course of 36 days, female loggerheads and ghost crabs were studied under yellow, orange and red lights, with observations also being made on dark nights that served as a control treatment. During this period, the frequencies of nesting attempts, the time taken by turtles to complete each phase of the nesting process, and ghost crab abundance and behaviors were carefully recorded. 1146 loggerhead nesting attempts were observed and recorded during the experiments, and results showed a decrease in nesting attempts of at least 20% when artificial lighting was present. A significant decline in successful attempts was also observed within the central sections of the beach, which corresponded to those that received more light. This artificial lighting significantly increased the time that turtles spent on the nesting process and forced them to do more extensive beach crawls. Despite this, the presence of light had no apparent effect on the final selection of the nesting site. Yellow and orange lights significantly disrupted the sea finding behavior and turtles were often unable to orient themselves seaward under these color lights. Disoriented turtles were observed crawling in circuitous paths in front of the light source for several minutes. In addition, artificial lights had the potential to increase the number of ghost crabs present within the illuminated stretches of the beach. However, only yellow lighting produced a significant change on aggressive and prey searching behaviors. These changes in abundance and behavior could cause a greater predation on loggerhead turtle nests. Red light had no significant impact on the behavior of either species. It should be a priority to enforce preventive measures and light mitigation strategies to ensure the conservation of important loggerhead rookeries.

Tavares, A. I., Cabezas, M. P., Xavier, R., Branco, M., Lima, F. P., Seabra, R., Ribeiro, P. A., Lopes, E. P. & Santos, A. M. (2017) **Phylogeography and phylogeny of the genus *Acanthonyx* (Decapoda, Epialtidae) in the north-east Atlantic and Mediterranean.** *Zoologica Scripta*, 46(5). doi:[10.1111/zsc.12232](https://doi.org/10.1111/zsc.12232).

ABSTRACT The genus *Acanthonyx* Latreille, 1828 (Majoidea, Epialtidae) contains 17 or 18 known species, depending on competing taxonomic views, that are widely distributed across the world. Morphologically, most species look superficially alike, and therefore, similar taxonomic concepts have been described under different names. Consequently, there is today a considerable list of synonyms, which further complicates the taxonomy of the genus *Acanthonyx*. In this study, we conducted a phylogeographical and phylogenetic analysis of populations of the genus *Acanthonyx* in the NE Atlantic, Mediterranean and Macaronesia using the mitochondrial cytochrome oxidase subunit I (COI) and the nuclear 28S rRNA loci. Our phylogenetic and phylogeographical results revealed that *Acanthonyx lunulatus* sensu lato is a complex of three distinct lineages: one corresponding to the previously described *Acanthonyx brevifrons*, another to *A. lunulatus* sensu stricto and a third to a yet undescribed group. Whereas our results confirms that *A. brevifrons* deserves the status of a species, as it can be easily distinguishable from *A. lunulatus* by a few morphological traits, we could not find any such traits suitable for the discrimination between *A. lunulatus* sensu stricto and the third lineage. Furthermore, the degree of COI divergence between this lineage and *A. lunulatus* is below average levels for Decapoda species. Yet, no shared haplotypes have been detected between them. The differences found in the nuclear gene (indels), together with the sympatric occurrence of the two forms, prompt for a more detailed analysis of this group. Overall, the results show that significant genetic differentiation between specimens with similar morphology occurs in the Epialtidae, thus reinforcing the importance of combining morphological and genetic tools to fully resolve the taxonomy of these decapods.

Valente, L., Illera, J. C., Havenstein, K., Pallien, T., Etienne, R. S., & Tiedemann, R. (2017). **Equilibrium Bird Species Diversity in Atlantic Islands.** *Current Biology*, 27(11), 1660-1666. doi:[10.1016/j.cub.2017.04.053](https://doi.org/10.1016/j.cub.2017.04.053).

ABSTRACT Half a century ago, MacArthur and Wilson proposed that the number of species on islands tends toward a dynamic equilibrium diversity around which species richness fluctuates. The current prevailing view in island biogeography accepts the fundamentals of MacArthur and Wilson's theory but questions whether their prediction of equilibrium can be fulfilled over evolutionary timescales, given the unpredictable and ever-changing nature of island geological and biotic features. Here we conduct a complete molecular phylogenetic survey of the terrestrial bird species from four oceanic archipelagos that make up the diverse Macaronesian bioregion – the Azores, the Canary Islands, Cape Verde, and Madeira. We estimate the times at which birds colonized and speciated in the four archipelagos, including many previously unsampled endemic and non-endemic taxa and their closest continental relatives. We develop and fit a new multi-archipelago dynamic stochastic model to these data, explicitly incorporating information from 91 taxa, both extant and extinct. Remarkably, we find that all four archipelagos have independently achieved and maintained a dynamic equilibrium over millions of years. Biogeographical rates are homogeneous across archipelagos, except for the Canary Islands, which exhibit higher speciation and colonization. Our finding that the avian communities of the four Macaronesian archipelagos display an equilibrium diversity pattern indicates that a diversity plateau may be rapidly achieved on islands where rates of in situ radiation are low and extinction is high. This study reveals that equilibrium processes may be more prevalent than recently proposed, supporting MacArthur and Wilson's 50-year-old theory.

Aistleitner Eyjolf, Baehr Martin (2016): **Sandlaufkäfer und Laufkäfer der Kapverden (Cabo Verde) (Coleoptera: Caraboidea, Cicindelidae, Carabidae)**. *Nachrichtenblatt der Bayerischen Entomologen* 065: 50–55.

ABSTRACT This paper shows the results of entomological field-studies during the time from late September to late February in the years 1998 to 2013. Chorological and phenological data of 21 species of the named families are given. New faunistic records for Sal are *Calosoma chlorostictum cognatum* CHAUDOIR, 1850, and *Egaploa crenulata* (DEJEAN, 1829), for São Vicente *Anomostomus torridus* LAFERTÉ, 1853.

Carretero, M.A., Lopes, E.P & Vasconcelos, R (2016). **An ecophysiological background for biogeographic patterns of two island lizards?** *The Science of Nature*, 103(11-12), 97. doi: [10.1007/s00114-016-1422-8](https://doi.org/10.1007/s00114-016-1422-8).

ABSTRACT Distributions of sedentary ectotherms are dependent on temperature and humidity due to their low homeostatic and dispersal abilities. Lizards are strongly conditioned by temperature, but hydric environment may be also important, at least in arid environments. Biotic interactions may also play a role in range patterns, but they are of minor importance in islands where native species monopolize well-delimited niche spaces. On the arid island of São Vicente (Cabo Verde), two endemic lizards display different spatial patterns. While the gecko *Tarentola substituta* is widely distributed across the island, the skink *Chioninia stangeri* is restricted to the NE, which is cooler, more humid, and vegetated. We hypothesized that this is due to differences in the fundamental niche, specifically in ecophysiology. We predict that *C. stangeri* should select for lower temperatures and lose more water by evaporation than *T. substituta*. We submitted adults of each species to standard experiments to assess preferred body temperatures (T_p) and evaporative water loss (EWL) rates, and examined the variation between species and through time using repeated-measures AN(C)OVAs. Results only partially supported our expectations. Contrary to the prediction, skinks attained higher T_p than geckos but in the long term showed a trend for higher EWL as predicted. Thus, while ecophysiology certainly contributes to functional interpretation of species distributions, it needs to be combined with other evidence such as habitat use and evolutionary history. These findings will be useful to perform mechanistic models to better understand the impact of climate change and habitat disturbance on these endemic species.

Creed, J. C., Engelen, A. H., Bandeira, S., & Serrão, E. A. (2016). **First record of seagrass in Cape Verde, eastern Atlantic**. *Marine Biodiversity Records*, 9(1), 57. doi: [10.1186/s41200-016-0067-9](https://doi.org/10.1186/s41200-016-0067-9).

ABSTRACT The Cape Verde archipelago consists of 10 volcanic islands in the eastern Atlantic Ocean located 570 km off the coast of Western Africa. While the shallow benthic communities have been studied in some detail no seagrasses have been previously reported for the Republic of Cape Verde. The seagrass *Halodule wrightii* Ascherson was found and described at one location at Praia, Santiago Island. There it formed a number of patches (≈ 10) covering a total of ≈ 20 m² at 1.4–1.6 m depth on fine sand soft bottoms. Some population characteristics are also reported. Two other sites with seagrass are also reported for the first time. The current record fills a knowledge gap regarding the distribution of seagrasses in the Tropical North Atlantic and it is expected that seagrasses will be found at other suitable sites within the archipelago.

Lopes, K., Passos, L., Rodrigues, J. G., Koenen, F., Stiebens, V., Székely, T., & Dutra, A. (2016). **Sea Turtle, Shark, and Dolphin Bycatch Rates by Artisanal and Semi-Industrial Fishers in Maio Island, Cape Verde.** *Chelonian Conservation and Biology*, 15(2), 279-288. doi:[10.2744/CB-1213.1](https://doi.org/10.2744/CB-1213.1).

ABSTRACT Marine animals including turtles, sharks, and dolphins are bycaught at an alarming rate worldwide, although the extent of this bycatch is rarely quantified. Here, we assess the frequencies of turtle, shark, and dolphin bycatch by fisheries operating artisanal and semi-industrial boats in the Island of Maio, Cape Verde. Among all interviews (n = 139), fishers reported higher shark bycatch (71%) than turtle (32%) and dolphin (9%) bycatch. However, we found no difference in turtle bycatch between artisanal and semi-industrial fishers. Artisanal fishers and semi-industrial fishers caught mostly loggerhead turtle (76%, 48%) followed by the green turtle (6%, 38%). We need further studies that specifically target bycatch and the type of gear used by fishers and verify whether the reported frequencies correspond to actual bycatch rates.

Dos Santos, M. L., Lopes, E. P., Carretero, M. A., Vasconcelos, R. (2016). **How intraspecific interactions affect thermoregulation in geckos – the case study of *Tarentola substituta* Joger, 1984, endemic to São Vicente, Cabo Verde.** TIBE2016 – Tropical Biology, 28-29 Novembro 2016, Porto, Portugal. Abstract Book pp.49

ABSTRACT The Genera *Tarentola* (Phyllodactylidae family) it makes up about 20 species commonly called wall geckos. The *Tarentola caboverdiana substituta* (Joger, 1984) is endemic specie from São Vicente island (Cape Verde). It's live under rocks in barren and arid plains during the day and out to feed at night. Like all geckos, is extremely essential to *Tarentola caboverdiana substituta* maintain the body temperature within certain acceptable physiological limits even when the ambient temperature is different. In this way, we submit 10 specimens of geckos to an experiment in order to determine the optimal temperatures preferred by gecko under a controlled temperature gradient in the laboratory and in four conditions in an cage: 1- alone in the cage; 2 - with another individual of the same sex; 3 -with another individual of the opposite sex and 4 - with a juvenile. The data was analyzed by same statistics test like ANOVA and Wilcoxon. The results indicated no significant differences with preferred temperatures throughout the day in both sexes. The males tend to choose from temperatures lower than those of females and juveniles when alone (M- 28.2 °C & F- 29.3 °C; Juv- 29.0 °C). The ANOVA by repeated measures and Wilcoxon test for paired samples showed a significant increase in temperature preferred by males in the presence of females (M- 29.9°C). This temperature change of approximately 1°C may be related to the territorialism habits of these animals. This study further serves to infer effects of climate change on the distribution and behavior of geckos in Cape Islands.

Medina, K., Santos, S., Sequeira F., Lopes, E. P., (2016). **Genetic structure of two mollusk species (*Pinna rudis* and *Persististrombus latus*) from Cape Verde Archipelago base on Mitochondrial DNA.** TIBE2016 – Tropical Biology, 28-29 Novembro 2016, Porto, Portugal. Abstract Book pp.43

ABSTRACT Addressing genetic diversity and patterns of population structure are increasingly recognized as key steps for conservation planning and management decisions. Although considerable research efforts have recently been devoted towards revealing the hidden diversity and defining operational taxonomic units through barcode analysis, much less attention has been given to geographic structuring of intraspecific genetic diversity and historical population demography, including highly threatened, economically exploited organisms. In this study, we used mtDNA to analyze the genetic structure of two molluscans marine species in the archipelago of Cape Verde: *Pinna rudis* (Bivalve), and *Persististrombus latus* (Gastropod), with high commercial value and one of the most targeted species by fishing. We collected genetic data from

58 specimens from different islands of the Archipelago. Both species exhibited relatively high levels of genetic diversity (0.853 -0.953), as measured by haplotype diversity. However, while *P. latus* showed a lack of genetic structure, *P. rudis* exhibited unexpectedly moderate levels of population structure, with all sampled islands being genetically differentiated from each other. These results, although preliminary, suggest that future management measures for *P. rudis* should be applied individually to each island, as each presents a unique genetic composition.

Santos, K., Manent, P. S., Lopes, E. P., Quinteiro, J., Almeida, C., González, N. (2016). **Genetic characterization of the African hind *Cephalopholis taeniops* in the Cape Verde archipelago.** TIBE2016 – Tropical Biology, 28-29 Novembro 2016, Porto, Portugal. Abstract Book pp.44

ABSTRACT *Cephalopholis taeniops* is a marine fish with high commercial value in Cape Verde, and its population has to be reduced. The identification of stocks is essential for its correct management this fisheries in this archipelago. Thus, we did the DNA extraction and amplified the control region (CR), COI and Cytb of the mitochondrial DNA by 197 samples. The results showed high haplotype diversity (0.846), low nucleotide diversity (0.0074) and a haplotype network with no structure. The population statistics revealed a single stock for this species in Cape Verde. These results pose a challenge to the government agencies to establish management measures applicable to all islands of the archipelago.

Vasconcelos, R. C. S. (2016). **Biogeography and conservation of the reptiles of the Cabo Verde Archipelago: Insights from diversity and distribution patterns.** Pp. 186 in: R. Gabriel, R.B. Elias, I.R. Amorim & P.A.V. Borges (Eds). Conference program and abstracts of the 2nd International Conference on Island Evolution, Ecology and Conservation: Island Biology 2016, 18-22 July 2016, Angra do Heroísmo, Azores, Portugal. Arquipelago. Life and Marine Sciences. Supplement 9.

ABSTRACT Cabo Verde holds the highest number of endemic reptiles of the Macaronesian archipelagos, but these have received little attention until recently. Combining molecular and morphological tools, I have reviewed the systematics of the three extant genera, and identified 40 evolutionarily significant units (ESUs) among 31 endemic taxa. Contrary to the patterns found in the Canary Islands, each taxon corresponded to only an ESU, except in Santiago, the largest, most diverse and middle-age island. Reptile distribution data depicted broad biogeographic patterns: the highest taxa and ESUs richness is found in the southern islands of Santiago and Fogo. Considering single-island endemics, São Nicolau also stands out. Moreover, predictive maps of occurrence allowed detecting uneven richness distributions within islands too: in mountainous islands, inner areas are generally richer than costal parts. These data allowed also identifying the priority islands and areas to protect the taxonomic and genetic diversity of Cabo Verde reptiles and updating the conservation status of each species. Interrelated historical and environmental factors explain this uneven diversity and distribution patterns. The most revealing historical factors are related with the geology and geography of the archipelago, such as the Pleistocene sea-level falls, volcanic activity, ages and islands' areas, as well as oceanic currents. Environmental factors include topography, habitat, climate and vegetation. High taxonomic diversity in the archipelago may be explained by multiple colonisations and drift, as well as by a founder effect in the different islands. The recent volcanic activity and high ecological stress that could lead to population extinctions, together with the low habitat diversity within some islands - which could restrain opportunities for allopatric diversification comparing to the Canaries-, explain the low intraspecific diversity between lineages of the same island. The above findings are congruent with the general dynamic model of oceanic islands. The high proportion of threatened taxa in Cabo Verde compared to the Canaries might be explained by the increased aridity and smaller area of the islands.