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TESE

Diversidade e biogeografia dos Lagartos
da Serra do Espinhaço



António Jorge Do Rosário Cruz

2019

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Diversidade e biogeografia dos Lagartos
da Serra do Espinhaço

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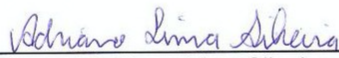
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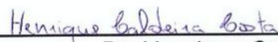
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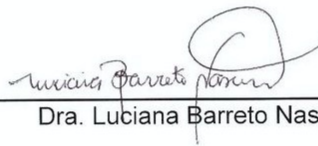
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Resumo geral

A Serra do Espinhaço compreende um conjunto de picos e planaltos localizados no sudeste do Brasil. Com aproximadamente 1200km de extensão, ela é considerada uma das regiões com maior riqueza de espécies e endemismos no Brasil. Entretanto, informações básicas sobre grande parte de sua biodiversidade são escassas. Essas lacunas de informação prejudicam tanto o nosso conhecimento sobre os processos históricos e ecológicos responsáveis pela geração dessa biodiversidade, como também a sua conservação. Para preencher parte dessa lacuna, reunimos informações sobre 95 espécies de lagartos, obtidos através de 3079 registros disponíveis na literatura, em coleções de museus e dados pessoais. Apresentamos uma lista de espécies com notas sobre história natural, ecologia, mapas de distribuição geográfica, status de conservação, e uma chave dicotômica para a identificação dos lagartos. Para interpretar a distribuição dessa fauna, testamos a congruência espacial da riqueza de espécies, endemismos e lacunas amostrais. Assim como outros elementos da biodiversidade do Espinhaço, a fauna de lagartos mostrou-se extremamente rica e diversificada, sendo na sua maioria típica de ambientes abertos, terrestre, diurna e ovípara. Apesar de um maior esforço de coletas ao sul de Espinhaço (nos biomas do Cerrado e da Mata Atlântica), o Norte (na Caatinga) apresentou uma maior riqueza de espécies, mais espécies endêmicas, e mais áreas de endemismos. Considerando as crescentes ameaças aos ambientes naturais do Espinhaço, a fauna de lagartos pode ser uma ferramenta crucial para mudar as perspectivas em relação a conservação da sua biodiversidade. Nossos resultados mostram que, assim como as florestas, os ambientes abertos hospedam uma fauna extremamente diversificada, incluindo uma grande concentração de espécies únicas. Isso destaca a importância de conservar o mosaico ambiental natural dessa região.

Palavras-chave: Reptilia, Mata Atlântica, Campo Rupestre, Caatinga, Cerrado.

General abstract

The Espinhaço mountain range comprises a set of peaks and plateaus, located in southeastern Brazil. With a length of approximately 1200km, it is considered one of the regions of greatest richness and endemism of species in Brazil. However, even basic information on taxonomy, geographic distribution, ecology, and natural history of most of its biodiversity is scarce. These information gaps prejudice both the knowledge on historical and ecological processes responsible by generating its biodiversity, and the conservation of this biodiversity. To fill part of this gap, we gathered information on 95 species of lizards from the Espinhaço, in a total of 3079 records available in the literature, in museum collections and personal data. A list of annotated species with natural history, ecology, maps of geographic distribution, conservation status and taxonomy information, including a dichotomous key is available. To discuss and interpret the lizard's distribution, we test the spatial congruence of species richness, endemism and sample gaps. Like other elements of Espinhaço's biodiversity, the lizard fauna proved to be extremely rich and diverse, and most of it is typical of open environments, terrestrial, daytime and oviparous. Despite the greater collection effort identified in the south of Espinhaço (which covers the Cerrado and Atlantic Forest biomes), the north (which covers the Caatinga), was the richest, also housing a greater number of exclusive species and areas of endemism. Considering the growing threats to the natural environments of the Espinhaço, the lizard fauna can be a crucial tool to change the perspective on biodiversity conservation. They show us that, as well as forests, open environments host an extremely diverse fauna, including a large concentration of unique species. That highlight the importance of conserving the natural environmental mosaic of this region.

Key-words: Reptilia, Atlantic Forest, Campo Rupestre, Caatinga, Cerrado.

Introdução geral

Montanhas sempre chamaram a atenção dos seres humanos por diversos motivos. Aspectos visuais ligados ao seu relevo e imponência na paisagem, espiritualidade e religião, cultura, formação geológica, serviços ecossistêmicos, clima regional e biodiversidade, são os principais motivos relacionados à sua distinção (Martinelli 2007; Körner et al. 2004; Körner et al. 2017). Entretanto, todas as dimensões consideradas são difíceis de serem abordadas dentro de um mesmo contexto. E por isso não existe uma definição universal, capaz de abrigar os vários campos da percepção humana em relação às montanhas (Körner et al. 2004).

Sobre a dimensão biológica, as montanhas são consideradas locais de elevada riqueza de espécies. Segundo Körner (2004), as montanhas abrigam cerca de 1/3 da biodiversidade global. Este número pode ser ainda maior, dependendo da definição adotada (Körner et al. 2017). A existência de uma alta riqueza de espécies endêmicas ou raras é outra característica marcante. Estes motivos tornam as montanhas ambientes ideais para estudos sobre a evolução da fauna e flora (Martinelli 2007; Rangel et al. 2018).

A Serra do Espinhaço compreende um conjunto de serras e planaltos dos estados de Minas Gerais e da Bahia com cerca de 1200 km de extensão (Derby 1906; Saadi 1995). Estas montanhas antigas (aprox. 500 milhões de anos) se originaram bem antes do soerguimento da Cordilheira dos Andes, e preservam até hoje um relevo marcante na paisagem (Shaefer 2013). Além disso é um importante divisor de bacias hidrográficas, abrangendo as drenagens dos rios São Francisco, Doce, Jequitinhonha, e Araçuaí em Minas Gerais, e importantes fontes fluviais de Paraguaçu, Jacuípe, e Rio de Contas, na Bahia (Saadi 1995; Derby 1906).

Latitudinalmente essas montanhas estão inseridas em três grandes Biomas: a Mata Atlântica, o Cerrado e a Caatinga (IBGE 2004). Além disso, o Espinhaço abriga a maior extensão de Campo

Rupestre (veja Silveira et al. 2015), um dos mais antigos ecossistemas abertos da América do Sul. Tudo isso transforma o Espinhaço em um laboratório com enormes potencialidades para o estudo da biodiversidade e dos processos que atuam na sua geração e manutenção.

Com um esforço de vários cientistas, tem sido possível avançar consideravelmente no conhecimento da fauna e flora da Serra do Espinhaço. Estudos envolvendo as plantas, abelhas, peixes, anfíbios e aves detectaram uma alta riqueza de espécies (Giulietti et al. 1997; Drummond et al. 2005; Leite et al. 2008; Vasconcelos et al. 2008; Alves et al. 2008. Azevedo et al. 2008; Echternacht et al. 2011). Reunir os diferentes padrões de distribuição, riqueza e composição é um passo crucial para interpretarmos a evolução biológica destas montanhas. E no caso, grupos de vertebrados já reconhecidos como excelentes modelos ecológicos e evolutivos, como os lagartos, fornecem pistas únicas para construirmos hipóteses biogeográficas mais consistentes. Entretanto, limitações relativas principalmente ao conhecimento taxonômico (déficit Lineano), à distribuição geográfica (déficit Wallaceano) (Lomolino et al. 2010; Whittaker et al. 2005), à história natural entre outras lacunas (see Hortal et al. 2015) impossibilitam este avanço.

Os lagartos são répteis Squamata e constituem um dos grupos de Tetrápoda mais diversificados do mundo (Pough et al. 2008; Pyron et al. 2017). Por serem antigos, já passaram por diferentes processos ecológicos no tempo e no espaço. Os primeiros lagartos surgiram há quase 270 milhões de anos, no final do Permiano e início do Triássico (Simões et al. 2018). A definição taxonômica convencional atribuída aos lagartos como grupo, entretanto não é válida. Isto porque as serpentes e as anfisbêneas são também consideradas filogeneticamente lagartos. A separação desses dois grandes grupos parafiléticos, os "Lacertilia" e as "Serpentes", não é bem fundamentada (Estes et al. 1988; Pyron 2017; Simões 2018). Entretanto, para este trabalho, consideramos a denominação convencional de lagartos, não levando em conta as serpentes e as anfisbêneas.

O Brasil abriga a segunda maior fauna de lagartos das Américas com 276 espécies descritas (Costa e Bérnils 2018). Na serra do Espinhaço os esforços para se conhecer a fauna de lagarto são recentes. Muitos desses trabalhos se devem ao esforço do Dr. Miguel Trefaut Rodrigues. Graças ao investimento em trabalhos de campo, várias espécies vêm sendo registradas para o Espinhaço (Cruz et al. 2014; Bertoluci et al. 2009; Linares & Eterovick 2013). Além disso, revisões taxonômicas mais detalhadas também vêm revelando várias espécies crípticas (Rodrigues 1987; Rodrigues et al. 2017; Carvalho et al. 2016).

Ao contrário de alguns grupos, muitos lagartos possuem uma vida secretiva, e são extremamente difíceis de serem amostrados. Outros por natureza são raros e só são capturados após exaustivos trabalhos de campo. Em ambientes de montanhas, as técnicas de amostragem são extremamente limitadas. Em alguns locais, por exemplo, é impossível a utilização de armadilhas eficientes para lagartos, como os pitfalls. Quando isso é possível, o processo de instalação é extremamente custoso, consumindo muita energia física e muito tempo de instalação (observação pessoal). O trabalho é então extremamente moroso, e cada registro é precioso, sendo de grande importância seu encaminhamento a museus de história natural.

Museus de história natural são as maiores fontes de informação biológica (Graham et al. 2004). Além de guardarem informações referentes ao estudo da história natural, os materiais depositados abrigam informações essenciais como a identidade da espécie, o espaço onde ela foi registrada e o tempo, representado pela data do registro (Graham et al. 2004). Reunir essas informações adquiridas e acumuladas ao longo do tempo é um passo estratégico. Isto porque linhas de ações para futuros trabalhos científicos e planos para a conservação da fauna são definidas com base nesse conteúdo.

Com a pretensão de encurtar as lacunas de conhecimento em relação a fauna de lagartos da Serra do Espinhaço, no primeiro capítulo desta Tese denominado "Lizards (Squamata) from the Espinhaço: a mountain range from Brazil" (Lagartos do Espinhaço: uma cadeia de montanhas

do Brasil" é apresentada pela primeira vez a lista de todas as espécies de lagartos com pelo menos um ponto de ocorrência para a Serra do Espinhaço e seus municípios. Após esforços advindos da consulta e análise direta de exemplares de lagartos depositados em museus de história natural, da incorporação de trabalhos científicos publicados e trabalhos de campo realizados no Espinhaço, este capítulo apresenta as áreas de ocorrência e distribuição geográfica, história natural, considerações taxonômicas, status de conservação para o Brasil, para IUCN e para os Estados da Bahia e Minas Gerais, além dos nomes populares (quando existentes) atribuídos por populações humanas pertencentes à região de estudo para cada espécie. Para melhor aproveitamento da informação, ainda no primeiro capítulo, é apresentada uma chave dicotômica para a identificação das espécies. Esta parte da tese foi desenvolvida principalmente para sanar um problema recorrente representado pela frequência de erros de identificação. Essa ferramenta será de importância extrema, servindo de suporte para estudantes curiosos e novos entusiastas, permitindo discutir e conhecer melhor os caracteres fundamentais para a identificação das espécies. Este capítulo se apresenta em formato de artigo científico e será submetido para a revista *Zootaxa*.

Vários trabalhos vêm investigando os motivos para justificar os altos valores de riqueza e endemismo de espécies em montanhas. Rangel et al. (2018), através da utilização de modelos computacionais demonstraram que as montanhas são centros de diversificação da biodiversidade. Além de servirem como refúgios para espécies durante mudanças climáticas, elas sevem também como berços para novas linhagens de espécies. O mesmo estudo demonstra a importância de ambientes como montanhas para as dinâmicas envolvidas na diversificação de espécies. Montanhas podem funcionar como pequenas ilhas isoladas, total ou parcialmente, para algumas espécies. Sendo assim, ao longo do tempo e de acordo com diferentes pressões, a diversificação de espécies, populações e comunidades é inevitável.

Dos grupos biológicos estudados na Serra do Espinhaço, vários apresentam uma riqueza de espécies considerável e expressiva para o Brasil (Azevedo et al. 2008; Alves et al. 2008; Leite et al. 2008; Echternacht et al. 2011). Entretanto, pouco sabemos sobre os padrões de riqueza dessas espécies no Espinhaço. Mas sabemos que para plantas (Echternacht et al. 2011) a Serra do Cipó e o Planalto Diamantina são as regiões mais ricas em espécie até o momento. Para Leite et al. (2008), por exemplo, grande parte da riqueza de espécies de anfíbios se apresenta ao Sul do Espinhaço, concentrada no Quadrilátero Ferrífero e na Serra do Cipó. Porém, o esforço de coletas nem sempre é equilibrado entre as diferentes regiões, o que de alguma forma pode induzir a resultados equivocados (Oliveira et al. 2016).

Até o momento só foi testada a congruência de espécies endêmicas para as plantas e para as aves da Serra do Espinhaço. Echternacht et al. (2011), levando em conta somente o Espinhaço de Minas Gerais, elegeram 10 áreas de endemismo para plantas. Entre essas, o Planalto Diamantino e a Serra do Cipó se destacaram em relação às outras áreas. Para as aves, Vasconcelos et al. (2008) encontraram somente quatro espécies endêmicas, sendo que todo o Espinhaço é apontado como uma área de endemismo. Entretanto duas subáreas de endemismo foram identificadas: a porção centro meridional e a setentrional (Vasconcelos et al. 2008).

Com informações disponíveis na literatura, em coleções de referência e dados de campo, no segundo capítulo desta tese denominado "Patterns of richness, endemism, and sample gaps of lizards (Squamata) in the Espinhaço, an ancient mountain range from Brazil" (Padrões de riqueza, endemismo e esforço de amostragem de lagartos no Espinhaço, uma cadeia de montanhas antiga do Brasil) testamos a congruência espacial para a riqueza e endemismo de espécies de lagartos na Serra do Espinhaço. Além de serem pré-requisitos muito importantes para o estudo da evolução, a identificação de áreas de maior riqueza e endemismo de espécies é essencial para a conservação da biodiversidade. Isso porque além de saber quais áreas abrigam o maior número de espécies, também é possível determinar quais áreas possuem espécies

únicas, raras ou restritas e áreas com lacunas de amostragem. Com isso fica mais fácil determinar quais as áreas prioritárias para a conservação. Este capítulo está em fase de preparação para submissão a revista *Journal of Biogeography*.

A Serra do Espinhaço abriga um dos maiores complexos minerários do mundo (Derby 1906; Jacobi et al. 2011). Este tipo de impacto, juntamente com ocupação humana, expansão das cidades, agricultura e criação de gado podem representar sérios riscos à Biodiversidade (Fernandes et al. 2014; Fernandes et al. 2018). Apesar de parte da Serra do Espinhaço ser reconhecida como Reserva da Biosfera pela UNESCO, os prognósticos de perda de habitat e de biodiversidade são preocupantes (Fernandes et al. 2018). Através de novos dados sobre os lagartos, este trabalho pretende reforçar a importância da Serra do Espinhaço para a conservação da biodiversidade.

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Lizards (Squamata) from the Espinhaço: a mountain range from Brazil

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Abstract

We present distribution and natural history data for lizards from the Espinhaço, an ancient mountain range from Brazil. We gathered information on 95 lizard's species based on the literature, museum collections, and field work. Most of this fauna is typical of open environments, terrestrial, diurnal, and oviparous. Gymnophthalmidae was the most representative family with 25 species, followed by Tropicoduridae (19), Mabuyidae (11), Teiidae (10), Leiosauridae (8), Anguidae (7), Pylodactylidae (6), Gekkonidae (5), Dactyloidae (1), Iguanidae (1), Polychrotidae (1) and Sphaerodactylidae (1). Among these lizards, 22.2% (n=20)

are endemic from the municipalities encompassed by the Espinhaço. About 24% (n=19) are endemic from the Caatinga, 15% (n=12) from the Cerrado and 12% (n=9) from the Atlantic Forest. In this study, we point the Espinhaço as a place of extreme importance for biodiversity conservation. Among the recorded species, three were evaluated by the IUCN and the Brazilian government and States of Minas Gerais and Bahia as Critical Endangered, 15 as Endangered and six as Vulnerable. We present an annotated species list with natural history, ecology, and taxonomy information, including type locality, distribution, reproduction and other relevant data. A dichotomous key based on gathered taxonomic information of morphological characters/attributes is also presented.

Key words: Reptiles, Campos Rupestres, Caatinga, Cerrado, Atlantic Forest, diversity, tropical mountains.

Introduction

Discovering how historical and ecological processes work in the generation and maintenance of biodiversity is one of the most fascinating tasks in evolutionary biology (Rangel *et al.* 2018). Despite some progress in this regard, the lack of taxonomic (Linnean shortfall) and geographic distribution (Wallacean shortfall) knowledge (Lomolino *et al.* 2010; Whittaker *et al.* 2005) makes this task very difficult and imprecise. The problem becomes even greater in neglected and species rich ecosystems such as tropical mountains (Martinelli 2007).

The Espinhaço is the longest mountain range of Brazil and the second in South America, covering about 1200 km. They are considered a representative site of endemism, mainly due to their vegetation (Giulietti *et al.* 1997; Drummond *et al.* 2005; Echternacht *et al.* 2011; Jacobi & Carmo 2011; Silveira *et al.* 2015; Fernandes 2016). However, we still have an unexplored

landscape in relation to vertebrates. Among these, amphibians (Leite *et al.* 2008), birds (Vasconcelos *et al.* 2008), and fish (Alves *et al.* 2008) constitute the most studied groups in the last years, revealing a high species richness. Such studies also revealed several new species. For reptiles, the picture is less encouraging. Despite the effort of some researchers towards the Espinhaço montanin range, important basic information, such as natural history, distribution, and species richness and composition, is still incipient or quite fragmented.

Lizards are considered to be excellent models to understand the evolution of vertebrate life (Pianka & Vitt 2003). They emerged at the end of Permian and early Triassic (Simões *et al.* 2018). Therefore, from 270 million years ago (Simões *et al.* 2018), this ancient group have gone through different ecological and evolutionary processes, resulting in a great diversity of species (approximately 4800 species) (Pyron *et al.* 2013; Uetz & Hošek 2015). They feed on a diversity of items, reproduce in different ways, have an extremely diverse external morphology, and adapted to the most diverse ecosystems, except polar regions (Pianka 1969; Pianka & Vitt 2003). However, their populations are suffering declines (Gibbons *et al.* 2000; Saha *et al.* 2018). Problems such habitat loss, introduction of exotic species, environmental pollution, diseases, and climate change, allied to the lack of knowledge on the different species, are pointed out as the main causes (Gibbons *et al.* 2000; Vitt & Caldwell 2014).

Brazil shelters one of the largest lizard fauna in the world with about 266 species (Costa e Bérnils 2018), and several have been described in recent years, mainly in mountainous environments, such as Espinhaço mountain range (Rodrigues 1981; Vanzolini 1982; Rodrigues 1984a, 1984b, 1987; Cassimiro & Rodrigues 2009; Rodrigues *et al.* 2009a, 2009b ; Rodrigues 2003; Arias *et al.* 2011a, 2011b, 2014; Carvalho *et al.* 2016). Most available contributions on the Espinhaço lizards have been directed towards resolution of their taxonomy (Vanzolini 1982; Rodrigues 1981, 1984a, 1984b, 1987, 2003; Rodrigues *et al.* 2009a, 2009b; Arias *et al.* 2011a, 2011b, 2014; Cassimiro & Rodrigues 2009; Carvalho *et al.* 2016; Rodrigues *et al.* 2017) and a

few focused on lizard communities (Rodrigues 2003; Cruz *et al.* 2014), ecology and behavior (Galdino *et al.* 2017; Filogonio *et al.* 2010), or the herpetofauna in general (Rodrigues 1996a; Junca 2005; Bertoluci *et al.* 2009; Freitas *et al.* 2012; Linares & Eterovick 2013; Magalhães *et al.* 2015).

The future of the Espinhaço biodiversity is not predicted to be good (Fernandes *et al.* 2018). This mountain range represents one of the largest mining exploration complexes in the world, which puts its entire fauna and flora at risk (Derby 1906; Jacobi *et al.* 2011; Fernandes *et al.* 2014). Fernandes *et al.* (2018) provide a catastrophic scenario for habitats in the Espinhaço mountain range. As a result, habitat-sensitive groups and excellent ecological models such as lizards are at serious risk of seeing their populations extinct.

The best way to access information about the lizards of the Espinhaço mountain range, besides the bibliography is to access the biological collections. Several studies have profoundly changed our thinking about certain regions and biological groups (Rodrigues 1987; Leite *et al.* 2008; Guedes *et al.* 2014). This information will be the basis to outline new challenges and arguments to protect the lizards sheltered by this threatened and neglected mountain range. Herein we present a detailed compilation of lizard natural history, distribution, and diversity in the Espinhaço Range. We also exhibit the threat status according to state of Bahia (SEMA 2017), Minas Gerais (COPAM 2010), Brazilian Governemnt (MMA 2014) and IUCN (2017). A dichotomous key and images of life specimens, whenever available, are also presented to optimize the practical applications of the extant knowledge on Espinhaço lizards.

Material and methods

The Espinhaço comprises a set of mountains ranges and plateaus that extends for about 1200km from Minas Gerais to Bahia states, in southeastern Brazil (Fig. 1; IBGE 2004). This mountain represents a marked relief in the landscape and separates important Brazilian watersheds: São Francisco, Doce, Jequitinhonha, and Araçuari river basins in Minas Gerais, and also shelters tributaries of Paraguacú, Jacuípe, and Rio de Contas rivers in Bahia (Saadi 1995; Derby 1906). Latitudinally, these mountains are inserted in the Atlantic Forest, Cerrado, and Caatinga (Fig. 1).

The Atlantic Forest of the Espinhaço range is concentrated mainly in its southern portion, known as Quadrilátero Ferrífero, and at some points in the eastern slope. The extreme north (in the state of Bahia) is totally inserted in the Caatinga biome. The central portion represents a transition between the Atlantic Forest and the Cerrado (IBGE 2004). The Atlantic Forest of the Espinhaço range consists mostly of Semi-deciduous Seasonal Forests interspersed with some highland meadows in the southern portion (Vasconcelos 2011). In the Espinhaço mountain range we can find several Cerrado formations and the open fields are the very abundant (Fig. 2). However, we can also find other forms of Cerrado dominated by trees (Silveira *et al.* 2015; Fernandes 2016). The Caatinga of the Espinhaço encompasses the northern portion of Minas Gerais and its entire portion within Bahia states (IBGE 2004; Prado 2003; Zappi 2008). The Caatinga, due to low annual precipitation, represents a semi-arid ecosystem and its species are resistant to water stress (Ab'Saber 1977; Prado 2003; Zappi 2008). This Biome exhibits trees and shrub forests (Prado 2003). However, it also includes several enclaves of Atlantic Forest and Cerrado in the Espinhaço mountain range (Rodrigues 1986).

There are important altitudinal gradients in the Espinhaço mountain range. Its highest habitats (above 900m) are mostly covered by Campos Rupestres, a neglected ecosystem characterized

by extensive meadows, rocky outcrops, riparian forests, and semi-deciduous island forests (Silveira *et al.* 2015, Fernandes *et al.* 2016) (Fig.2). In the Brazilian context they are taken as part of the Cerrado biome (IBGE 2004), but there are definitions that put them as a distinct formation (Olson *et al.* 2001; Dinerstein *et al.* 2017). The lowlands are mostly covered by Atlantic forest and transition forests at the extreme south, by Cerrado and Atlantic forest remnants at the central portion, and by Caatinga at the extreme north.

There is no consensus on the limits of the Espinhaço mountain range. Thus, we adopted the definition proposed by the Instituto Brasileiro de Geografia e Estatística, IBGE (2004), which considers the limits of municipalities. Although these limits have no consistent biological meaning, this is the same cut used in the application of public policies aimed at the conservation of biodiversity in the Serra do Espinhaço, PAN- Espinhaço (MMA 2012). We also included highlands adjacent to the IBGE (2004) delimitation as part of the Espinhaço Range.

Several species only have the centroid of the municipality as a point of reference, which sometimes does not represent the true environment, especially when they are typical of mountains. All the lizards with register within these municipalities and extended limits based on adjacent mountains were considered. We considered as endemics the species with all records located within these limits.

Data collection

For this study we add up a total of 3079 records of specimen's occurrence to the Espinhaço mountain range (Fig. 3). About 2655 lizards were examined in the scientific collections, 388 records were obtained in the literature and 36 were personal communication.

The scientific collections visited for this study were the Museu Nacional do Rio de Janeiro (MNRJ), Museu de Ciências Naturais da Pontifícia Universidade Católica de Minas Gerais (MCN), Centro de Coleções Taxonômicas da Universidade Federal de Minas Gerais (UFMG) and Coleção Herpetológica do Laboratório de Zoologia dos Vertebrados da Universidade Federal de Ouro Preto (LZV-UFOP). We based only on external morphological characters to identify the lizards. Each lizard was individually analyzed using reference as Vanzolini *et al.* (1980), Avila-Pires (1995), Rodrigues (1981, 1984a, 1984b, 1987a, 1986, 1991a, 1991b, 1991c), Rodrigues *et al.* (1988, 2006, 2009a, 2009b, 2009c, 2017), Arias *et al.* (2011a, 2011b, 2014). Taxonomy follows Estes *et al.* (1988), Frost *et al.* (2001) and Gamble *et al.* (2008). For the Scincidae we follow Hedges & Conn (2012) and Teiidae we follow Pyron *et al.* (2013).

To the literature compilation we use data on taxonomic revisions, species inventories and geographic distribution reports, ecological and phylogenetic studies, among others studies available. The database was complemented with field surveys on non-standard days from March 2010 to May 2018 at different locations such as Serra do Cabral (Buenópolis), Serra do Cipó (Santana do Racho and Jaboticatubas), Serra do Ouro Branco (Ouro Branco), Parque Estadual do Rio Preto (São Gonçalo do Rio Preto), Serra do Caraça (Catas Altas), Serra da Moeda (Belo Horizonte), Serra de Ouro Preto (Ouro Preto) and Diamantina using mainly active search (see Cechin and Martins 2000). The field data gathered here were obtained thanks to the efforts and collaboration of several herpetologists in different projects and portions of the Serra do Espinhaço, some of them authors of this study. The collections at each site had a minimum duration of one day and a maximum of 40 days. Some lizards have been identified and released in the wild by the first author. Information on the occurrence point, time and type of habitat and microhabitat were collected. Distribution maps for lizards from Serra do Espinhaço were made in QGIS version 3.4.12

Natural history data

The delimitation of Biomes follows IBGE (2004). Lizards with distributions encompassing three or more biomes were considered widespread.

For lizard's habitat types we considered forest and open areas. For the forested areas, we considered forest environments both in the Atlantic Forest and in the Cerrado and Caatinga and other Biomes where the species occurs. For the open areas were considered the Campo Rupestre (environments above 900 meters of elevation, constituted by rocky outcrops and predominance of grasses and shrubs) (Fernandes 2016; Silveira *et al.* 2015), Cerrado (strictu sensu ou savanna), and the shrubby Caatinga (Prado 2003). In order to compare the lizard's fauna between different Biomes and habitats, species not yet confirmed or described (sp.) were not considered.

An annotated list with information on the natural history and species biology is presented. When existing, we added the popular names used to classify lizards in the region using published works, as well as conversations with residents and other researchers.

Results

We recorded a total of 95 species from de Espinhaço Mountain Range. Among these, 17 have not yet been formally described or we have not been able to reach the specific level. Gymnophthalmidae was the most representative family with 25 species, followed by Tropiduridae (19), Teiidae (10), Leiosaridae (8), Pyllodactylidae (6), Mabuyidae (11), Gekkonidae (5), Anguidae (7), Dactyloidae (1), Iguanidae (1), Polychrotidae (1) and Sphaerodactylidae (1) (Table 1).

Considering only formally described species, 22.2% (n=20) are endemic to the region considered for this study (Fig. 4). Most of the lizard fauna from the Espinhaço Range is

restricted to the Caatinga (24%, n=19), Cerrado (15%, n=12), Atlantic Forest (12%, n=9). However, it also has many lizards that share more than one Biome. Some occur in the Cerrado and Caatinga (9%, n=7), Cerrado and Atlantic Forest (6%, n=5), Cerrado and Amazonia (3%, n=2), Atlantic Forest and Amazonia (1%, n=1), Caatinga and Chaco (1%, n=1), Caatinga, Cerrado and Atlantic Forest (6%, n=5), Amazonia, Caatinga and Cerrado (1%, n=1) and a considerable part has widespread distribution (27%, n=17) (Fig. 5).

Among the different vegetation formations or habitat in the Espinhaço, about 25% (19) of the lizard species are restricted to the forests, and 52% (40) to open areas. About 24% (19) occupy more than two vegetation formations (Tab. 1) (Fig. 6).

About habit of living, about 49 % (n = 39) were considered terrestrial, arboreal 3% (n = 2), fossorial 4% (n = 3), saxicolous 7%, semi-fossorial 21% (n = 17), semi-arboreal 14% (n = 11) (Tab.1) (Fig. 7).

Most of the lizards from the Espinhaço mountain range are diurnal (Table 1). The nocturnal species are represented by geckos (*Hemidactylus agrius*, *Hemidactylus mabouia*, *H. brasiliensis*), Phyllodactylidae (*Gymnodactylus geckoides*, *G. guttulatus*, *G. vanzolinii*, and *Phyllopezus pollicaris*) and the gymnophthalmids (*C. leiolepis*, *C. sinebrachiatus*, *C. nicterus*) (Tab. 1)

Only seven described lizards are viviparous (*Aspronema dorsivittatum*, *Copeoglossum nigropunctatum*, *Notomabuya frenata*, *Brasiliscincus heathi* and *Psychosaura macrorhyncha*, *Ophiodes striatus*, *Ophiodes fragilis*) (Tab. 1).

Ten species recorded at the Espinhaço were evaluated by the IUCN (2017). From these, *Psilops paeminus* is Vulnerable (VU), two species (*Eurolophosaurus nanuzae*, *Tropidurus erythrocephalus*) are Near Threatened (NT) and five species (*Enyalius bibronii*, *E. pictus*,

Tropidurus semitaeniatus, *T. torquatus*, *Salvator merianae*) are classified as of Least Concern (LC). Two species, *Eurolophosaurus amathites*, and *Tropidurus psammonastes* are Data Deficient (DD).

In the National List of Threatened Species (MMA 2014) there are 11 lizards from the Espinhaço Range (MMA 2014): *Enyalius erythroceneus*, as Critically Endangered (CR); *E. amathites*, *T. psammonastes*, *Calyptommatus sinebrachiatus*, *C. nicterus*, *C. leiolepis*, *Heterodactylus septentrionalis*, *Placosoma cipoense*, and *Procellosaurinus tetradactylus* as Endangered (EN) and *T. erythrocephalus* and *Heterodactylus lundii* as Vulnerable (VU).

In the staduals lists from Bahia and Minas Gerais, *Gymnodactylus vanzolinii*, *Aspronema dorsivittatum*, *Enyalius erythroceneus*, *Tropidurus mucujensis*, *Tropidurus psammonastes*, *Acratosaura spinosa*, *Calyptommatus nicterus*, *P. tetradactylus*, *Psilops paeminosus* and *Glaucomastix cyanura* were evaluated as Endangered (EN), *Eurolophosaurus amathites*, *Tropidurus erythrocephalus*, *Calyptommatus leiolepis*, *Calyptommatus sinebrachiatus* and *Placosoma cipoense* as Vulnerable (VU), and *Anotosaura colaris* and *Heterodactylus setemprionalis* as Critical Endangered (CR).

Discussion

The lizard's fauna of the Espinhaço mountain range is very diversified. However, most of its fauna is typical of open environments, diurnal, terrestrial and viviparous. As already confirmed for other biological groups, such as plants (Jacobi & Carmo 2012; Silveira *et al.* 2015), bees (Azevedo *et al.* 2008), fish (Alves *et al.* 2008), amphibians (Leite *et al.* 2008) and birds (Vasconcelos *et al.* 2008), the Espinhaço mountain range can be considered as an area of high species richness for lizards in Brazil. More than 30% of Brazilian lizard species occurs in the

Espinhaço mountain range. These numbers are very expressive if we consider that the Espinhaço occupies a small part of the Brazilian territory (for this study: 3.7%).

Several factors are identified as responsible for the high diversity of species in the Espinhaço mountain range. The diversity of habitats exhibits by the different Biomes distributed in its latitude (Cerrado, Caatinga and Atlantic Forest), in addition to the altitudinal variation, should explain this pattern (Pianka 1969; Vanzolini 1982; Rodrigues 1987a; Alves *et al.* 2008; Leite *et al.* 2008; Vasconcelos *et al.* 2008). Besides that, the number of lizard's species tends to increase, since several groups still lack taxonomy refinement, and many sites remain to be sampled. Several locations, such as the north of Minas Gerais and portions of the south and north of Bahia, remain with punctual records. Recent fieldworks and a significant number of species identified as "sp" in this study have demonstrated a huge potential for undescribed species (personal observation). Species of *Tropidurus*, *Gymnodactylus*, *Cercosaura*, *Eurolophosaurus*, *Psychosaura*, *Kentropyx* showed morphological variations that require further attention and new species could be revealed.

The Espinhaço mountain range is very well known for the high values of endemism. Among the vertebrates, birds and mammals have a low number of species when compared to amphibian fauna (27%), fish (24.1%) (Alves *et al.* 2008) and in the present study, with lizards (22%). According Rodrigues (1987a), Vanzolini (1982) and Ramos *et al.* (2017), the connection and disconnection of suitable habitats, oscillates with climatic shifts, with periods of isolation by an unsuitable matrix and formation of altitude islands probably favored the diversification and speciation of several groups. *Heterodactylus*, *Eurolophosaurus* and *Ameivula* demonstrate a suggestive latitudinal gradient with some species restricted to the North, occurring in the Caatinga and rocky environments, and other species in the middle and southern portions of the chain (Rodrigues *et al.* 2009a; Rodrigues 1981, 1984b). Like most of the Espinhaço mountain

range, the Diamantina plateau, Serra do Cipó, Diamantina and Grão Mogol are formed by high lands and several depressions, which can act as a barrier for several species.

Rodrigues (1987) draws attention to the richness of typical species of open environments concentrated into the Espinhaço mountain range. Of 23 species of the *Tropidurus* from Brazil (Costa & Bérnils 2018), 13 occur in Espinhaço and 5 are endemic. This result reaffirms the importance of open areas for conservation and shows that as well as areas of forest, can house a well-diversified fauna including unic and restricted species. About 25% of the lizard fauna of the Espinhaço mountain range are endemic to the Caatinga. Reinforcing the great diversity of reptile species for these open areas, a similar pattern has been reported for snakes from de Caatinga, with 22 endemic species out of 122 recorded species (Guedes *et al.* 2014).

About species occurring in the Espinhaço mountain range, 19 are on the endangered species list. That's because most species have restricted distributions and may be under different pressures and threats. The Espinhaço Range, which represents less than 5% of Brazilian territory, is one of the largest mineral extraction centers in the world (Derby 1906; Jacobi *et al.* 2011; Fernandes *et al.* 2014). These activities whit others human impacts cause an irreversible biodiversity loss, to destroying the habitat, disrupt possible ecological corridors and refuges on climate change pressure (Gibbons *et al.* 2000; Saha *et al.* 2018). So, narrowing the gaps related to wallacean shortfall makes this work very powerless. If we follow the predictions of Fernandes *et al.* (2014) for the Espinhaço biodiversity, many of these species may increase the risk of extinction. Therefore, we suggest that activities be developed in this place, take in to account the lizard's fauna and other biological groups with high diversity and endemism.

The Espinhaço mountain range has shown to be an important site for the lizard's conservation. However, this was only possible due to the work of deposition of material by several researchers

in different circumstances. As in other studies resulting from the compilation of data on biodiversity (Rodrigues 1987a; Leite *et al.* 2008; Guedes *et al.* 2014), the review of material deposited in regional museums proved invaluable. So, we suggest policies aimed at the valuation and conservation of these collections to prevent information loss.

Commented list and geographic distribution for the lizards from the Espinhaço mountain range, Brazil.

Gekkonidae Gray, 1825

Hemidactylus agrius Vanzolini, 1978

Popular name: “bibrinha-das-caatingas” (Freitas & Silva 2007).

Fig. 8a.

Type-locality: “Valença do Piauí, Piauí”.

Distribution range: species with records from Ceará, Piauí, Maranhão and Paraíba state, Brazil (Vanzolini 1978; Rodrigues 1987b; Andrade *et al.* 2004; Passos & Borges-Nojosa 2011).

Records from the Espinhaço (fig.14) – *This study*: **Minas Gerais** – Grão Mogol (HUE Irapé).

Habitat and micro-habitat: it can be found in Caatinga and Cerrado Biomes (Vanzolini 1978; Rodrigues 1987b; Andrade *et al.* 2004; Passos & Borges-Nojosa 2011) in open and forest habitats on tree trunks, termite nests, under rocks and rocky outcrops (Rodrigues 1986; Borges-Nojosa & Caramashi 2003; Passos *et al.* 2015).

Diet: it feeds mainly on arthropods (Passos *et al.* 2015).

Sexual dimorphism and reproduction: adult with approximately 60mm SVL (Snout–vent length) and females exhibit a wider body than males (Passos *et al.* 2015). They use a communal nesting and incubation of eggs in laboratory ranged from 6 to 59 days (Bezerra *et al.* 2011; Passos & Borges-Nojosa 2011). It hatches on average 21.3mm (Passos & Borges-Nojosa 2011).

Remarks: parasitism by helminthes has been proven (Anjos *et al.* 2011).

Hemidactylus brasilianus (Amaral 1935)

Popular name: “bibra-de-rabo-grosso” (Freitas & Silva 2007).

Figs. 8b.

Type-locality: “Rio Pandeiros, Minas Geraes”.

Distribution range: species from Brazil, present in Alagoas, Bahia, Ceará, Maranhão, Minas Gerais, Paraíba, Pernambuco, Piauí, Rio Grande do Norte and Tocantis states (Vanzolini *et al.* 1980; Vitt *et al.* 2002; Nogueira 2006; Rodrigues & Santos 2008; Ribeiro *et al.* 2012; Rodrigues *et al.* 2013; Freitas 2014).

Records from the Espinhaço (fig.14) – *Published records*: **Bahia** – Caitité (Nogueira 2006, Rodrigues *et al.* 2013), Chapada Diamantina (Rodrigues *et al.* 2013), Morro do Chapéu (Nogueira 2006), Mucugê and Xique-xique (Rodrigues 1996a; Rocha & Rodrigues 2005; Freitas & Silva 2007; Cassimiro & Rodrigues 2009), Rio de Contas and Santo Inácio (Nogueira 2006), Sebastião Laranjeiras (Nogueira 2006). *This study*: **Bahia** – Andaraí, Catité, Ipupiara, Morro do Chapéu, Palmas do Monte alto, Palmeiras, Sebastião Laranjeiras; **Minas Gerais** – Riacho dos Machados.

Habitat and micro-habitat: species found in Caatinga, Atlantic Forest and Cerrado Biomes (Vanzolini *et al.* 1980; Nogueira 2006; Ribeiro *et al.* 2012; Rodrigues *et al.* 2013; Freitas 2014).

It lives in open and forest habitats, in terrestrial and rocky habits but also observed in bromeliads (Rocha & Rodrigues 2005; Freitas & Silva 2007).

Diet: it feeds mainly on insect and termite larvae (Rocha & Rodrigues 2005; Menezes *et al.* 2013).

Sexual dimorphism and reproduction: the adult male used in the description counted on approximately 43mm (head and body size) (see Amaral 1935). It is an oviparous species and others reproductive information is unknown.

Remarks: there are records of ant predation (Ribeiro *et al.* 2011) and owls (França *et al.* 2004).

Hemidactylus mabouia Moreau de Jonnés 1818

Popular name: "bibra-de-casa" (Freitas & Silva 2007) "lagartixa" or "briba" (Lana-Pinto *et al.* 2015).

Figs. 8c.

Type-locality: St. Vicent, Lesser, Antilles.

Distribution range: it's a very widespread lizard and occurs in large part of the tropical region of the world (Kluge 1969; Vanzolini *et al.* 1980; Ávila-Pires 1995; Carranza & Arnold 2006).

Records from the Espinhaço (fig.14) – *Published records*: **Bahia** – Andaraí (Freitas & Silva 2007), Mucugê (Freitas & Silva 2007; Freitas *et al.* 2012) and Santo Inácio (Rodrigues 1996a).

Minas Gerais – Brumadinho (Linares & Eterovick 2013), Estação Ambiental de Peti (Bertoluci *et al.* 2009), Serra de Ouro Branco (Cruz *et al.* 2014). *This study*: **Minas Gerais** – Belo

Horizonte, Cardeal Mota, Catas Altas, Conceição do Mato Dentro, Estação Ambiental Peti, Grão Mogol, Itambé do Mato Dentro, Igaratinga, Inhotim (Brumadinho), Itapamoacanga, Itatiaiuçu, Jaboticatubas, Morro da Pedreira, Morro do Pilar, Mutuca (Belo Horizonte), Ouro Preto, Parque Estadual do Itacolomi, Parque Estadual do Rio Preto, Pedro Leopoldo, Riacho dos Machados, Rio Acima, Santa Bárbara, Santana do Riacho, São Gonçalo do Rio Abaixo, Serra do Intendente (Conceição do Mato Dentro), Serra da Piedade.

Habitat and micro-habitat: it can be found in open and forest habitats, in anthropic environments such as large cities and in conserved natural environments (Ávila-Pires 1995; Bonfiglio *et al.* 2006).

Diet: feeds on small arthropods, mainly dipterans, hemipterans and spiders (Bonfiglio *et al.* 2006; Rocha & Anjos 2007) and other invertebrates like gastropods and crustaceans (Rocha & Anjos 2007). Cannibalism was observed in this species (Bonfiglio *et al.* 2006).

Sexual dimorphism and reproduction: adults arrive close to 70mm (Kluge 1969; Vitt 1986). Males and females show no apparent sexual dimorphism (Anjos & Rocha 2008). It can store sperm in the uterine tube (Nogueira *et al.* 2011) and sexual maturity in females was estimated be 52mm SVL (Vitt 1986) and. It is an oviparous lizard, and presents a continuous reproduction with litters of two eggs (Vitt 1986). Several females can use the same place to oviposit (Pendlebury 1972; Sousa & Freire 2010). Young lizards of this species hatched 21-25mm SVL (Pendlebury 1972). Social behavior and to uncover cues used in sex recognition is presented in Regalado (2003).

Remarks: preyed by small invertebrates such as spiders (Teixeira *et al.* 2003; Diniz 2011; Lanshi & Ferreira 2012; Koski *et al.* 2013) and scorpion (Albuquerque 2012) and vertebrates such as other lizards (Silva *et al.* 2012), birds (Figueiredo-de-Andeade & Silveira 2012) and mammals (Rocha-Santos *et al.* 2013).

Lygodactylus klugei (Smith, Martin & Swain 1977)

Popular name: "bibrinha-de-pau" (Freitas & Silva 2007).

Type-locality: "Carnaubeira, Pernambuco, Brasil".

Distribution range: species found in Brazil in Alagoas, Bahia, Ceará, Goiás, Pernambuco, Piauí, Paraíba, Rio Grande do Norte and Sergipe states (Freitas & Silva 2007; Rodrigues 1996a; Vanzolini 1980; Vitt 1995; Werneck & Colli 2006; Lanna *et al.* 2018).

Records from the Espinhaço (fig.14) – *Published records*: **Bahia** – Santo Inácio (Rodrigues 1996a). *This study*: **Bahia** – Central.

Habitat and micro-habitat: found in most of the Caatinga and Seasonally Dry Forest fragments (Vanzolini 1980; Vitt 1995; Rodrigues 1996a; Werneck & Colli 2006; Freitas & Silva 2007; Lanna *et al.* 2018). It is observed on trunks of trees and shrubs in forests areas (Vanzolini 1980; Vitt 1995; Rodrigues 1996a; Freitas & Silva 2007).

Diet: it feeds on small arthropods (Galdino *et al.* 2011) and sap of Caatinga trees (Teixeira *et al.* 2013).

Sexual dimorphism and reproduction: a small gecko and adults are less than 30mm (Vitt 1986; Galdino *et al.* 2011). Male share smaller than females (Vitt 1986; Galdino *et al.* 2011) and present a darkened escutcheon scales on the underside of the upper hind limbs (Smith *et al.* 1977). Females of this species produce eggs continuously throughout the year and the clutch size was always two (Vitt 1986). Sexual maturity in females was estimated be 25mm SVL (Vitt 1986).

Remarks: in the future, the populations attributed to this species in the Espinhaço can be revised and new species described. Lanna *et al.* (2018) have shown that there are some cryptic species in the group, among them the Gentio de Ouro populations in Bahia.

Lygodactylus wetzeli (Smith, Martin & Swain 1977).

Popular name: ?

Type-locality: “Urucum, Mato Grosso, Brasil”.

Distribution range: species with distribution registered to Paraguay (Cacciali *et al.* 2016), Bolívia and Brasil in Mato Grosso and Mato Grosso do Sul (Smith *et al.* 1977; Strussmann & Carvalho 1998; Dirksen & Riva 1999; Uetanabaro *et al.* 2007).

Records from the Espinhaço (fig.14) – *This study*: **Minas Gerais** – Riacho dos Machados.

Habitat and micro-habitat: species with restricted distribution to the open diagonal of South America, being registered in the Chaco forest environments (Strussmann & Carvalho 1998; Dirksen & Riva, 1999; Uetanabaro *et al.* 2007; Cacciali *et al.* 2016).

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: this record constitutes the first for the genus to the Minas Gerais state, and following the study of Lanna *et al.* (2018), this population probably should belong to a new cryptic species. For now, we assume a conservative position waiting for a deeper morphological study of this population.

Phyllodactylidae Gamble Bauer, Greenbaum & Jackman, 2008

Gymnodactylus geckooides Spix, 1825

Popular name: "bibra-de-folhiço" (Freitas & Silva 2007).

Type-locality: "confinibus Bahiae".

Distribution range: Species found in Brazil and registred in Bahia, Ceará, Pernambuco, Tocantins, Rio Grande do Norte, Piauí, Paraíba, Alagoas and Mato Grosso (Vanzolini *et al.* 1980; Vitt *et al.* 2002; Borges-Nojosa & Caramaschi 2003).

Records from the Espinhaço (fig. 15) – *Published records*: **Bahia** – Barra (Vanzolini 2004), Bom Jesus da Lapa (Griffin 1917), Chapada Diamantina (Rodrigues *et al.* 2013), Santo Inácio (Rodrigues 1996a), Senhor do Bonfim (Vanzolini 2004) and Xique-Xique (Vanzolini 2004).

This study: **Bahia** – Bom Jesus da Lapa, Brumado, Campo Formoso, Morro do Chapéu, Santa Rita de Cássia; **Minas Gerais**: Itacambira, Riacho dos Machados, Salinas.

Habitat and micro-habitat: present wide distribution in the Caatinga and registred in Cerrado and Atlantic Forest (Vanzolini *et al.* 1980, Borges-Nojosa & Caramaschi 2003). This lizard can be found in open and forest environments on litter and trunks and rocky outcrops beyond the coastal restinga (Vanzolini *et al.* 1980).

Dial activity: due to its vertical pupil, the species has been considered as nocturnal (Vanzolini *et al.* 1980). However, Vitt (1995) reported that occasionally the species can be seen thermoregulating under the sun in the last hours of the day.

Diet: it feeds on small arthropods (Vanzolini *et al.* 1980; Vitt 1995).

Sexual dimorphism and reproduction: adults with a mean size of 40.95mm SVL (Cassimiro & Rodrigues 2009). Females have larger SVL than males (Vitt 1986). Sexual maturity in females

was estimated be 38mm SVL (Vitt 1986). Females produce eggs continuously throughout the year and clutch size comprised one or two egg which is deposited in hollow fallen logs and under rocks (Vanzolini *et al.* 1980; Vitt 1986). The neonate measures up to 21.1mm SVL (Vitt 1986).

Remarks: this species presents tail display as defensive behavior (Passos *et al.* 2012; Gomides & Garcia 2014).

***Gymnodactylus guttulatus*, Vanzonili 1982**

Popular name: “lagartixa-de-pedra”

Type-locality: “Guinda, state of Minas Gerais (18°15’S, 43°41’W), altitude 1320-1360 m”.

Distribution range: lizard found only in Minas Gerais state, Brazil.

Records from the Espinhaço (fig. 15) – *Published records*: **Minas Gerais** – Sopa (Diamantina), Extração (Diamantina), Guinda (Diamantina), Conselheiro Mata (Diamantina), Diamantina, state (Vanzolini 1982). *This study*: **Minas Gerais** – Augusto de Lima, Buenópolis, Diamantina, Gouveia, Monjolos, Parque Nacional das Sempre Vivas.

Habitat and micro-habitat: open environments, in rocky outcrops of Campo Rupestre (Vanzolini 1982).

Diet: ?

Sexual dimorphism and reproduction: ?

***Gymnodactylus* sp.1**

Popular name: ?

Distribution range: Minas Gerais state.

Records from the Espinhaço (fig. 15) – *This study*: **Minas Gerais** – Grão Mogol.

Habitat and micro-habitat: found in rocky of open environments in Campo Rupestre.

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: species still awaiting formal description. This species shows differences in the dorsal tubercles which leads us to consider it different from the known's species

***Gymnodactylus* sp.2**

Popular name: ?

Distribution range: found in Minas Gerais, Brazil.

Records from the Espinhaço (fig. 15) – *This study*: **Minas Gerais** –UHE Irapé.

Habitat and micro-habitat: found in rocky of open environments in Campo Rupestre.

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: species still awaiting formal description. This species shows differences in the dorsal tubercles which leads us to consider it different from the known's species.

Gymnodactylus vanzolinii Cassimiro & Rodrigues, 2009

Popular name: ?

Type-locality: “Serra do Sincorá, Chapada Diamantina, Mucugê municipaly (13°09’S, 41°24’W), ca. 1,000 m elevation, State of Bahia, Brazil”.

Distribution range: found only in the Chapada Diamantina, Bahia state, Brazil.

Records from the Espinhaço (fig. 15) – *Published records*: **Bahia** – Mucugê (Cassimiro & Rodrigues 2009).

Habitat and micro-habitat: found in rock outcrops of Campo Rupestre (Cassimiro & Rodrigues, 2009).

Diet: ?

Sexual dimorphism and reproduction: ?

Phyllopezus pollicaris (Spix 1825)

Popular name: "bibra-grande" (Freitas & Silva 2007) and “lagartixa-de-pedra” (this study in Diamantina, Minas Gerais).

Figs. 8e.

Type-locality: “Sylvis interioris Bahiae campestribus”.

Distribution range: found in Brazil in the state of Alagoas, Bahia, Ceará, Goiás, Maranhão, Minas Gerais, Pernambuco, Pará, Paraíba, Piauí, Sergipe and Tocantins (Vanzolini 1953;

Rodrigues 1986a; Pellegrino *et al.* 1997; Nogueira 2006; Rodrigues & Santos 2008; Werneck *et al.* 2012; Gamble *et al.* 2012).

Records from the Espinhaço (fig. 15) – *Published records*: **Bahia** – Rio de Contas (Nogueira 2006), Santo Inácio (Rodrigues 1996a; Nogueira 2006). **Minas Gerais** – Diamantina (Nogueira 2006; Righi *et al.* 2012), Extração (Nogueira 2006), Grão Mogol and Serra do Cabral (Nogueira 2006). *This study*: **Bahia** – Baixa D'Anta (Morro do chapéu), Bom Jesus da Lapa, Caetité, Canudos, Ipupiara, Jaborandi, Jacaraci, Pindobaçu, Riacho Santana, Rio de Contas, Sebastião das Laranjeiras, Serra da Candiba. **Minas Gerais** – Diamantina, Grão Mogol, Lassance, Parque Estadual do Rio Preto, Parque Nacional Sempre Vivas, Riacho dos Machados, Serra do Cabral (Buenópolis), UHE Irapé.

Habitat and micro-habitat: found in Cerrado, Chaco, Atlantic Forest and Caatinga Biomes in open and forests areas (Rodrigues 1986a; Recorder *et al.* 2012; Werneck *et al.* 2012; Gamble *et al.* 2012; Albuquerque *et al.* 2013; Freitas 2014). It uses a variety of microhabitats preferably rocky outcrops (Rodrigues 1986a; Recorder *et al.* 2012; Albuquerque *et al.* 2013; Freitas 2014).

Dial activity: it is a nocturnal and crepuscular lizard (Vitt 1986).

Diet: it feeds on small arthropods (Recorder *et al.* 2012; Albuquerque *et al.* 2013).

Sexual dimorphism and reproduction: there are no apparent sexual dimorphism (Vitt 1986).

Sexual maturity in females was estimated to be 65mm SVL (Vitt 1986). It presents cyclic reproduction and breeds between August and December, with a peak in November (Righi *et al.* 2012) and uses exposed ridges of rocky surfaces for oviposition (Righi *et al.* 2004). However, in some populations of the Caatinga there is evidence of females producing eggs during the whole year (Vitt 1986). The clutch size was two and females of this species can use communal nests. Eggs have meansize 13.07+/- 0.34mm length and 9.38+/- 0.25mm width (Vitt 1986).

Sphaerodactylidae Underwood, 1954

Coleodactylus meridionalis (Boulenger, 1888).

Popular name: "bibrinha-mirim" (Freitas & Silva 2007).

Fig. 8d.

Type-locality: "Igarasse, Pernambuco".

Distribution range: found in Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Rio Grande do Norte, Sergipe and Tocantins states (Vanzolini 1957, 1968; Vanzolini *et al.* 1980; Nogueira 2006; Vitt *et al.* 2002; Freitas 2015; Juncá 2005; Geurgas *et al.* 2008; Gonçalves *et al.* 2012b; Ribeiro *et al.* 2013).

Records from the Espinhaço (fig. 15) – *Published records*: **Bahia** – Central (Nogueira 2006; Geurgas *et al.* 2008), Chapada Diamantina (Juncá 2005), Irecê (Freire 1999), Miguel Calmon (Ribeiro *et al.* 2013), Mucugê (Lugli & Juncá 2008).

Habitat and micro-habitat: it can be found in Caatinga, Cerrado and in the Atlantic Forest Biomes living in litter of forested areas (Vanzolini 1957, 1968; Vanzolini *et al.* 1980; Freitas 2015; Juncá 2005; Gonçalves *et al.* 2012b; Ribeiro *et al.* 2013; Geurgas *et al.* 2008; Gonçalves *et al.* 2012b; Ribeiro *et al.* 2013).

Diet: small invertebrates (Dias *et al.* 2003).

Sexual dimorphism and reproduction: adults have SVL below 30mm (Freire 1999). They present sexual dimorphism and females have larger SLV than males (Freire 1999). They have a single egg of clutch size (Vanzolini *et al.* 1980) and presents communal nests (Oliveira *et al.* 2015).

Remarks: preyed by *tropidurus hygomi* (Vargens *et al.* 2005).

Mabuyidae Mittleman, 1952

Aspronema dorsivittatum (Cope, 1862)

Popular name: “bibra-brilhante” (Freitas & Silva 2007).

Fig. 8f.

Type-locality: “Paraguay”

Distribution range: occurs in Argentina, Bolívia, Uruguai and Brazil (Gallardo 1968; Cei 1993).

In Brazil this species occurs in Distrito Federal, Goiás, Mato Grosso do Sul, Minas Gerais, Paraná, Rio Grande do Sul, Rio de Janeiro, Santa Catarina, São Paulo and Tocantins states (Rocha *et al.* 2004; Vrcibradic *et al.* 2004; Nogueira 2006; Quintela *et al.* 2006; Cruz *et al.* 2014).

Records from the Espinhaço (fig. 16) – *Published records*: **Minas Gerais** – Serra do Ouro Branco (Nogueira 2006; Cruz *et al.* 2014), Serra do Caraça and Serra do Cipó (Nogueira 2006).

This study: **Minas Gerais** – Antônio Pereira (Ouro Preto), Caeté, Catas Altas, Congonhas, Jaboticatubas, Monjolos, Nova Lima, Ouro Preto (Campus UFOP), Parque Estadual do Itacolomi, Santana do Riacho.

Habitat and micro-habitat: occurs in the Cerrado and gallery forests (Recorder & Nogueira 2007), in coastal dunes (Quintela *et al.* 2006) and in altitude fields (Rocha *et al.* 2004; Vrcibradic *et al.* 2004; Cruz *et al.* 2014).

Dial activity : diurnal (Vrcibradic *et al.* 2004).

Diet: it feeds on small invertebrates and vertebrates (Vrcibradic *et al.* 2004).

Sexual dimorphism and reproduction: it present sexual dimorphism, with adult females larger than males. The neonat menasurments ranged from 29.7 to 32.26mm SVL (Winck *et al.* 2011) and the juvenile size range 40 to 46.3mm SVL and adult 58.8 to 74.3mm SVL (Vrcibradic *et al.* 2004). Femals brood size range 3 to 9 neonat (Vrcibradic & Rocha 2011; Winck *et al.* 2011).

Remarks: Rocha *et al.* (2003) present studys about parasitism.

Aspronema sp.1

Popular name: ?

Distribution range: Bahia.

Records from Espinhaço Montain Range (fig. 16) – *This study*: **Bahia**.

Habitat and micro-habitat: Campo Rupestre.

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: possible new species found in Caatinga of Bahia state.

Aspronema sp.2

Popular name: ?

Distribution range: Bahia.

Records from Espinhaço (fig. 17) – *This study*: **Bahia** – Mucugê.

Habitat and micro-habitat: ?

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: possible new species found in Caatinga of Bahia state.

Aspronema sp.3

Popular name: ?

Distribution range: Minas Gerais.

Records from the Espinhaço (fig. 16) – *This study*: **Minas Gerais**– Itacambira, Nova Lima.

Habitat and micro-habitat: ?

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: possible new species found in Minas Gerais state.

Aspronema sp.4

Popular name: ?

Distribution range: Minas Gerais.

Records from the Espinhaço (fig. 17) – *This study*: **Minas Gerais** – Congonhas.

Habitat and micro-habitat: ?

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: possible new species found in Minas Gerais state.

Brasiliscincus heathi (Schmidt & Inger, 1951)

Popular name: “bibra-brilhante” (Freitas & Silva 2007).

Fig. 9a.

Type-locality: “Fortaleza, Ceará, Brazil”.

Distribution range: recorded to the Alagoas, Bahia, Ceará, Goiás, Maranhão, Minas Gerais, Paraíba, Pernambuco, Piauí and Tocantins states and in oceanic islands (Abrólios: Bahia), Brazil (Rodrigues 1996a; Vitt *et al.* 2002; Nogueira 2006; Freitas & Silva 2007; Dutra & Vrcibradic 1998).

Records from the Espinhaço (fig. 17) – *Published records*: **Bahia** – Caetité (Nogueira 2006), Chapada Diamantina, Mucugê (Junca 2005; Nogueira 2006; Freitas & Silva 2007; Freitas *et al.* 2012), Morro do Chapéu (Nogueira 2006), Rio de Contas, Xique-Xique (Nogueira 2006). *This study*: **Bahia** – Caetité, Rio de Contas, Ipupiara; **Minas Gerais** – Grão Mogol, São João do Paraíso, Santana do Riacho, Rio Pardo de Minas.

Habitat and micro-habitat: recorded to the Caatinga and Cerrado in open áreas and Sandy soils (Rodrigues 1996a; Dutra & Vrcibradic 1998; Nogueira 2006; Freitas & Silva 2007).

Diet: ?

Sexual dimorphism and reproduction: the size of this species ranged from 31mm to 109mm SVL (Blackburn & Vitt 1992). It presents sexual dimorphism, being the females bigger and heavier than the males. However, males usually have a larger head size (Blackburn & Vitt 1992). It presents cyclical reproduction, and the ovulation occurs during October to January, and the parturition September to November (Vitt & Blackburn 1983). The minimum reproduction size in females is 45mm and the maximum 88mm SVL (Vitt & Blackburn 1983; Blackburn & Vitt 1992). It presents brood range 2-9 neonats (Vitt & Blackburn 1983; Blackburn & Vitt 1992). The neonats present about 32.4mm SVL (Blackburn & Vitt 1992).

Copeoglossum nigropunctatum (Spix, 1825).

Popular name: “bibra-brilhante” (Freitas & Silva 2007).

Figs. 9c.

Type-locality: "Ecágá", at present Tefé, Santa Rita, Municipality of Maracá, Amazonas, Brazil, was designated by Ávilas-Pires (1995) as neotype.

Distribution range: lizard with a wide geographic in Brazil recorded to the Amapá, Amazonas, Bahia, Distrito Federal, Goiás, Maranhão, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Piauí, Rondônia, São Paulo and Tocantins states (Vitt & Blackburn 1991; Ávilas-Pires 1995; Vitt *et al.* 2002; Borges Nojosa & Caramaschi 2003; Nogueira 2006).

Records from the Espinhaço (fig. 17) –*This study*: **Minas Gerais** – Itacambira, Parque Estadual do Rio Preto.

Habitat and micro-habitat: lives in leaf litter and tree trunks in open areas and forest edges of Amazon, Cerrado, and Caatinga (Vitt & Blackburn 1991; Ávilas-Pires 1995; Borges Nojosa & Caramaschi 2003).

Diet: they prey mainly on arthropods (Vitt & Blackburn 1991).

Sexual dimorphism and reproduction: they present sexual dimorphism and females have the larger body and the males a bigger head (Vitt & Blackburn 1991). It is viviparous and gestation lasts 9–12 months (Vitt & Blackburn 1991). The minimum female size of parturition is 77mm and de maximum 109mm SVL (Vitt & Blackburn 1991). The females reach maturity by the end of the first year of life (Vitt & Blackburn 1991). The brood size range 2-9 neonates, with 36mm SVL (Vitt & Blackburn 1991).

Remarks: it represents a complex of species (Hedges & Conn 2012). Other Studys about endoparasits infection (Goldberg *et al.* 2013), predation (Pinho *et al.* 2010) and anti predator behavior (Carvalho *et al.* 2012) constitute other relevant information on the natural history of this species.

Notomabuya frenata (Cope, 1862)

Popular name: ?

Fig. 9b.

Type-locality: “River Paraguay, Paraguay”.

Distribution range: Brazil, Argentina, Bolivia, and Paraguay (Peters & Donoso-Barros 1970; Cei 1993). In Brazil its recorded to Distrito Federal, Espírito Santo, Goiás, Maranhão, Mato

Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Paraná, Rondônia, São Paulo and Tocantins (Vanzolini 1988; Nogueira 2006; Recorder & Nogueira 2007; Costa *et al.* 2008).

Records from the Espinhaço (fig. 16) – *Published records*: **Minas Gerais** – Belo Horizonte, Brumadinho (Linares & Eterovick 2013), Grão Mogol, Parque Nacional das Sempre Vivas, Santana do Riacho, Serra do Caraça, Serra do Ouro Branco (Nogueira 2006; Costa *et al.* 2008).

This study: **Minas Gerais** – Augusto de Lima, Belo Horizonte (Barreiro), Brumadinho, Caeté, Catas Altas da Noroega, Congonhas, Cristália, Grão Mogol, Igarapé, Itabirito, Jaboticatubas, Lassance, Morro do Pilar, Nova Lima, Parque Estadual do Itacolomi, Santana do Riacho, São Gonçalo do Rio Abaixo, UHE Irapé (Grão Mogol).

Habitat and micro-habitat: recorded to the Cerrado, Chaco, Atlantic Forest and transition environments (Vanzolini 1988; Nogueira 2006; Recorder & Nogueira 2007; Costa *et al.* 2008) in open environments, on rocks and edges of forest and some urban areas (Cruz *et al.* 2014).

Diet: the diet of this species includes a varied range of arthropods, with termites being preferred food items (Vrcibradic & Rocha 1998). Cannibalism was reported to this species (Vrcibradic & Rocha 1996).

Sexual dimorphism and reproduction: females present larger body size (maximum 91mm SVL) and male's larger heads (Vrcibradic & Rocha 1998). It is viviparous (Vitt 1991) and presents a cyclic reproduction period (Vrcibradic & Rocha 1998). Femals presents gestation period lastin 9 to 12 monts and parturition occur from August through October (Vrcibradic & Rocha 1998). In (Vrcibradic & Rocha 1998) the minimum reproductive size of famales is 51mm and the maximum 91mm SVL and the brood size of this species ranges 2 to 8 neonates. In Vitt (1991) the reproductive female range 50 to 80mm SVL and the clutch size range 1 to 8 neonates. The neonates range 31-32mm SVL (Vrcibradic & Rocha 1998).

Remarks: study about defense strategy can be found in Van Sluys (2002).

Psychosaura macrorhyncha (Hoge 1946)

Popular name: “bibra-brilhante” (Freitas & Silva 2007).

Fig. 9d.

Type-locality: “Ilha da Queimada Grande, São Paulo, Brazil”.

Distribution range: recorded to the states of São Paulo, Paraíba, Bahia, Espírito Santo and Rio de Janeiro (Vrcibradic & Rocha 1995a; Rocha & Vrcibradic 1999; Rodrigues 2000).

Records from the Espinhaço (fig. 17) – *Published records*: **Bahia** – Mucugê (Junca 2005).

Habitat and micro-habitat: it is endemic to Atlantic Forest and prefers forested areas. It can be found under litter, rocks, shrubs and bromeliads (Vrcibradic & Rocha 1995b; Rocha & Vrcibradic 1999; Vrcibradic & Rocha 2005).

Diet: feeds on small arthropods and some small fruits (Vrcibradic & Rocha 1995b; Vrcibradic & Rocha 2005).

Sexual dimorphism and reproduction: species with cyclic reproduction period. The parturition occurs on the wet season and the brood size range 1 to 6 neonates with range 32 to 34.3mm SVL. The minimum reproductive size of female is 60mm and the maximum 85mm SVL (See Vanzolini & Rebouças-Spieker 1976; Zanotti *et al.* 1997; Vrcibradic & Rocha 2005; Vrcibradic & Rocha 2011).

Remarks: Datas about endoparasits and ectoparasits its founds in Cunha-Barros & Rocha (1995), Vrcibradic & Rocha (1995b), Vrcibradic *et al.* (2001), Vrcibradic *et al.* (2000), Cunha-Barros *et al.* (2003) and Vrcibradic & Rocha (2005).

***Psychosaura* sp. 1**

Popular name: ?

Distribution range: Bahia state.

Records from the Espinhaço (fig. 17) – *This study*: **Bahia** – Rio de Contas.

Habitat and micro-habitat: Campo Rupestre.

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: we believe to be a possible new species of altitude environments collected in Rio de Contas Bahia.

***Psychosaura* sp.2**

Popular name: ?

Distribution range: Minas Gerais.

Records from the Espinhaço (fig. 17) – *This study*: **Minas Gerais** – Parque Estadual do Rio Preto, Serra do Cipó (Santana do Riacho).

Habitat and micro habitat: found in open areas and mainly in bromeliads of Campo Rupestre.

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: we believe to be a possible new species of altitude environments collected in some Espinhaço localities. In the collection of the specimens, we verified that its tail looked very much like the roots of the bromeliads, which made difficult the capture.

Dactyloidae

Norops fuscoauratus (D'Orbigny, 1837)

Popular name: “papa-vento-pequeno” (Freitas & Silva 2007).

Fig. 9e.

Type-locality: “Chile (in error), corrected by D'Orbigny, 1847 to Rio Mamore, between Loreto and the confluence of Rio Sara, Moxos province, Bolivia”.

Distribution range: lizards with wide geographical distribution occurring in several Latin American countries such as Peru, Colombia, Ecuador, Bolivia, Guyana, French Guiana, Venezuela, and Suriname (Peters & Danoso-Barros 1970; Ávila Pires 1995). In Brazil this species occurs in Acre, Amapá, Amazonas, Pará, Rio Grande do Norte, Rondônia, Espírito Santo, Minas Gerais and Rio de Janeiro (Williams & Vanzolini 1980; Ávila Pires 1995; Cassimiro *et al.* 2006; Santana *et al.* 2008; Costa *et al.* 2009; Goyannes-Araújo *et al.* 2009; Sousa & Freire 2010).

Records from the Espinhaço (fig. 18) – *This study*: **Minas Gerais** – Itabira, São Gonçalo do Rio Abaixo.

Habitat and micro-habitat: found in the Atlantic Forest (Cassimiro *et al.* 2006; Costa *et al.* 2009) and enclaves of forests inserted in the Caatinga (Williams & Vanzolini 1980; Santana *et al.* 2008). Lizard typical of forest habitat (Ávila Pires 1995).

Diet: ?

Sexual dimorphism and reproduction: information on copulation behavior can be found in Rodrigues (1992).

Remarks: predated even by invertebrates (Medina-Rangel 2013).

Iguanidae Gray, 1827

Iguana iguana (Linnaeus 1758)

Popular name: “camaleão” “iguana” (Freitas & Silva 2007).

Fig. 9f.

Type-locality: "indiis".

Distribution range: species occurs in Bolívia, Equador, Guiana Francesa, Peru, Suriname and widely distributed in Brazil in Amazonas, Amapá, Bahia, Ceará, Goiás, Maranhão, Mato Grosso, Pará, Paraíba, Pernambuco, Rio Grande do Norte, Rondônia, Roraima and Tocantins (Vanzolini *et al.* 1980; Ávila Pires 1995; Vitt *et al.* 2002; Nogueira 2006; Rodrigues & Santos 2008).

Records from the Espinhaço (fig. 18) – *Published records*: **Bahia**– Santo Inácio (Árias *et al.* 2011b).

Habitat and micro-habitat: they occur in the Cerrado, Atlantic Forest, Pantanal, Caatinga and Amazonia (Vanzolini *et al.* 1980; Ávila Pires 1995; Vitt *et al.* 2002; Nogueira 2006). It occupies forest areas living on the trees and leaf litter (Vanzolini *et al.* 1980; Ávila Pires 1995).

Diet: the adult is predominantly herbivorous (Rand *et al.* 1990) and juveniles feed on plant material and insects (Hirth 1963). Coprophagy was documented to this species (Campos *et al.* 2011).

Sexual dimorphism and reproduction: this species present aggregative behavior for nesting (Campos 2004; Haller & Rodrigues 2005). In Brazil this species nesting in sand banks (Haller & Rodrigues 2005). The nests depth ranged from 30 to 120cm (Haller & Rodrigues 2005). The clutch size is varied en in diferente populations. In the Brazilian populations in Pantanal, the clutch size range 12 to 19 (Campos 2004) and in Pará range 20 to 33 eggs. In Pará the eggs length ranged 4.2 to 5.3cm and width range 2.7 to 3.5cm and the hatchlings range 7.1 to 7.3cm (Haller & Rodrigues 2005).

Remarks: it is a species widely use as a pet and it live about 28 yars (Rogers 1997). In the UFMG herpetological collection, there are some specimens offered by the Federal Police from the City of Belo Horizonte, where this species does not occur naturally. Some studys presents information about behavior (Greene *et al.* 1978; Desbiez & Campos 2009; Figueirado-de-Andrade *et al.* 2011) and predation (Greene *et al.* 1978; Rivas *et al.* 1998; Engman *et al.* 2005; Costa-Campos *et al.* 2014) and parasitism (Lopes *et al.* 2007).

Leiosauridae Frost, Etheridge, Janies & Titus, 2001

Enyalius bibronii Boulenger 1885

Popular name: “papa-vento” (Freitas & Silva 2007)

Type locality: “Bahia”

Distribution range: species with distribution to several states in Brazil, such as Alagoas, Bahia, Ceará, Minas Gerais, Pernambuco, Piauí, Paraíba, and Rio Grande do Norte (Jackson 1978; Freire 1996; Costa & Feio 2011; Rodrigues *et al.* 2014; Rodrigues *et al.* 2006; Borges-Nojosa & Caramaschi 2003).

Records from the Espinhaço (fig. 19) – *Published records*: **Bahia** – Morro do Chapéu (Rodrigues *et al.* 2006), Chapada Diamantina (Etheridge 1969; Junca 2005; Lugli & Junca 2008); **Minas Gerais** – Cristália (Costa & Feio 2011), Joáima (Costa & Feio 2011), Montezuma (Jackson 1978) and Taiobeiras (Costa & Feio 2011). *This study*: **Bahia** – Caetité, Ibicoara, Iramaia; **Minas Gerais** – Riacho dos Machados and Salinas.

Habitat and micro-habitat: typical of relict environments of forests in arid areas of northern Brazil (Jackson 1978; Freire 1996; Borges-Nojosa & Caramaschi 2003; Rodrigues *et al.* 2006; Costa & Feio 2011). Occur in forest enclaves of the Caatinga, Cerrado, remnants of the Atlantic Forest and transition areas between these biomes (Jackson 1978; Freire 1996; Borges-Nojosa & Caramaschi 2003; Rodrigues *et al.* 2006; Costa & Feio 2011). This lizard can be found in forest areas and even in altered environments, such as sugarcane plantations in Alagoas (Silva & Moura 2013).

Diet: ?

Sexual dimorphism and reproduction: they present a sexual dimorphism in color pattern. The females present a faint longitudinal (3 or more) ventral strips with lines of paravertebral white spots and males are uniformly creamy (Rodrigues *et al.* 2006).

Remarks: Ribeiro *et al.* (2011) present data on ectoparasitism.

Enyalius bilineatus Duméril & Bibron, 1837

Populpar name: “cambaleão” (Lana-Pinto *et al.* 2015)

Type-locality: “Brésil”.

Fig. 10a.

Distribution range: this lizard occurs only in Brazil in Bahia, Distrito Federal, Espírito Santo, Goiás, Minas Gerais and Rio de Janeiro (Etheridge 1969; Jackson 1978; Nogueira 2006; Rodrigues *et al.* 2014; see Sales *et al.* 2015).

Records from the Espinhaço (fig. 19) – *Published records*: **Minas Gerais** – Belo Horizonte (Nogueira 2006), Brumadinho (Linares & Eterovick 2013; Borges *et al.* 2013), Mariana (Nogueira 2006), Ouro Preto (Nogueira 2006), Serra do Caraça (Nogueira 2006), Serra do Ouro Branco (Nogueira 2006; Cruz *et al.* 2014). *This study*: **Minas Gerais** – Augusto de Lima, Belo Horizonte, Bocaina (Serra do Caraça), Brumadinho (Mina do córrego do Feijão) Caeté, Capão Xavier (Nova Lima), Carmésia, Casa Branca, Catas Altas, Catas Altas da Noroega, Conceição do Mato Dentro, Conselheiro Lafaiete, Congonhas, Igarapé, Itabira, Itabirito, Itatiaiuçu, Jaboticatubas, João Monlevade, Macacos, Mariana, Moeda, Morro do Pilar, Nova Lima, Ouro Preto, Parque Estadual do Itacolomi, Raposos, Rio Manso, Rio Piracicaba (Mina Água Limpa), Rio Piracicaba, Sabará, Santana do Riacho, São Joaquim de Bicas, Serra Azul, Serra da Brigida (Ouro Preto), Serra da Ferrugem (Conceição do Mato Dentro), Serra da Moeda, Serra da Serpentina (Conceição do Mato Dentro), Serra do Cabral, Serra do Caraça.

Habitat and micro-habitat: occurs in Cerrado and Campo Rupestre in forested areas and it is found in gallery forests on grass and shrubs, on bushes near the road and sleeping in gallery forest (Nogueira 2006; Cruz *et al.* 2014).

Diet: it feeds mainly on arthropods (Zamprogno *et al.* 2001; Teixeira *et al.* 2005; Borges *et al.* 2013).

Sexual dimorphism and reproduction: species dimorphic in body size, with females larger than males (Teixeira *et al.* 2005). Data on reproduction suggests that this species presents extended or continuous reproductive activity or two reproductive peaks per year (Teixeira *et al.* 2005). The clutch size range from 2 to 6 eggs (Teixeira *et al.* 2005). Juveniles found less than 40mm SVL indicate that hatching of eggs should be from October to December (Teixeira *et al.* 2005).

Remarks: Barreto-Lima & Anjos (2014) presents data about parasitism. Some individuals considered in this study may possibly be attributed to another species recently described (*E. capetinga*) (Breitman *et al.* 2018). For this study it was not considered because the specimens had previously been analyzed in the collections before Breitman *et al.* (2018).

Enyalius boulengeri Etheridge 1968

Popular name: ?

Fig. 10b.

Type-locality: “Espírito Santo, Brazil”.

Distribution range: it occurs in the states of Espírito Santo and Minas Gerais, Brazil (Jockson 1978; Costa *et al.* 2009; Rodrigues *et al.* 2014).

Records from the Espinhaço (fig. 19) – *This study*: **Minas Gerais** – Estação Ambiental de Peti, João Monlevade, São Gonçalo do Rio Abaixo.

Habitat and micro-habitat: semi-arboreal lizard associated with Atlantic Forest (Jockson 1978).

Diet: ?

Sexual dimorphism and reproduction: ?

Enyalius catenatus (wied, 1821)

Popular name: “papa-vento” (Freitas & Silva 2007).

Type-locality: “Cabeça de Boi”

Distribution range: species found in Alagoas, Bahia, Espírito Santo, Goiás, Paraíba, Pernambuco and Rio Grande do Norte (Jackson 1978; Rodrigues *et al.* 2006; Rodrigues *et al.* 2014).

Records from the Espinhaço (fig. 19) – *Published records*: **Bahia** – Mulungu, Morro do Chapéu, (Nogueira 2006; Rodrigues *et al.* 2006). *This study*: **Bahia** – Bonito; **Minas Gerais** – Leme do Prado.

Habitat and micro-habitat: forested areas (Cruz *et al.* 2018).

Diet: it feeds on arthropods and the most important itens its Isoptera, Hymenoptera and Lepidoptera larvae (Vanzolini 1972, 1974; Cruz *et al.* 2018)

Sexual dimorphism and reproduction: like *E. perditus*, the species exhibits sexual dimorphism, where adult males are green, and females are variegated coloring (Rodrigues *et al.* 2006). This species presents range 5-12 cluch size and the eggs volume range 0.6-1.2ml (Rand 1982).

Remarks: Canale & Freitas (2012) presents a predation event by a monkey (*Cebus xanthosternos*).

Enyalius erythroceneus Rodrigues, Freitas, Silva & Bertolotto 2006

Popupar name: "papa-vento-da-chapada" (Freitas & Silva 2007).

Type-locality: "Fazenda Carraibas, destrt of Cascavél, Municipality of Mucugê, Serra do Espinhaço (Chapada Diamantina), state of Bahia, northeastern Brazil".

Distribution range: Bahia state, Brazil.

Records from the Espinhaço (fig. 19) – *Published records: Bahia* – Mucugê (Rodrigues *et al.* 2006).

Habitat and micro-habitat: it occurs only in one forest regions around 1000m altitude (above sea level) in Caatinga biome (Rodrigues *et al.* 2006).

Dial activity: ?

Diet: ?

Sexual dimorphism and reproduction: the male shows reddish or orange coloration on the sides of the body and the females grey (Rodrigues *et al.* 2006; Freitas & Silva 2007).

Remarks: the species is listed in the Official National List of Endangered Species (MMA 2016) in the category Critically Endangered (CR).

Enyalius perditus Jackson, 1978

Popupar name: "cambaleão" (Lana-Pinto *et al.* 2015)

Fig 10c.

Type-locality: “Estação Biológica de Boracéia, Município de Salesópolis, Estado de São Paulo, Brazil”.

Distribution range: the species is exclusive to the Atlantic Forest of São Paulo, Espírito Santo, Minas Gerais, Paraná and Rio de Janeiro (Jackson 1978; Rocha *et al.* 2000; Sturaro & Silva 2010; Cruz *et al.* 2014; Rodrigues *et al.* 2014).

Records from the Espinhaço (fig. 19) – *Published records*: **Minas Gerais** – Ouro Branco (Cruz *et al.* 2014). *This study*: **Minas Gerais** – Caeté, Ouro Branco, Parque Estadual do Itacolomi, Santa Bárbara (Gandarela), São Gonçalo do Rio Abaixo.

Habitat and micro-habitat: it is found in Atlantic Forest areas and it is a semi-arboreal lizard (Sturaro & Silva 2010; Barreto-Lima *et al.* 2013). During the day is found in activity on the ground or on vegetation and resting on broad branches and leaves at night (Sturaro & Silva 2010; Barreto-Lima *et al.* 2013).

Diet: the species feeds mainly on arthropods (Sousa & Cruz 2008; Sturaro & Silva 2010; Barreto-Lima & Sousa 2011; Barreto-Lima *et al.* 2013).

Sexual dimorphism and reproduction: it presents sexual dimorphism, being the adult female's generally present greater body width and coloration of the brown body (Sturaro & Silva 2010; Barreto-Lima & Sousa 2011). Adult males are thinner and green in color. Juveniles of this species resemble females as to coloration, demonstrating ontogenic variation in coloration (Sturaro & Silva 2010). The smallest mature female measured 69.3mm and the smallest male 63.6mm SVL. It presents a reproductive cycle per year, beginning in November and ending in March (Sturaro & Silva 2010). The clutch size range 7 to 14 eggs (Sturaro & Silva 2010). Information about court and copulation behaviors are presented in Lima & Sousa (2006) and Migliore *et al.* (2014).

Remarks: Vrcibradic *et al.* (2008) and Barreto-Lima *et al.* (2011) present data on parasitism, Gomides & Sousa (2011) on anti-predator behavior and Sousa *et al.* (2000) on shedding skin. It is considered as possibly threatened in the state of Rio de Janeiro (Rocha *et al.* 2000).

Enyalius pictus (Schinz, 1822)

Popular name: “papa-vento” (Freitas & Silva 2007).

Fig. 10 d.

Type-locality: “Mucurí, southeastern Bahía, Brazil”

Distribution range: Found in Minas Gerais, Bahia and Espírito Santo (Freitas & Silva 2007; Rodrigues *et al.* 2014).

Records from the Espinhaço (fig. 19) – *Published records*: **Bahia** – Caetite (Freitas & Silva 2007). *This study*: **Minas Gerais** – Riacho dos Machados, Grão Mogol, Cristália.

Habitat and micro-habitat: can be found in forest enclaves (Jackson 1978)

Diet: ?

Sexual dimorphism and reproduction: males of this species present 5 black transverse bands on the body. Females have a white band on the paravertebral region and a series of black and white dots on the back (Rodrigues *et al.* 2006).

Urostrophus vautieri Duméril & Bibron, 1837

Popular name: “iguana-brasileira-da-estepe” (Novelli *et al.* 2013).

Fig. 10 e.

Type-locality: “Rio de Janeiro”.

Distribution range: its found in Argentina, Bolivia and Brazil, where it occurs in the states of Espírito Santo, Minas Gerais, Paraná, Rio de Janeiro, Rio Grande do Sul, Santa Catarina and São Paulo (Etheridge & Williams 1991; Sazima & Haddad 1992; Santos *et al.* 2009; Gasparini *et al.* 2010).

Records from the Espinhaço (fig. 18) – *Published records*: **Minas Gerais** – Brumadinho (Linares & Eterovick 2013), Ouro Branco (Cruz *et al.* 2014). *This study*: **Minas Gerais** – Catas Altas, Inhotim (Brumadinho), Ouro Preto, Parque Estadual do Itacolomi, São Gonçalo do Rio Abaixo.

Habitat and micro-habitat: occur in Atlantic Forest areas (Etheridge & Williams 1991; Sazima & Haddad 1992; Gasparini *et al.* 2010). However, recently, this species was found in the Cerrado, in riparian forests in the Reserva Boqueirão, municipality of Ingaí, Minas Gerais (Santos *et al.* 2009). Can be found in rocks, in trees and leaf litter and roosting in water-filled bromeliad (Henle & Knogge 2009).

Diet: feeds on arthropods (Novelli *et al.* 2013).

Sexual dimorphism and reproduction: this species present range 6-13 cluch size and the egg volume range 0.5-0.7ml (Rand 1982).

Remarks: informations about defensive behavior and color change can be found in Gerrero & Caselli (2011), endoparasites in Novelli *et al.* (2014) and skin shedding (Ribeiro & Sousa 2006).

On 10 November of 2013 at 11:00 am, in Ouro Preto, Morro São Sebastião, the first autor of this study see on an individual of *U. vautieri* being preyed by a monkey *Callithrix penicillata* in a tree with approximately 5 – 6 meters of height. The monkey bit the lizard head first, tearing

off a large chunk. Then the monkey bit the ventral parts of the lizard eating even the viscera. Other five individuals of this species were observed in the same area. In the first hours of the day, they stand almost still on branches exposed to the sun. As time passes and the sun warms, they begin to forage. Two climbed to branches above the trees and 3 began to forage in the litter. Like lizards of the genus *Tropidurus*, this lizard usually makes repetitive movements with the head when another individual of the same species approach.

Polychrotidae Fitzinger, 1843

Polychrus acutirostris Spix, 1825

Popular name: “papa-vento-cinza” (Freitas & Silva 2007) or “lagarto-preguiça”

Fig. 10 f.

Type-locality: “Bahia, Brazil”.

Distribution range: the geographical distribution of *P. acutirostris* is quite extensive in South America, occurring also in Argentina, Bolivia, Paraguay, and Uruguay (Burt & Burt 1931; Vanzolini *et al.* 1980; Vanzolini 1983). In Brazil, this species occurs in the south of Pará, in the states of the Northeast and Center-West regions, besides Minas Gerais, São Paulo, in the Southeast region (Vanzolini *et al.* 1980; Vanzolini 1983; Nogueira 2006).

Records from the Espinhaço (fig. 18) – *Published records*: **Bahia** – Morro do Chapéu (Árias *et al.* 2011b), Mucugê, Santo Inácio (Árias *et al.* 2011b); **Minas Gerais**– Brumadinho (Linares & Eterovick 2013), Ouro Branco (Cruz *et al.* 2014). *This study*: Bahia – Jacarici, Caetité, Central; Minas Gerais State – Belo Horizonte, Betim, Brumadinho, Confins, Diamantina, Grão Mogol, Jaboticatubas, Joaquim Felício, Morro do Pilar, Ouro Preto, Parque das Mangabeiras (Belo

Horizonte), Parque Estadual do Rio Preto, Parque Nacional da Serra do Cipó, Peixe Tolo, PUC-Minas (Belo Horizonte), Riacho dos Machados, Ribeirão das Neves, Santana do Riacho, Santo Antônio do Leite (Ouro Preto), Serra do Cabral (Buenópolis), UHE Irapé.

Habitat and micro-habitat: the species usually occupy open vegetation and its present in the Cerrado, Caatinga, Chaco and Pantanal (Vanzolini *et al.* 1980; Vanzolini 1983; Kawashita-Ribeiro & Ávila 2008).

Diet: it feeds on arthropods and plant material (Vitt & Lacher-Jr 1981).

Sexual dimorphism and reproduction: this species present range 5-23 cluch size and the eggs volume range 0.5-1.3ml (Rand 1982). The reproductive period occurs during the rainy season, and the posture of a single litter is reported, containing from seven to 31 eggs (Vit & Lacher-Jr 1981).

Tropiduridae Bell in Darwin, 1843

Eurolophosaurus amathites (Rodrigues 1984)

Popular name: “lagartixa-de-areia” (Freitas & Silva 2007).

Type-locality: “Santo Inácio, Bahia”.

Distribution range: Bahia state, Brazil (Rodrigues 1984b).

Records from the Espinhaço (fig. 20) – *Published records*: **Bahia** – Gameleira do Assuará (Passoni *et al.* 2000; 2008), Lagoa de Itaparica (Passoni *et al.* 2000; 2008), Santo Inácio (Rodrigues 1984b; Arias *et al.* 2011b). *This study*: **Bahia** – Gentio de Ouro.

Habitat and micro-habitat: species from the Caatinga Biome, typical of sandy environments (Rodrigues 1984b).

Diet: ?

Sexual dimorphism and reproduction: species with sexual dimorphism with male's larger than females (see Brandt & Navas 2013). The males present black throat and the juveniles and females presents irregular black scores (Rodrigues 1984b).

Remarks: this species presents death feigning behavior (Kohlsdorf *et al.* 2004). The species is listed in the national list of endangered species (MMA 2016) as Endangered (EN) due mainly restricted and destruction of its habitat.

Eurolophosaurus divaricatus (Rodrigues 1986)

Popular name: “lagartixa-de-areia” (Freitas & Silva 2007).

Type-locality: “Arraial do Paulista, Bahia”.

Distribution range: Bahia (Rodrigues 1986).

Records from the Espinhaço (fig. 20) – *Published records*: **Bahia** – Arraial do Paulista (Xique-Xique) (Kasahara *et al.* 1987; Rodrigues 1986), Barra (Rodrigues 1986; Freitas & Silva 2007).

This study: **Bahia** – Barra.

Habitat and micro-habitat: species typical of open areas in sandy environments and habitats similar to *E. amathites* in the Caatinga Biome (Rocha & Rodrigues 2005).

Diet: besides the ants, it has the flowers as an important food resource (Rocha & Rodrigues 2005).

Sexual dimorphism and reproduction: males with 47 to 57 scales on the crest and females aged 60 to 64 scales, in addition to other aspects related to dorsal and tail coloration (Rodrigues 1986)

Remarks: information about predators and anti predator behavior can be found in Kohlsdorf *et al.* (2004) and Gomes *et al.* (2004).

Eurolophosaurus nanuzae (Rodrigues 1981)

Popular name: “calanguinho-da-serra”

Fig. 11a.

Type-locality: Serra do Cipó, Minas Gerais, Rodovia MG2, Km 109

Distribution range: according to Passoni *et al.* (2008), from Cipó, Minas Gerias to Rio Das Contas, Caetité, Bahia (Rodrigues 1981; Passoni *et al.* 2008).

Records from the Espinhaço (fig. 20) – *Published records*: **Bahia** – Caetité, Rio das Contas (Passoni *et al.* 2008); **Minas Gerais** – Serra do Cipó (Santana do Riacho) (Rodrigues 1981; Galdino *et al.* 2003), Pedra Menina (Kasahara *et al.* 1987; Passoni *et al.* 2008), Diamantina (Kasahara *et al.* 1987), Extração (Diamantina) (Passoni *et al.* 2000). *This study*: **Minas Gerais** – Cardeal Mota, Conceição do Mato Dentro, Conselheiro Mata, Diamantina, Grão Mogol, Itacambira, Jaboticatubas, Monjolos, Morro do Pilar, Novorizonte, Parque Municipal Ribeirão do Campo Tabuleiro (Conceição do Mato Dentro), Parque Estadual do Pico do Itambé, Parque Estadual do Rio Preto, Parque Nacional das Sempre Vivas, Parque Nacional Serra do Cipó, Rio Vermelho, Salinas, Santana do Paraíso (Serra do Cipó), Santana do Riacho, Santo Antônio do Itambé, Serro.

Habitat and micro-habitat: Occupe the Caatinga and Cerrado Biomes (Rodrigues 1981; Filogonio *et al.* 2010). This species prefers rocky habitats, however, also occupies sandy environments near exposed rocky outcrops and termite mounds of Campo Rupestre (Rodrigues 1981; Passoni *et al.* 2000; Filogonio *et al.* 2010).

Diet: species was observed feeding on ants (Rodrigues 1981) and termites (personal observation).

Sexual dimorphism and reproduction: species with sexual dimorphism (Rodrigues 1981). Adult males have a pre-anal and ventral part of the thigh with gold yellow coloration. In the females these parts are white (Rodrigues 1981). Sexually reproductive females are larger than males (Galdino *et al.* 2003). The smallest female reproductive activity had a 44.7mm SVL (Galdino *et al.* 2003). These species present a cyclical reproductive activity, occurring from the middle of the dry season to the end of the wet season, with the reproduction peak from November to January (Galdino *et al.* 2003). The posture varies from 1 to 3 eggs, and most females lay 2 eggs (Galdino *et al.* 2003; Galdino & Van Sluiz 2011). Information about courtship and copulation can be found in Ventura *et al.* (2013).

Remarks: information about anti predator and defensive behavior can be found in Kohlsdorf *et al.* (2004) and Galdino *et al.* (2006). Studies about parasitism can be found in Van Sluys *et al.* (2000) and thermal ecology is presented by Buza *et al.* (2018).

***Eurolophosaurus* sp.1**

Popular name: ?

Distribution range: Bahia and Minas Gerais.

Records from the Espinhaço (fig. 20) – *This study*: **Bahia** – Ipuíara, Riacho Santana, Rio de Contas; **Minas Gerais** – Itacambira, Novorizonte, Rio Pardo de Minas.

Habitat and micro-habitat: campo rupestre of Caatinga and Cerrado.

Diet:?

Sexual dimorphism and reproduction: ?

***Eurolophosaurus* sp.2**

Popular name: ?

Distribution range: Bahia, Brazil.

Records from the Espinhaço (fig. 20) – *This study*: **Bahia** – Caetité, Morro do Chapéu.

Habitat and micro-habitat: campo rupestre of Caatinga.

Diet:?

Sexual dimorphism and reproduction: ?

***Stenocercus tricristatus* (Duméril, 1851)**

Popular name: ?

Type-locality: “Minas Gerais, Brazil”.

Distribution range: there is only the holotype of the species collected by Peter Claussen, a naturalist who resided and made some collections in Minas Gerais (see Avila-Pires 1995).

Records from the Espinhaço – *Published records*: **Minas Gerais** – Uncertain (see Avila-Pires 1995).

Habitat and micro-habitat: ?

Diet: ?

Sexual dimorphism and reproduction: ?

Tropidurus cocorobensis Rodrigues, 1987.

Popular name: “lagartixa” (Freitas & Silva 2007).

Type-locality: “Cocorobo, Bahia, Brazil.”

Distribution range: found in Bahia state in the Cocorobo region, Caetite, Xique-Xique and Morro do Chapéu. It also has registered for Alagoas, and Pernambuco (Rodrigues 1987; Freitas *et al.* 2012; Rodrigues & Santos 2008; Ribeiro *et al.* 2012a).

Records from the Espinhaço Range (fig. 21) – *Published records*: **Bahia** – Caetite, Xique-Xique (Rodrigues 2005b), Morro do Chapéu (Rodrigues 1988; Rodrigues 2005b). *This study*: **Bahia** – Morro do Chapéu (Caetité).

Habitat and micro-habitat: species from the Caatinga Biome found in sandy environments (Rodrigues 1987; Ribeiro *et al.* 2012a; Freitas *et al.* 2012).

Diet: ?

Sexual dimorphism and reproduction: species with sexual dimorphism with male’s larger than females (see Brandt & Navas 2013).

Remarks: information about parasitism can be found in Rocha *et al.* (2008).

Tropidurus erythrocephalus Rodrigues, 1987

Popular name: “lagartixa” (Freitas & Silva 2007).

Type-locality: “Morro do Chapéu, Bahia, Brazil”.

Distribution range: Bahia state (Rodrigues 1987; Carvalho 2013).

Records from the Espinhaço (fig. 21) – *Published records*: **Bahia** – Morro do Chapéu, Santo Inácio e Gentio do Ouro, Pedras, Ibipeba (Rodrigues 1987; Carvalho 2013). *This study*: **Bahia** – Morro do Chapéu.

Habitat and micro-habitat: found in Campo Rupestre and occupies environments with sandy soil, tree trunk and walls (Rodrigues 1987; Carvalho 2013).

Diet: ?

Sexual dimorphism and reproduction: species with sexual dimorphism with male’s larger than females (see Brandt & Navas 2013).

Remarks: information about parasitism can be found in Rocha *et al.* (2008).

Tropidurus etheridgei Cei, 1982 (Calango)

Popular name: ?

Type-locality: “Mina Claveros, 1200m, northeastern slopes of the Sierras de Cordoba, Provincia de Cordoba, Argentina”.

Distribution range: it occurs in Argentina, Bolivia, Brasil, and Paraguay in Cerrado and transition areas (Rodrigues 1987). In Brazil it occurs in Bahia, Mato Grosso, Mato Grosso do Sul and Minas Gerais (Rodrigues 1987; Nogueira 2006).

Records from the Espinhaço (fig. 21) – *Published records*: **Bahia** – Caetité (Nogueira 2006; Carvalho *et al.* 2013). **Minas Gerais** – Mocambinho (Carvalho *et al.* 2013), Montezuma (Rodrigues 1987).

Habitat and micro-habitat: it occupies a general dry habitat including tree trunks and sandy soils (Cruz & Scrocchi 1998; Vitt 1991).

Diet: feeds mainly on ants and Coleoptera, but feeds in small vertebrates and flowers too (Cruz *et al.* 1998; Ávila *et al.* 2008; Vitt 1991).

Sexual dimorphism and reproduction: species with male's larger than females (see Brandt & Navas 2013; Cruz 1997). Adults males exhibited dark brown throats and femoral pathes and were more vividly colored on throats and femurs (Rodrigues 1987; Cruz 1997) The Minimum mature female was 49.9mm SVL (Cruz 1997). The reproductive activity is cycle and began in Setember with oviductal eggs observed in October (Cruz 1997). The clutch size range 3-9 eggs (Cruz 1997).

Reproduction: the smallest mature female was 42.8mm SVL and the male 47.6mm SVL (Ávila *et al.* 2008). In the population of Pantanal, Brazil the clutsh size was 4.33 +/-2.8 eggs (Ávila *et al.* 2008) and Vitt (1991) is 4.9+/-0.1 (3-7) eggs. Information about courtship can be found in Ávila & Chunha-Avellar (2006).

Remarks: datas about parasitism can be found in Zaracho & Lamas (2006) and Cruz *et al.* (1998). Presence of a polydactyly was reported to this species (Pelegrin 2007).

Tropidurus hispidus (Spix 1825) (Calango).

Popular name: “Calango”.

Type-locality: “Salvador, Bahia, Brazil”.

Distribution range: it also occurs in Colombia, Venezuela, Suriname, Guyana and French Guiana (Rodrigues 1987; Nogueira 2006; Carvalho 2013; Carvalho *et al.* 2016). In Brazil it occurs in Alagoas, Bahia, Ceará, Maranhão, Minas Gerais, Pará, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Roraima e Sergipe (Rodrigues 1987; Nogueira 2006; Rodrigues & Santos 2008; Carvalho 2013; Carvalho *et al.* 2016).

Records from the Espinhaço (fig. 21) – *Published records*: **Bahia** – Alagoado (Nogueira 2006; Carvalho 2013), Barra (Carvalho 2013; Carvalho *et al.* 2016), Chapada Diamantina (Rodrigues *et al.* 2013), Bom Jesus da Lapa (Nogueira 2006; Carvalho 2013; Carvalho *et al.* 2016), Caetité (Carvalho 2013; Carvalho *et al.* 2016), Campo Formoso (Nogueira 2006; Rodrigues 1987), Catinga do Moura (Carvalho 2013; Carvalho *et al.* 2016), Central (Carvalho 2013; Carvalho *et al.* 2016), Contendas do Sincorá (Carvalho 2013; Carvalho *et al.* 2016), Ibipecta (Carvalho 2013; Carvalho *et al.* 2016), Ibotirama (Carvalho 2013; Carvalho *et al.* 2016), Ipatú (Carvalho 2013; Carvalho *et al.* 2016), Itaguaçu (Carvalho 2013; Carvalho *et al.* 2016), Jacombina (Rodrigues *et al.* 1987), Lagoa de Itaparica (Carvalho 2013; Carvalho *et al.* 2016), Lençóis (Carvalho 2013; Carvalho *et al.* 2016), Morro do Chapéu (Rodrigues 1987; Nogueira 2006), Mucugê (Rodrigues 1987; Junca 2005; Nogueira 2006; Freitas *et al.* 2012), Palmas do Monte Alto (Nogueira 2006; Carvalho 2013; Carvalho *et al.* 2016), Pico das Almas (Carvalho 2013; Carvalho *et al.* 2016), Rio de Contas (Carvalho 2013; Carvalho *et al.* 2016), RPPN Fazenda Pé da Serra (Serra do Arame-Ibotirama) (Carvalho 2013; Carvalho *et al.* 2016), Santo Inácio (Rodrigues 1987; Nogueira 2006), Sebastião Laranjeiras (Carvalho 2013; Carvalho *et al.* 2016), Senhor do Bonfim (Rodrigues *et al.* 1987), Serra da Almas-Urandi (Rodrigues *et al.* 1987),

Xique-Xique (Carvalho 2013; Carvalho *et al.* 2016) Uibai (Carvalho 2013; Carvalho *et al.* 2016); **Minas Gerais**: Caeté (Rodrigues 1987; Nogueira 2006), Conceição do Mato Dentro (Rodrigues 1987; Nogueira 2006), Diamantina (Nogueira 2006), Extração (Rodrigues 1987; Nogueira 2006), Grão Mogol (Rodrigues 1987; Nogueira 2006), Itacarambi (Nogueira 2006), Jaboticatubas (Carvalho 2013), Mocambinhos (Nogueira 2006), Serra do Cabral (Rodrigues 1987; Nogueira 2006), Serra do Cipó (Rodrigues 1987; Nogueira 2006). *This study*: **Bahia** – Ibicoara, Itaguaçu da Bahia, Itapamonhacanga, Oliveira dos Brajinhos, Palmas do Monte Alto, Piatã, Rio de Contas; **Minas Gerais** – Belo Vale, Bom Jesus da Lapa, Botumirim, Cardeal Mota, Conceição do Mato Dentro, Cristália, Diamantina, Francisco Sá, Grão Mogol, Inhancica (Sempre Vivas), Riacho dos Machados, Rio Vermelho, Santana do Riacho Serra da Ferrugem (Conceição do Mato Dentro, Serranópolis de Minas, Serro.

Habitat and micro-habitat: it occurs in the Caatinga, Atlantic Forest, Cerrado and Amazonia Biomes (see Rodrigues 1987; Avila-Pires 1995; Salles & Silva-Soares 2010). It is a general habitat, occupying rocky outcrops in the Campo Rupestre, trunks, and walls adjacent to forest formations on sandy soil etc (Rodrigues 1987; Van-Sluys *et al.* 2004). In forested areas, it occupies enclaves of open areas (Vitt 1995; Vitt *et al.* 1996; Van-Sluys *et al.* 2004; Kolodiuk *et al.* 2010).

Diet: it has a varied diet based on invertebrates. However, it may include individuals of the same species, other lizards and small vertebrates, flowers and fruits (Vitt 1995; Vitt *et al.* 1996; Van Sluys *et al.* 2004; Rojas-Runjaic *et al.* 2006; Ribeiro & Freire 2009; Van Sluys *et al.* 2010; Costa *et al.* 2010; Sales *et al.* 2011).

Sexual dimorphism and reproduction: species with sexual dimorphism with male's larger than females (see Brandt & Navas 2013). The reproductive activity of this species become from the middle of the dry season to the beginning of the rainy season (Ribeiro *et al.* 2012b). The smallest

reproductive female measuring 65.0mm SVL and the mean clutch size was 8 ± 2.0 (Ribeiro *et al.* 2012b). The hatching size range 27.2 to 28.7mm SVL (Ribeiro *et al.* 2008a; Santana *et al.* 2011). The nests site consists on a small terrestrial cavity (5cm diameter and 3 deep) covered with herbaceous and shrubby vegetation (Ribeiro *et al.* 2008a).

Remarks: data on aggressive and foraging behavior can be found in Carpenter (1977), Vitt *et al.* (1996) and Kolodiuk (2009). Information about parasitism can be found in Rocha *et al.* (2008) and Maia-Carneiro (2017). It's preyed by spiders (Vieira *et al.* 2012), frogs (Alcantara *et al.* 2014) and birds (De-Carvalho *et al.* 2011).

Tropidurus itambere Rodrigues, 1987

Popular name: “Calango” (Lana-Pinto *et al.* 2015).

Fig. 11b.

Type-locality: “Sorocaba, São Paulo, Brazil”.

Distribution range: this lizard occurs in Distrito Federal, Goiás, Mato Grosso, Mato Grosso do Sul, Minas Gerais, São Paulo, Paraná and Tocantins (Rodrigues 1987; Nogueira 2006; Carvalho *et al.* 2013).

Records from the Espinhaço (fig. 21) – *Published records*: **Minas Gerais** – Ouro Branco, Minas Gerais state (Rodrigues 1987; Nogueira 2006; Cruz *et al.* 2014). *This study*: **Minas Gerais** – Minas Parque Estadual Serra do Rola Moça, Serra da Moeda (Nova Lima), Serra do Rola Moça, Rio Acima.

Habitat and micro-habitat: it can be found in not disturbed areas of Cerrado especially with an abundance of rocks (Rodrigues 1987).

Diet: daytime lizard, foraging during the hottest hours of the day. Its diet consists basically of plant tissues and arthropods (Van-Sluys 1992; Van-Sluys 1993a).

Sexual dimorphism and reproduction: species with sexual dimorphism with male's larger than females (see Van Sluys 1993b; Brandt & Navas 2013). The mean SVL size of adult males was 75.9mm and females 67.3mm (Van-Sluys 1993b). This species presents cycle reproduction, from the end of the dry season to the end of the rainy season (Van-Sluys 1992; 1993b). Females present vitellogenic follicles or oviductal eggs only during the wet season. The smallest reproductive female had 56.1mm SVL. The mean cloch size range 1-8 eggs (Van-Sluys 1993b).

Remarks: studies about social interaction and anti-predator behavior can be found in Nunes *et al.* (2008; 2012), Lucas *et al.* (2012), Van-Sluys *et al.* (2002) and Carvalho *et al.* (2011). Studies about home range and population's dynamics were presented by Van-Sluys (1997, 2000).

Tropidurus montanus Rodrigues, 1987

Popular name: "Calango-da-montanha" (Cassimiro *et al.* 2009).

Fig. 11c.

Type-locality: "Serra do Cipó, Rodovia MG2 km 127, Minas Gerais, Brazil".

Distribution range: from Minas Gerais and Bahia (Rodrigues 1987; Nogueira 2006).

Records from the Espinhaço (fig. 22) – *Published records*: **Bahia** – Caetité (Nogueira 2006; Carvalho 2013), Pico das Almas (Carvalho 2013), Rio de Contas (Carvalho 2013); **Minas Gerais**: Belo Horizonte (Nogueira 2006), Caeté (Nogueira 2006), Conselheiro Mata (Carvalho 2013), Diamantina (Nogueira 2006), Extração (Rodrigues 1987; Carvalho 2013), Guinda (Rodrigues 1987; Carvalho 2013), Gouveia (Nogueira 2006), Itambé do Mato Dentro

(Rodrigues 1987; Carvalho 2013), Grão Mogol (Rodrigues 1987; Nogueira 2006; Carvalho 2013), Guinda (Nogueira 2006), Ouro Preto (Carvalho 2013), Pedra Redonda (Rodrigues 1987; Carvalho 2013), Santana do Riacho (Rodrigues 1987; Nogueira 2006; Filogonio *et al.* 2010; Carvalho 2013), São João da Chapada (Carvalho 2013), Serra da Piedade (Rodrigues 1987, Carvalho 2013), Serra do Cabral (Rodrigues 1987, Nogueira 2006, Carvalho 2013), Serra do Caraça (Rodrigues 1987; Nogueira 2006; Carvalho 2013), Serra do Cipó (Rodrigues 1987; Nogueira 2006; Carvalho 2013), Serra do Garimpo (Rodrigues 1987; Carvalho 2013), Serra do Serro (Nogueira 2006), Serra Santa (Rodrigues 1987; Carvalho 2013), Serro (Rodrigues 1987; Carvalho 2013), Sopa (Rodrigues 1987; Nogueira 2006; Carvalho 2013). *This study*: **Minas Gerais** – Alto Palácio (Santana do Riacho), Barão de Cocais, Botumirim, Cachoeira do Tabuleiro (Conceição do Mato Dentro), Caeté, Catas Altas, Conceição do Mato Dentro, Congonhas, Diamantina, Grão Mogol, Itabirito, Itacambira, Jaboticatubas, Joaquim Felício, Lassance, Monjolos, Nova Lima, Ouro Preto, Parque Municipal Ribeirão do Campo (Tabuleiro), Parque Nacional Serra do Gandarela, PCH Santa Helena (Lassance), Rio Acima, Rio Pardo de Minas, Santa Bárbara, Santana do Riacho, Santo Antônio do Itambé, Serra da Piedade (Caeté), Serra do Cabral (Buenópolis), Serra do Caraça, Serra do Cipó.

Habitat and micro-habitat: this species can be found with relative abundance in the Campo Rupestre from Minas Gerais. At the time of the description, the species was reported in regions above 1000m (sea level) to the south of Espinhaço. Although it prefers rock outcrops, sandy soils on grass fields, on shrubs and walls (see Rodrigues 1987; Van-Sluys *et al.* 2004; Filogonio *et al.* 2010).

Diet: they feed mainly on arthropods and some plant material (Van-Sluys *et al.* 2004). It can eat other lizards including cannibalism (Kiefer & Sazima 2002).

Sexual dimorphism and reproduction: species with sexual dimorphism with male's larger than females (see Brandt & Navas 2013).

Remarks: information about anti-predator and defensive behavior can be found in Machado *et al.* (2007), Cassimiro *et al.* (2009) and Ventura *et al.* (2017) and social special in Galdino *et al.* (2017). When analyzing some specimens, we find some variations in the external morphology, especially in the mite bags. We believe that future studies and with a larger number of specimens from different regions can be described cryptic species within this group.

Tropidurus mucujensis Rodrigues 1987

Popular name: “lagartixa” (Freitas & Silva 2007).

Type-locality: “Mucugê, Bahia, Brazil”.

Distribution range: Bahia state, Brazil (Rodrigues 1987).

Records from the Espinhaço (fig. 22) – *Published records*: **Bahia** – Mucugê (Rodrigues 1987; Freitas & Silva 2007). *This study*: **Bahia** – Jacaraci.

Habitat and micro-habitat: Campos Rupestres in the Caatinga Biome (Rodrigues 1987)

Diet: ?

Sexual dimorphism and reproduction: species with sexual dimorphism with male's larger than females (see Brandt & Navas 2013).

Tropidurus oreadicus Rodrigues 1987

Popular name: ?

Figs. 11d.

Type-locality: “Buritis, Minas Gerais, Brazil”.

Distribution range: it is a species with a wide distribution registered in the states of Amazonas, Distrito Federal, Goiás, Maranhão, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Piauí, Rondônia and Tocantins (Rodrigues 1987; Vitt & Caldwell 1993; Ávila-Pires 1995; Vitt *et al.* 2002; Mello 2014).

Records from the Espinhaço (fig. 22) – *Published records*: **Minas Gerais** – Jaboticatubas (Mello 2014).

Habitat and micro-habitats: found in the Cerrado in rocky open areas, shelters on the grounds and termite nests (Colli *et al.* 1992).

Diet: it feeds on small arthropods and plant material (Colli *et al.* 1992).

Sexual dimorphism and reproduction: species with sexual dimorphism with male’s larger than females (see Brandt & Navas 2013).

Remarks: Carvalho-Filho (2008) describ a predation events by an avian.

Tropidurus pinima Rodrigues 1984

Popular name: “lagartixa” (Freitas & Silva 2007).

Type-locality: “Santo Inácio, Bahia, Brazil”.

Distribution range: Bahia State in the Caatinga Biome (Rodrigues 1984).

Records from the Espinhaço (fig. 22) – *Published records*: **Bahia** – Gentio de Ouro (Rodrigues 1984), RPPN Fazenda Pé da Serra (Serra do Arame, Ibotirama) (Carvalho *et al.* 2016), Rio de

Contas (Rodrigues 1984a), Santo Inácio (Rodrigues 1984a), Xique-Xique (Rodrigues 1984a).

This study: **Bahia** – Ipupiara.

Habitat and micro-habitat: species found in rocky areas from Caatinga (Rodrigues 1984a).

Diet: ?

Sexual dimorphism and reproduction: ?

Tropidurus psammonastes Rodrigues, Kasahara & Yonenaga-Yasuda, 1988

Popular name: “lagartixa” (Freitas & Silva 2007).

Type-locality: “Xique-Xique, Arraial do Paulista, Bahia”.

Distribution range: species found in the Caatinga Biome in Bahia (Rodrigues *et al.* 1988; Lima & Rocha 2006; Freitas & Silva 2007).

Records from the Espinhaço (fig. 22) – *Published records:* **Bahia** – Arraial do Paulista, Barra, Xique-Xique (Rodrigues *et al.* 1988; Lima & Rocha 2006; Freitas & Silva 2007).

Habitat and micro-habitat: species from the sandy environments of the São Francisco dunes, Caatinga Biome (Rodrigues *et al.* 1988).

Diet: it has a diet based mainly on ants others arthropods and plant material (Rocha & Rodrigues 2005; Lima & Rocha 2006). In the dry season the flowers are the most important resource in the diet of this species (Lima & Rocha 2006).

Sexual dimorphism and reproduction: species with sexual dimorphism with male’s larger than females (see Brandt & Navas 2013).

Tropidurus semitaeniatus (Spix 1825)

Popular name: “lagartixa” (Freitas & Silva 2007).

Fig.11e.

Type-locality: “Sincorá Velho, Bahia, Brazil”.

Distribution range: species found in Alagoas, Bahia, Ceará, Paraíba, Pernambuco, Piauí e Rio Grande do Norte (Nogueira 2006; Rodrigues & Santos 2008) and Minas Gerais (this study).

Records from the Espinhaço (fig. 22) – *Published records*: **Bahia** – Alagoado (Nogueira 2006), Andaraí (Nogueira 2006, Carvalho 2013), Central (Carvalho 2013), Chapada Diamantina (Rodrigues *et al.* 2013), Contendas do Sincorá (Carvalho 2013), Guanambi (Carvalho 2013), Itaguaçu (Carvalho 2013), Jacobina (Carvalho 2013), Lagoa Real (Carvalho 2013), Lençóis (Carvalho 2013), Morro do Chapéu (Nogueira 2006; Freitas & Silva 2007; Carvalho 2013), Mucugê (Nogueira 2006; Carvalho 2013), Pico das Almas (Carvalho 2013), Rio de Contas (Nogueira 2006; Carvalho 2013), Senhor do Bonfim (Carvalho 2013), Sincorá Velho (Carvalho 2013). *This study* – **Bahia**: Abaíra, Central, Ibicoara, Itaguaçu da Bahia, Lagoa Real, Morro do chapéu, Mucugê, Palmeiras, Pindobaçu, Rio de Contas, Serra do Pau D'arco (Santo Antônio do Retiro), Uibaí; **Minas Gerais**: Riacho dos Machados and Porteirinha.

Habitat and micro-habitat: it occur in xeric and rocky environments in transition areas with the Atlantic Forest, Caatinga and Cerrado (Vanzolini 1976a; Rodrigues 1984a; Nogueira 2006).

Diet: its diet is mainly based on ants (Vitt 1995). It is a pollinating species feeds nectar and fruits of a Cactaceae (Gomes *et al.* 2014) and a seed disperser of the plant *Commiphora leptophloeos* (Burseraceae) in the Caatinga of northeastern Brazil (Ribeiro *et al.* 2008).

Sexual dimorphism and reproduction: species with sexual dimorphism with male's larger than females (see Brandt & Navas 2013). The ventral view of the males presents yellow ventral patches or yellow-and-black patches on thighs and precloacal flap (Ribeiro *et al.* 2010) and the females none. The reproductive activity of this species become from the middle of the dry season to the beginning of the rainy season (Vitt & Goldberg 1983; Ribeiro *et al.* 2012). The smallest reproductive female measuring 59mm in Ribeiro *et al.* (2012) and in Vitt & Goldberg (1983) it ranged from 58-83mm SVL. The females deposit eggs in rock crevices and the clutch size ranged 1-3 eggs (Vitt & Goldberg 1983; Ribeiro *et al.* 2012).

Remarks: data on foraging behavior can be found in Kolodiuk *et al.* (2009). Information about parasitism can be found in Rocha *et al.* (2008) and Maia-Carneiro (2017). Passos *et al.* (2014) registered tail bifurcation.

Tropidurus sertanejo Carvalho, Sena, Peloso, Machado, Montesinos, Silva, Campbell & Rodrigues 2016.

Popular name: ?

Type-locality: "Reserva Natural do Patrimônio Natural, Fazenda Pé da Serra, Serra do Arame, Municipality of Ibotirama, Bahia, Brazil".

Distribution range: Bahia state (Carvalho *et al.* 2016).

Records from the Espinhaço (fig. 22) – *Published records*: **Bahia** – Caetité (Carvalho *et al.* 2016), RPPN Fazenda Pé da Serra (Serra do Arame-Ibotirama); *This study*: **Bahia** – Riacho de Santana, Rio de Contas.

Habitat and micro-habitat: found in the Caatinga Biome using small to middle-sized rocks and sandy soils covered whit dry forests (Carvalho *et al.* 2016).

Diet:

Sexual dimorphism and reproduction: male's shows dark flash marks on the underside of the thighs and cloacal flap (Carvalho *et al.* 2016). Juveniles were collected in July and September (Carvalho *et al.* 2016).

Remarks:

Tropidurus torquatus (Wied, 1820)

Popular name: “Calango” (Lana-Pinto *et al.* 2015).

Typical location: “Lagoa do Paulista, Rio de Janeiro, Brazil” (Rodrigues 1987).

Distribution range: this lizard is found in Argentina, Uruguay, Paraguay and in the central-west, south-eastern and southern regions of Brazil (Rodrigues 1987; Carvalho 2013). In Brazil it is found in Bahia, Distrito Federal, Espírito Santo, Goiás, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Paraná, Rio de Janeiro, São Paulo and Tocantins (Nogueira 2006; Carvalho 2013).

Records from the Espinhaço (fig. 22) – *Published records*: **Minas Gerais** – Arinos (Rodrigues 1987, Nogueira 2006), Belo Horizonte (Rodrigues 1987; Nogueira 2006), Catas Altas (Carvalho 2013), Contagem (Carvalho 2013), Estação Ecológica de Peti (Bertoluci *et al.* 2008), Itambé do Mato Dentro (Rodrigues 1987; Nogueira 2006), Itapamonhangaba (Carvalho 2013), Jaboticatubas (Carvalho 2013), Lapinha (Rodrigues 1987), Lassance (Carvalho 2013; Nogueira 2006), Mariana (Rodrigues 1987; Carvalho 2013), Ouro Branco (Cruz *et al.* 2014), Pedro

leopoldo (Rodrigues 1987; Nogueira 2006), Santo Antônio do Itambé (Rodrigues 1987; Nogueira 2006; Carvalho 2013), São Gonçalo do Rio Abaixo (Carvalho 2013), Serra do Caraça (Carvalho 2013), Serro (Carvalho 2013). *This study*: **Minas Gerais** – Alvorada de Minas, Belo Horizonte, Buenópolis, Caeté, Catas Altas, Conceição do HUE Igarapé, Inhotim, Itabira, Jaboticatubas, Mariana, Mateus Leme, Mato Dentro, Morro do Pilar, Museu Ciências Naturais Puc-Minas (Belo Horizonte), Ouro Preto, Parque Estadual do Itacolomi, Pedro Leopoldo, Rio Acima, Rio Piracicaba, Sabará, Santa Bárbara, Santa Maria de Itabira, Santo Antônio do Itambé, São Gonçalo do Rio Abaixo, Serra Azul (Igarapé e Mateus Leme), Serra da Piedade (Caeté), Serro.

Habitat and micro-habitat: species found in the Cerrado, Chaco and Atlantic Forest (Rodrigues 1987; Carvalho 2013). It is commonly found in open areas, on rocks, termite mounds, fallen trunks, and ground. It is commonly found in anthropic areas and can be easily observed on walls and fences of houses (Teixeira & Giovanelli 1999; Ribeiro *et al.* 2009).

Diet: their diet consists basically on arthropods. However, they may ingest fruits, other parts of plant material and other small vertebrates including other lizards (Rocha & Bergallo 1994; Figueira 1994; Teixeira & Giovanelli 1999; Fialho *et al.* 2000; Juliano *et al.* 2002; Kokubum & Lemos 2004; Carvalho *et al.* 2007; Gomides *et al.* 2013).

Sexual dimorphism and reproduction: species with sexual dimorphism with male's larger than females (Teixeira & Giovanelli 1999; Pinto *et al.* 2005; Brandt & Navas 2013). Males size range 32.1 to 94mm and females 33.2 to 101.8mm SVL (Teixeira & Giovanelli 1999; Van Sluys *et al.* 2010). Adult males have colored patches varying from yellow to black patches on the ventral part of the things and pre-cloacal flap and abdomen (Pinto *et al.* 2005). The clutch size range 1-14 eggs (Rand 1982; Vanzolini *et al.* 1980; Vitt & Goldberg 1983; Van-Sluys *et al.* 2010; Wiederhecker *et al.* 2002) and the volume range 0.4-1.3ml (Rand 1982). Its reproduction

is cyclical, occurring almost from the beginning of the dry season to the rainy season (Vanzolini *et al.* 1980; Van Sluys *et al.* 2010; Wiederhecker *et al.* 2002). Each female may deposit more than one farrow year (Vanzolini *et al.* 1980; Vitt & Goldberg 1983; Wiederhecker *et al.* 2002) and some females during all months with enlarging vitellogenin follicles (Vitt & Goldberg 1983). The female communally deposit eggs in small cavities under rocks in partial shade (Vitt & Goldberg 1983). The incubation period is approximately 5 months (Wiederhecker *et al.* 2002). During a field work in Itatiaia, Serra do Ouro Branco, extreme south of Espinhaço, we were able to witness a female laying in a sandy soil, near a stone road. The female, with her back legs and back, dug a hole (about 3 cm) and deposited two eggs. During the stance, we approached the female and she remained motionless. After posture, it covered the eggs with sand, in rapid movements with the back legs. This observation occurred in November 2012, approximately 11:00 to 12:00 a.m.

Remarks: is a species with a lot of information about natural history and can be found studies about seed dispersal (Pietczak *et al.* 2013), predation (Kokubum & Zacca 2004), antipredator and aggressive behavior (Carpenter 1977; Bertoluci *et al.* 2006), melanism (Pereira *et al.* (2014), parasitism (Cunha-Barros *et al.* 2003), body temperature (Kiefer *et al.* 2005), orientation and thermoregulating (Gandolfi & Rocha 1998), demography and population dynamics (Wiederhecker *et al.* 2003; Vieira *et al.* 2011), home range (Giaretta 1996), mortality (Joyeux & Gasparini 2006), bipedalism and locomotion (Rocha-Barbosa *et al.* 2008).

Diploglossidae Cope, 1864

Diploglossus fasciatus (Gray, 1831)

Popular name: “cobra-de-vidro” (Freitas & Silva 2007).

Fig. 11f.

Type-locality: No type locality

Distribution range: it has a disjoint distribution being recorded in Amazonian forests of Bolívia and Perú. In Brazil it has already been registered for the Amazon and Atlantic Forest (Ávila-Pires 1995; Zaher *et al.* 2011; Costa *et al.* 2009).

Records from the Espinhaço (fig. 23) – **Minas Gerais**: Mariana (*in prep*: comunic Adriano Silveira).

Habitat and micro-habitat: species found in forested areas, living in the leaf litter (Ávila-Pires 1995).

Diet:?

Size:?

Reproduction: ?

Ophiodes fragilis (Raddi 1820)

Popular name: “cobra-de-vidro”

Type-locality: “Rio de Janeiro, RJ, Brasil”.

Distribution range: species occurs in Argentina and Brazil. In Brazil it occurs in Bahia, Distrito Federal, Espírito Santo, Santa Catarina, Goiás, Mato Grosso do Sul, Rio Grande do Sul, Minas Gerais, Paraná and São Paulo (Borges Martins 1998; Nogueira 2006).

Records from the Espinhaço (fig. 23) – *This study*: **Minas Gerais** – Barão de cocais, Conselheiro Lafaiete, Rio Piracicaba and Serro.

Habitat and micro-habitat: found in grass-covered open areas in the Cerrado and in forested edges of the Atlantic Forest (Borges Martins 1998; Nogueira 2006; Cruz *et al.* 2014).

Diet: Montechiaro & Adams (2009) reported cannibalism.

Reproduction and sexual dimorphism: females are larger than the males (Pizzatto 2005). The smallest mature female has 156mm SVL and the male 126mm (Pizzatto 2005). The species has seasonal cyclic reproduction, and the parturation occurs from August to December (Pizzatto 2005). The clutch size averages 7.5 neonates with 33 to 55mm SVL and 0.45 to 0.85g in mass (Pizzatto 2005).

Remarks: Group may contain more than one cryptic species. A more detailed analysis deposited in collections should result in the description of new species within the complex.

Ophiodes striatus (Spix, 1825)

Popular name: “cobra-de-vidro”, “quebra-quebra”, “cobra-fragil” (Leitão 1973).

Type-locality: “Rio de Janeiro, RJ, Brasil” (see discussion in Borges-Martins 1998).

Distribution range: it can be found in Argentina, Uruguay, and Brazil (Vaz-Ferreira & Soriano 1960; Cunha 1961; Gallardo 1966; Borges-Martins 1998; Peters & Danoso-Barros 1970). In Brazil it can be found in Goiás, Mato Grosso, Mato Grosso do Sul, Distrito Federal, Ceará, Pernambuco, Alagoas, Sergipe, Bahia, Minas Gerais, Santa Catarina, Rio Grande do Sul, São Paulo, Paraná (Vaz-Ferreira & Soriano 1960; Cunha 1961; Peters & Danoso-Barros 1970, Borges-Martins 1998),

Records from the Espinhaço (fig. 23) – *Published records*: **Bahia** – Mucugê, Chapada Diamantina (Junca 2005); **Minas Gerais** – Brumadinho (Linares & Eterovick 2013), Ouro

Branco (Cruz *et al.* 2014), Ouro Preto (Bernardo & Pires 2006). *This study*: **Minas Gerais** – Brumadinho, Nova Lima, Santana do Riacho, Serra do Cipó (Jaboticatubas, Área dos Currais).

Habitat and micro-habitat: semifossorial species, it occurs mainly in mountain areas from Cerrado and Atlantic Forest (Vaz-Ferreira & Soriano 1960; Cunha 1961; Gallardo 1966; Peters & Danoso-Barros 1970). It's found in riparian forest, forest edges and in open areas with grass and human impacted environments (Cunha 1961; Peters & Danoso-Barros 1970, Borges-Martins 1998; Bernardo & Pires 2006; Trindade *et al.* 2013).

Diet: their feeding consists basically on arthropods, being Blatodea, Aranae, and Orthoptera the most frequent items in their diet (Barros & Teixeira 2007). They also consume small lizards and snakes (Barros & Teixeira 2007).

Sexual dimorphism and reproduction: it is a viviparous lizard (Leitão 1973) and the clutch size range 4 to 14 neonates (Leitão 1973; Bernardo & Pires 2006; Trindade *et al.* 2013). The parturition should occur from October to December (Leitão 1973; Bernardo & Pires 2006; Trindade *et al.* 2013). The neonates mean body size was 5.43cm +/- 0.09 SVL and mean body mass 0.64 +/- 0.05g (Trindade *et al.* 2013).

***Ophiodes* sp.1**

Popular name: “cobra-de-vidro”

Distribution range: Minas Gerais state.

Records from the Espinhaço (fig. 23) – *This study*: **Minas Gerais** – Inhotim (Brumadinho), Santana do Riacho, Parque Nacional da Serra do Cipó, Rio Acima.

Habitat: ?

Diet: ?

Reproduction: ?

Remarks: individuals with anatomical differences that did not allow us to reach the specific level. Possibly indicate to be a new species.

***Ophiodes* sp.2**

Popular name: “cobra-de-vidro”

Distribution range: Minas Gerais state.

Records from the Espinhaço (fig. 23) – *This study*: **Minas Gerais** – Belo Horizonte, Conceição do Mato Dentro, Inhotim (Brumadinho), Monjolos, Museu de Ciências Naturais PUC (Belo Horizonte), Retiro das Pedras (Belo Horizonte), Serra do Caraça.

Habitat and micro-habitat: ?

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: individuals with anatomical differences that did not allow us to reach the specific level. Possibly indicate to be a new species.

***Ophiodes* sp.3.**

Popular name: “cobra-de-vidro”

Distribution range: Minas Gerais state.

Records from the Espinhaço (fig. 23) – *This study*: **Minas Gerais** – Buenópolis.

Habitat and micro-habitat: ?

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: individuals with anatomical differences that did not allow us to reach the specific level. Possibly indicate to be a new species.

***Ophiodes* sp.4**

Popular name: “cobra-de-vidro”

Distribution range: Minas Gerais state.

Records from the Espinhaço (fig. 23) – *This study*: **Minas Gerais** – Serra do Caraça (Catas Altas).

Habitat and micro-habitat: ?

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: individuals with anatomical differences that did not allow us to reach the specific level. Possibly indicate to be a new species.

Gymnophthalmidae Merrem, 1820

Acratosaura mentalis (Amaral, 1933)

Popular name: “lagartinho-de-areia” (Freitas & Silva 2007).

Fig. 12a.

Type-locality: “Villa Nova, currently Senhor do Bonfim, Bahia, Brazil”.

Distribution range: species from Brazil occurring in Alagoas, Bahia, Ceará, Minas Gerais, Paraíba, Pernambuco, Rio Grande do Norte and Sergipe states (Rodrigues & Santos 2008; Rodrigues *et al.* 2009b; De-Carvalho *et al.* 2010; Brito *et al.* 2012, Gogliath *et al.* 2010).

Records from the Espinhaço (fig. 24) – *Published records*: **Bahia** – Central (Toca dos Pilões), Chapada Diamantina (Rodrigues *et al.* 2013), Morro do chapéu (Rodrigues *et al.* 2009a), Mucugê (Rodrigues *et al.* 2009a), Santo Inácio (Rodrigues 1996a; Rodrigues *et al.* 2009a), Senhor do Bonfim (Amaral 1933); **Minas Gerais** – Diamantina, Guinda, Grão Mogol, Santana do Pirapama (Fechados), Turmalina (Rodrigues *et al.* 2009a). *This study*: **Bahia** – Piatá, Caetité, Ipupiara, Maracás, Ipupiara; **Minas Gerais** – Botumirim, Cristália, Diamantina, Grão Mogol, Parque Estadual Serra Nova (Serra do Botumirim), Parque Nacional Sempre Vivas, Riacho dos Machados, Rio Pardo de Minas, UHE Irapé.

Habitat and micro-habitat: its geographical distribution comprises all the Caatinga and parts of Cerrado in Campos Rupestre (Rodrigues *et al.* 2009b; De-Carvalho *et al.* 2010; Brito *et al.* 2012). It is a fossorial species, which prefers environments of shrubby vegetation and sandy soils (Rodrigues *et al.* 2009b; De-Carvalho *et al.* 2010; Brito *et al.* 2012).

Diet: ?

Sexual dimorphism and reproduction: ?

Acratosaura spinosa Miguel Trefaut Rodrigues, José Cassimiro, Marco Antonio de Freitas & Thaís Figueiredo Santos Silva 2009.

Popular name: ?

Type-locality: “Fazenda Caraíbas, Serra do Sincorá, District of Cascavel, Bahia, Brazil”.

Distribution range: Bahia state, Brazil (Rodrigues *et al.* 2009a).

Records from the Espinhaço (fig. 24) – *Published records*: **Bahia** – Caraíbas (Serra do Sincorá, Distrito de Cascavel) (Rodrigues *et al.* 2009a). *This study*: **Bahia** – Iramaia, Parque Nacional Chapada Diamantina.

Habitat and micro-habitat: species found in Caatinga Biome in the Campo Rupestre (Rodrigues *et al.* 2009a).

Diet: ?

Sexual dimorphism and reproduction: ?

Anotosaura collaris Amaral, 1933

Popular name: ?

(Fig. 24).

Type-locality: “Villa Nova, today Senhor do Bonfim, Bahia, Brazil”

Distribution range: Bahia state.

Records from the Espinhaço (fig. 24) – *Published records*: **Bahia** – Alto da Rainha (Senhor do Bonfim), Missão do Shay (Antônio Gonçalves), Morro do Cruzeiro (Campo Formoso) (Rodrigues *et al.* 2013).

Habitat and micro-habitat: it is a semi-fossorial species and lives in the litter of forested areas of isolated mountaintops in Bahia (Rodrigues *et al.* 2013).

Diet: ?

Sexual dimorphism and reproduction: ?

Anotosaura vanzolinia Dixon, 1974

Popular name: “lagartinho-de-folhiço” Freitas & Silva 2007.

Type-locality: “Agrestina, Pernambuco”.

Distribution range: lizard recorded from Alagoas, Bahia, Paraíba, Pernambuco and Rio Grande do Norte (Freitas & Moisés 2009; Rodrigues *et al.* 2013; Rodrigues 1986b; Rodrigues & Santos 2008; Gonçalves *et al.* 2012a; Freitas & Silva 2007).

Records from the Espinhaço (fig. 24) – *Published records*: **Bahia** – Piemonte (Chapada Diamantina) (Freitas 2015).

Habitat and micro-habitat: found in areas of Caatinga forest and Atlantic Forest enclaves within the Caatinga domains (Rodrigues 1986b; Gonçalves *et al.* 2012a; Freitas & Silva 2007). It inhabits forested areas and lives in the litter and among the bromeliads (Gonçalves *et al.* 2012a).

Diet: ?

Sexual dimorphism and reproduction: ?

Calyptommatus leiolepis Rodrigues 1991 (Escrivão)

Popular name: “escrivão” “lagartinho-de-areia” (Freitas & Silva 2007).

Type-locality: “Ibiraba, Bahia”.

Distribution range: Bahia state (Rodrigues 1991a).

Records from the Espinhaço (fig. 24) – *Published records*: **Bahia** – Barra and Xique-Xique (Rodrigues 1991a; Freitas & Silva 2007).

Habitat: species occur in the Caatinga Biome. It lives buried in the sand found in the dunes of Rio São Francisco river (Rodrigues 1991a).

Diet: ?

Sexual dimorphism and reproduction: females are larger than males and copulation and oviposition should occur throughout the year (Ramiro *et al.* 2017).

Remarks: it’s a threatened species (MMA 2016).

Calyptommatus nicterus Rodrigues 1991

Popular name: “escrivão” (Freitas & Silva 2007).

Type-locality: “Bahia, Capim Verde, Brazil”

Distribution range: Bahia state, Brazil, (Rodrigues 1991a,1996a).

Records from the Espinhaço (fig. 24) – *Published records*: **Bahia** – Xique-xique (Rodrigues 1991a,1996a).

Habitat and micro-habitat: fossorial and a nocturnal lizard found in the sand dunes of Rio São Francisco, in the Caatinga Biome (Rodrigues 1991a; Freitas & Silva 2007).

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: it is a threatened species (MMA 2016).

Calyptommatus sinebrachiatus Rodrigues, 1991

Popular name: “escrivão”, “lagartinho-de-areia” (Freitas & Silva 2007).

Type-locality: “Santo Inácio, Bahia, Brazil”

Distribution range: Bahia state (Rodrigues 1991a, 1996a; Freitas & Silva 2007).

Records from the Espinhaço (fig. 24) – *Published records*: **Bahia** – Gentio do Ouro, Santo Inácio and Xique-Xique (Rodrigues 1991a, 1996a; Freitas & Silva 2007).

Habitat and micro-habitat: it is a fossorial lizard found in the sand dunes of Rio São Francisco, in the Caatinga Biome.

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: threatened species (MMA 2016).

Cercosaura aff. *ocellata* Wagler 1930

Popular name: ?

Distribution range: the cercosauras of ocellata group have some cryptic species (Sturaro *et al.* 2018). They are registered in the Amazon, Cerrado, Pampa, and Atlantic Forest (see Avila Pires 1995; Sturaro *et al.* 2017). A espécie encontrada neste estudo ocorre em Minas Gerais.

Records from the Espinhaço (fig. 24) – This study: **Minas Gerais** – Santana do Riacho.

Habitat and micro-habitat: it occur in the litter of open environments in Campo Rupestre.

Diet: ?

Sexual dimorphism and reproduction: ?

Cercosaura schreibersii albostrigata (Griffin, 1917)

Popular name: ?

Type-locality: “Sete Lagoas, Minas Gerais”

Distribution range: found in Distrito Federal, Goiás, Minas Gerais, Mato Grosso, Mato Grosso do Sul and São Paulo (Nogueira 2006).

Records from the Espinhaço (fig. 24) – *This study*: **Minas Gerais** – Curvelo.

Habitat and micro-habitat: fund in open áreas from Cerrado (Nogeira 2006).

Diet: ?

Sexual dimorphism and reproduction: ?

Cercosaura quadrilineata Boettger, 1876

Popular name: ?

Fig. 12b.

Type-locality: “São Paulo, Brazil”

Distribution range: lizard occurring in São Paulo, Minas Gerais and Rio de Janeiro, Brazil (Doan 2003; Vanzolini 1948; Rocha *et al.* 2004).

Records from the Espinhaço (fig. 24) – *Published records*: **Minas Gerais** – Mariana (Vanzolini 1948), Ouro Branco (Cruz *et al.* 2014). *This study*: **Minas Gerais** – Conceição do Mato Dentro, Congonhas, Conselheiro Lafaiete, Diamantina, Mariana, Nova Lima, Ouro Preto, Ribeirão do Campo (Tabuleiro – Conceição do Mato Dentro), Rio Acima, Serra da Moeda, Serra da Piedade, Serra do Intendente.

Habitat and micro-habitat: this species occur in the litter of transition areas between the Atlantic Forest and Campos Rupestres.

Diet: ?

Sexual dimorphism and reproduction: ?

Colobosaura modesta (Reinhardt & Lutken 1862)

Popular name: ?

Locality type: “Morro da Garça, Curvelo, Minas Gerais, Brazil”.

Distribution range: Bahia, Distrito Federal, Goiás, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Piauí, São Paulo and Tocantins (Vitt *et al.* 2002; Nogueira 2006).

Records from the Espinhaço (fig. 25) – *Published records*: **Minas Gerais** – Curvelo (Reinhardt & Lutken 1862).

Habitat and micro-habitat: occurring in the Amazon, Cerrado, and Caatinga (Vanzolini & Ramos 1977; Avila-Pires *et al.* 2009; Freire *et al.* 2012). *C. modesta* was found sandy soils of forested areas (Vanzolini & Ramos 1977; Freire *et al.* 2012).

Diet: ?

Reproduction and sexual dimorphism: ?

Ecleopus gaudichaudii Duméril & Bibron, 1839

Popular name: ?

Fig. 12c.

Type-locality: “Brazil”

Distribution range: it is recorded in the states of Minas Gerais, São Paulo, Rio de Janeiro, Espírito Santo, Santa Catarina and Goiás (Uzzell 1969; Eiseberg *et al.* 2004; Dixo & Verdade 2006; Costa *et al.* 2009; Kunz *et al.* 2011).

Records from the Espinhaço (fig. 25) – *Published records*: **Minas Gerais** – Serra do Ouro Branco (Cruz *et al.* 2014). *This study*: **Minas Gerais** – Barão de Cocais, Belo Horizonte, Caeté, Catas Altas da Noroega, Conceição do Mato Dentro, Congonhas, Dolores de Guanhanes, Estação ambiental de Peti, Fazenda do Alemão (Brumadinho), Itabira, Itatiaiuçú, Mariana, Miguel

Bournier, Museu de História Natural da PUC (Coração eucarístico – Belo Horizonte), Ouro Preto, Parque das Mangabeiras, Ribeirão das Neves, Rio Piracicaba, Sabará, Santa Bárbara, São Gonçalo do Rio Abaixo, Serra do Baú, Serra do Baú (Santa Bárbara), Serra da Piedade, Virgem da Lapa.

Habitat and micro-habitat: it lives associated with the litter of Atlantic Forest areas (Uzzell 1969; Eisemberg *et al.* 2004; Dixo & Verdade 2006; Costa *et al.* 2009; Kunz *et al.* 2011).

Diet: it feedings basically on small invertebrates (Eisemberg *et al.* 2004).

Reproduction and sexual dimorphism: analyzing populations of the group we could observe that the males can be distinguished from the females by presenting one small pré cloacal pore on each side of the culls. The females put a single egg (personal observation).

Heterodactylus imbricatus Spix, 1825 (Cobra de patas)

Popular name: “cobra-de-patas”

Fig. 12d.

Type-locality: “Rio de Janeiro, Brazil”.

Distribution range: occurs in southeastern and southern Brazil in the states of Minas Gerais, Rio de Janeiro, São Paulo, (Dixo & Verdade 2006; Rodrigues *et al.* 2007; 2009c; Cruz *et al.* 2014).

Records from the Espinhaço (fig. 25) – *Published records*: **Minas Gerais** – Itabira, Itabirito, Mariana, Santa Bárbara (Serra do Caraça) (Rodrigues *et al.* 2009c), Serra do Ouro Branco (Cruz *et al.* 2014). *This study*: **Minas Gerais** – Barão de Cocais, Caeté, Catas Altas, Congonhas, Serra do Gandarela (Santa Bárbara), Itabirito, Macacos (Nova Lima), Mariana, Nova Lima, Ouro

Preto, Parque Estadual do Itacolomi, Rio Acima, RPPN Serra do Caraça, Santa Bárbara, Serra do Ouro Branco, Vale do Mutuca (Nova Lima).

Habitat and micro-habitat: it is found in the litter of montane forested areas of the Atlantic Forest (Dixo & Verdade 2006; Rodrigues *et al.* 2007; 2009c; Cruz *et al.* 2014). Recently, the occurrence of this species was reported in riparian environments associated with the Cerrado biome in Minas Gerais (Novelli *et al.* 2011).

Diet: it feeds on small arthropods (Morton *et al.* 2012)

Reproduction and sexual dimorphism: analyzing several specimens of populations from Minas Gerais we can see that the males have femoral pores and the females do not.

Heterodactylus lundii Reinhardt & Luetken, 1862 (Bribe)

Popular name: “lagartinho-de-folhiço” (Freitas & Silva 2007).

Type-locality: “Serra da Piedade, Minas Gerais”.

Distribution range: Species with occurrence restricted to the state of Minas Gerais (Rodrigues *et al.* 2009c).

Records from the Espinhaço (fig. 25) – *Published records*: **Minas Gerais** – Serra da Piedade (Reinhardt & Luetken 1862; Nogueira 2006), Serra do Cipó (Nogueira 2006; Rodrigues *et al.* 2009c), Joaquim Felício-Serra da Pedra Redonda, Serra do Caraça (Rodrigues *et al.* 2009c); *This study*: **Minas Gerais** – Brumal, Cardeal Mota, Diamantina, Parque Nacional Sempre Vivas, Santana do Riacho, Serra da Piedade (Caeté), Virgem da Lapa.

Habitat and micro-habitat: in open environments located in regions of high altitude (Rodrigues *et al.* 2009c).

Diet: ?

Reproduction and sexual dimorphism: ?

Remarks: This species is listed in the National list of threatened species (MMA 2016) as Vulnerable (VU).

Heterodactylus septentrionalis Rodrigues, Freitas & Silva, 2009.

Popular name: ?

Type-locality: “Fazenda Caraibas, district of Cascavel, municipality of Mucugê, Chapada Diamantina”.

Distribution range: recorded only in its type-locality at Bahia, Brazil.

Records from the Espinhaço (fig. 25) – *Published records*: **Bahia** – Mucugê (Rodrigues *et al.* 2009b).

Habitat and micro-habitat: species registred in sandy soils of Caatinga Biome (Rodrigues *et al.* 2009b).

Diet: ?

Reproduction and sexual dimorphism: ?

Remarks: this lizard is listed in the national list of endangered species as Endangered (EN) (MMA 2016).

***Heterodactylus* sp.**

Popular name: ?

Distribution range: Minas Gerais, Brazil.

Records from the Espinhaço range (fig. 25) – *This study*: **Minas Gerais** – Serra do Caraça.

Habitat and micro-habitat: mata de galleria in an altitude environment of Campo Rupestre.

Diet: ?

Secual dimorphism and reproduction: ?

Remarks: species not yet described, collected in an altitude environment in the Quadrilatero Ferrífero, Minas Gerais. It has morphological differences in the temporal scales and eyelids.

***Leposoma scincoides* Spix, 1825**

Popular name: ?

Type-locality: “Bancos do Rio Amazonas, Brasil”.

Distribution range: recorded in Bahia, Espírito Santo and Rio de Janeiro, Brazil (Rodrigues 1997).

Records from the Espinhaço (fig. 25) – *This study*: **Bahia** – Pindobaçú.

Habitat and micro-habitat: occur on the leaf litter in forest areas of Atlantic forest (Rodrigues 1997; Teixeira & Fonseca 2003). It seems to be more abundant in altered forests (Rodrigues *et al.* 2002).

Diet: prey on small arthropods and the dominant prey are Isopoda, Aranae, Blattodea and Collembola (Teixeira & Fonseca 2003).

Reproduction and sexual dimorphism: external morphology of males does not differ from females except in the ventral color. The male's belly is red-orange and females is cream (Rodrigues 1997). Femals have litters of one to two eggs from October to January (Teixeira & Fonseca 2003).

Remarks: bird prey (Teixeira & Fonseca 2003).

Micrablepharus atticolus Rodrigues 1996

Popular name: ?

Fig. 12e.

Type-locality: “Fazenda Bálsamo, Alto Araguaia, Mato Grosso, Brasil”.

Distribution range: species found in Distrito Federal, Goiás, Mato Grosso, Mato Grosso do Sul, Rondônia, São Paulo and Tocantins states, Brazil (Nogueira 2006).

Records from the Espinhaço (fig. 26) – *Published records*: **Minas Gerais** – Arinos (Nogueira 2006), Curvelo (Santos *et al.* 2014).

Habitat and micro-habitat: it is a typical species from open areas of Cerrado and open areas from Amazonia in sandy soils (see Santos *et al.* 2014; Gainsbury & Colli 2003). This species can be found frequently located inside nests of the leaf-cutting ants (of the *Atta* genus), a fact that gave rise to its name (Vitt 1991; Rodrigues 1996b).

Diet: it has a diversified diet based on small invertebrates (Vieira *et al.* 2000).

Reproduction and sexual dimorphism: ?

Remarks: defensive behavior it's presented by Mesquita *et al.* (2018).

Micrablepharus maximiliani (Reinhardt & Luetken, 1862)

Popular name: “lagartinho-de-rabo-azul” (Freitas & Silva 2007).

Fig. 12f.

Type-locality: “Maruim, Sergipe, Brazil”.

Distribution range: species found Bolivia, Brazil and Praguai (Vanzolini *et al.* 1980; Cacciali *et al.* 2016; Rodrigues 1996b; Moura *et al.* 2010; Vitt *et al.* 2007; Nogueira *et al.* 2009). In Brazil its found in Bahia, Ceará, Goiás, Maranhão, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Paraíba, Pernambuco, Piauí, Sergipe and Tocantins states (Nogueira 2006; Vitt *et al.* 2002; Rodrigues & Santos 2008; Moura *et al.* 2010).

Records from the Espinhaço (fig. 26) – *Published records*: **Bahia** – Chapada Diamantina (Junca 2005), Ibiraba, Santo Inácio (Rodrigues 1996a, 1996b); **Minas Gerais** – Araçuari (Moura *et al.* 2010), Francisco Sá (Moura *et al.* 2010), Grão Mogol (Moura *et al.* 2010), Jaboticatubas (Moura *et al.* 2010), Santana do Riacho (Moura *et al.* 2010), Virgem da Lapa (Moura *et al.* 2010). *This study*: **Minas Gerais** – Boenópolis, Francisco Sá, Grão Mogol, Jaboticatubas, Parque Estadual do Rio Preto, Riacho dos Machados, Salinas, Santana do Riacho, UHE Irapé, Virgem da Lapa.

Habitat and micro-habitat: recorded in the Amazon, Caatinga, Cerrado, Atlantic Forest, Pantanal and in the Chaco of Bolivia and Paraguay (Vanzolini *et al.* 1980; Cacciali *et al.* 2016;

Rodrigues 1996b; Moura *et al.* 2010; Vitt *et al.* 2007; Nogueira *et al.* 2009). This small gymnophthalmide has a semi fossorial habit and can be found on the litter of open areas, within termite mounds and sandy environments (Rodrigues 1996a).

Diet: ?

Sexual dimorphism and reproduction: oviparous and the reproductive female mean has 37.0+/- 0.6mm SVL and the clutch size 2 eggs (Vitt 1991).

Placosoma cipoense Cunha, 1966 (Lagarto do Cipó)

Popular name: “Lagartinho-do-Cipó”

Figs. 13a.

Type-locality: Conceição do Mato Dentro, Serra do Cipó, Minas Gerais, Brazil.

Distribution range: Minas Gerais state.

Records from the Espinhaço Range (fig. 26) – *Published records*: **Minas Gerais** – Conceição do Mato Dentro (Cunha 1966). *This study*: **Minas Gerais**– Jaboticatubas, Parque Estadual do Itambé, Santana do Riacho.

Habitat and micro-habitat: it is restricted to Espinhaço and is found among shrubs and grass of Campo Rupestre.

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: Rare species listed in the National Endangered Species List (MMA 2016) as Endangered (EN).

Procellosaurinus tetradactylus Rodrigues, 1991

Popular name: ?

Type-locality: “Alagoado, Bahia state”.

Distribution range: Bahia state.

Records from the Espinhaço (fig. 26) – *Published records*: **Bahia** – Xique-Xique (Rodrigues 1991c).

Habitat and micro-habitat: occur in sandy environments on the São Francisco River (Rodrigues 1991c).

Diet: ?

Sexual dimorphism and reproduction: the females are larger than males and present a litter of two eggs. Copulation occur from August to March and oviposition from February to June (Ramiro *et al.* 2017). Some males have the reddish gular region (Ramiro *et al.* 2017).

Psilops mucugensis Rodrigues, Recoder, Teixeira, Roscito, Guerrero, Sales Nunes, Freitas, Fernandes, Bocchiglieri, Vechio, Leite & Nogueira, 2017.

Popular name: ?

Type-locality: “Fazenda Três irmãos, Guiné, Mucugê, Chapada Diamantina, Bahia”.

Distribution range: Bahia state, Brazil (Rodrigues *et al.* 2017).

Records from the Espinhaço (fig. 26) – *Published records*: **Bahia** – Miguel Calmon, Mucugê, Palmeiras (Rodrigues *et al.* 2017). *This study*: **Bahia** – Ipupiara.

Habitat and micro-habitat: occupy sandy soils of open environments in the Caatinga in high altitude (1000 meters above sea level) (Rodrigues *et al.* 2017).

Diet: ?

Sexual dimorphism and reproduction: ?

Psilops paeminosus Rodrigues, 1991

Popular name: ?

Type-locality: “Santo Inácio, Bahia”.

Distribution range: found in the State of Bahia Minas Gerais and Sergipe (Rodrigues 1991b; Rodrigues *et al.* 2017; Delfim *et al.* 2006).

Records from the Espinhaço (fig. 26) – *Published records*: **Bahia** – Brumado (Macêdo *et al.* 2018), Gameleira do Assuará, Gentio do Ouro (Rodrigues *et al.* 2017), Santo Inácio (Rodrigues 1991b; Rodrigues *et al.* 2017); **Minas Gerais**: Grão Mogol (Thomassen *et al.* 2016), São João do Paraíso, Serranópolis de Minas (Rodrigues *et al.* 2017).

Habitat and micro-habitat: typical of sandy environments located in the Cerrado and Campo Rupestre from Caatinga (Rodrigues 1991b; Rodrigues *et al.* 2017; Delfim *et al.* 2006).

Diet: ?

Sexual dimorphism and reproduction: ?

Rhachysaurus brachylepis (Dixon, 1974)

Popular name: ?

Fig. 13b.

Type-locality: “Serra do Cipó, Minas Gerais”.

Distribution range: in addition to the occurrence in Minas Gerais, the species was reported to Carajás, Pará, in the Amazonian areas (Ribeiro-Juniro & Amaral 2017).

Records from the Espinhaço (fig. 26) – *Published records*: **Minas Gerais** – Capitão Eneias (Vanzolini 1976), Serra do Cipó (Rio Capivara) (Dixon 1974; Vanzolini 1976), Serra do Cipó (Kiefer 1998; Nogueira 2006), Brumadinho (Casa Branca) (Gomides *et al. in prep*), Rio Acima (Gomides *et al. in prep*), Serra do Curral (Gomides *et al. in prep*), Guinda-Diamantina (Gomides *et al. in prep*), Cristália (Gomides *et al. in prep*), Santana do Riacho (Gomides *et al. in prep*). *This study*: **Minas Gerais** – Brumadinho, Grão Mogol, São Bento (Belo Horizonte), São João da Chapada (Diamantina).

Habitat and micro-habitat: it is a lizard with fossorial habit, found on small galleries under rocks and sandy environments (Dixon 1974; Vanzolini 1976).

Diet: ?

Sexual dimorphism and reproduction: ?

Remarks: it can serve as food for other lizards, such as the *Tropidurus montanus* (Kiefer 1998).

Vanzosaura multiscutata (Amaral, 1933)

Popular name: ?

Type-locality: “Senhor do Bonfim, Bahia, Brazil”.

Distribution range: species registred in Alagoas, Bahia, Ceará, Paraíba, Piauí and Sergipe (Recorder *et al.* 2014).

Records from the Espinhaço (fig. 26) – *Published records*: **Bahia** – Barra (Recorder *et al.* 2014), Central (Recorder *et al.* 2014), Gentio do Ouro (Recorder *et al.* 2014), Xique-Xique (Rodrigues 1991; Recorder *et al.* 2014).

Habitat and micro-habitat: widely distributed in the Caatinga and occasionally in the Cerrado (Delfim & Freire 2007; Recorder *et al.* 2014). It is found in open environments occupying sandy or rocky soils (Vanzolini *et al.* 1980; Vitt 1995).

Diet: feeds on small arthropods (Vanzolini *et al.* 1980; Vitt 1995).

Sexual dimorphism and reproduction: ?

Teiidae Gray 1827***Ameiva ameiva*** (Linnaeus, 1758)

Popular name: “bico-doce” “calango-verde”

Fig. 13c.

Type-locality: “América”

Distribution range: this lizard has a wide geographical distribution and occurs in Panama, northern Argentina and the eastern Andes (Beebe 1945; Vanzolini *et al.* 1980; Vitt & Colli 1994). In Brazil it occurs in Acre, Alagoas, Amapá, Amazonas, Bahia, Ceará, Distrito Federal, Espírito Santo, Goiás, Maranhão, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Paraíba, Pernambuco, Rio de Janeiro, Rio Grande do Norte, Rondônia, Roraima, Santa Catarina, Sergipe and Tocantins (Vanzolini *et al.* 1980; Avila-Piras 1991; Vitt & Colli 1994; Nogueira 2006; Vitt *et al.* 2002).

Records from the Espinhaço (fig. 27) – *Published records*: **Bahia** – Chapada Diamantina (Junca 2005; Freitas *et al.* 2012), Santa Rita de Cassia (Nogueira 2006); Minas Gerais state – Brumadinho (Linares & Eterovic 2013), Estação Ecológica de Peti (Bertoluci *et al.* 2009), Extração (Nogueira 2006), Grão Mogol (Nogueira 2006), Itaobim, Montezuma and Serra do Cipó (Nogueira 2006), Ouro Branco (Cruz *et al.* 2014). *This study*: **Bahia** – Ipujiara, Morro do Chapéu, Santa Rita de Cássia; **Minas Gerais** – Barão de Cocais, Belo Horizonte, Belo Horizonte (Puc Minas), Brumadinho (Inhotim), Cachoeira do Campo (Ouro Preto), Caeté, Cardeal Mota, Catas Altas, Congonhas, Conselheiro Lafaiete, Conselheiro Mata, Diamantina, Francisco Sá, Grão Mogol, Itacambira, Itabira, Mariana, Nova Lima, Ouro Branco, Ouro Preto, Parque das Mangabeiras, Parque Nacional Sempre Vivas, Riacho dos Machados, Rio Acima, Rio Piracicaba, Rio Vermelho, Sabará, Santa Bárbara, Santana do Riacho, Santo Antônio do Itambé, São Gonçalo do Rio Abaixo, São João da Chapada (Diamantina), Serra da Ferrugem (Conceição do Mato Dentro), Serro, UHE Irapé.

Habitat and micro-habitat: it occurs in open areas and edges of forests of Cerrado, Atlantic Forest, Amazonia, Caatinga ecotones and disturbed areas (Beebe 1945; Recorder & Nogueira 2007; Vanzolini *et al.* 1980; Vitt & Colli 1994).

Diet: its an active forager lizard with diet on arthropods, small vertebrates and pieces of vegetables (Beebe 1945; Vanzolini *et al.* 1980).

Sexual dimorphism and reproduction: Males are larger with more body mass than females (Rocha 2008). Different populations exhibit different reproductive periods. Vitt (1982) suggest two reproductive peaks to the Caatinga populations and Colli (1991) an extended reproductive season per year to the Cerrado. The reproductive females range 100 to 147mm SVL and the clutch size range 2-7 eggs (Vitt 1991; Vanzolini *et al.* 1980).

Ameivula cipoensis (Arias, Carvalho, Zaher & Rodrigues 2014)

Popular name: “lagartinho-listrado-da-serra”.

Fig. 13d.

Type-locality: “Parque Nacional da Serra do Cipó, Minas Gerais”.

Distribution range: Until the present study, its occurrence was limited to the Serra do Cipó National Park and Diamantina in Minas Gerais (Moura & Cruz 2017). However, its limit of occurrence should increase. In the present study, we extend its distribution to the Quadrilátero Ferrífero and others locality of the South Espinhaço.

Records from the Espinhaço (fig. 27) – *Published records*: **Minas Gerais** – Gouveia (Moura & Cruz 2017), Parque Nacional Serra do Cipó (Arias *et al.* 2014), Serra do Cipó (Filogonio *et al.* 2010). *This study*: **Minas Gerais** – Belo Horizonte, Cardeal Mota, Jaboticatubas, Parque Nacional Serra do Cipó, Santana do Riacho.

Habitat and micro-habitat: species found in the Campo Rupestre. Individuals were observed foraging both in grassy and rocky outcrops (Filogonio *et al.* 2010; Arias *et al.* 2014; Moura & Cruz 2017).

Diet: ?

Reproduction and sexual dimorphism: ?

Ameivula nigrigula (Arias, Carvalho, Rodrigues & Zaher 2011)

Popular name: ?

Type-locality: “Santo Inácio, Bahia, Brazil”.

Distribution range: Bahia and Minas Gerais states (Arias *et al.* 2011b; Pinto-Silva & Silva-Soares 2018; Árias *et al.* 2014).

Records from the Espinhaço (fig. 27) – *Published records*: **Minas Gerais** – Santo Inácio (Arias *et al.* 2011b), Xique-xique (Arias *et al.* 2011b), Gentio do Ouro (Arias *et al.* 2011b), Santo Inácio (Arias *et al.* 2011b) e Catinga do Moura (Arias *et al.* 2011b) Bahia state; Minas Gerais state – Grão Mogol (Árias *et al.* 2014), Grão Mocambinhos (Árias *et al.* 2014). *This study*: **Bahia** – Bom Jesus da Lapa, Caetitê, Cafarnaum, Central, Ipupiara, Morro do Chapéu, Oliveira dos Brejinhos; **Minas Gerais** – Gão Mogol.

Habitat and micro-habitat: occur in the Caatinga Biome in Campo Rupestre with rocky and sandy soils (Arias *et al.* 2011b).

Diet: ?

Sexual dimorphism and reproduction: males are bigger than females and present sexual dichromatism with the gluttony with black spots (Arias *et al.* 2011b).

Ameivula ocellifera (Spix, 1825)

Popular name: ?

Fig. 13e.

Type-locality: “Bahia, Brazil”.

Distribution range: A widely distributed species complex, occurring in the Amazon and island of Central America, Argentina, Bolívia and Brazil. In Brazil they occur in Alagoas, Bahia, Ceará, Distrito Federal, Espírito Federal, Goiás, Maranhão, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Rondônia, Santa Catarina, São Paulo, Sergipe and Tocantins (Vanzolini *et al.* 1980; Nogueira 2006; Rodrigues & Santos 2008).

Records from the Espinhaço (fig. 27) – *Published records*: **Bahia** – Chapada Diamantina (Freitas *et al.* 2012; Rodrigues *et al.* 2013). *This study*: **Bahia** – Morro do Chapéu; **Minas Gerais** – Augusto de Lima.

Habitat and micro-habitat: species occur in Cerrado, Caatinga Amazonia and Chaco Biome in open areas and sandy soils (Nogueira 2006).

Diet: termites as one of the most important items in his diet (Mesquita & Colli 2003).

Sexual dimorphism and reproduction: oviparous, the reproductive female range 51-62mm SVL and the clutch size range 1-3 eggs (Vitt 1991). The species presents sexual dimorphism with males larger than females (Mesquita & Colli 2003).

Remarks: there are records of ant predation (Ribeiro *et al.* 2011)

Cnemidophorus lemniscatus (Linnaeus, 1758)

Popular name: “violeiro” (Ávila Pires 1995).

Type-locality: “Guinea” (in error).

Distribution range: lizard has a wide geographical distribution, occurring in open areas of the Amazon and Central América (Vanzolini 1970; Avila-Pires 1995).

Records from the Espinhaço (fig. 28) – *Published records*: **Minas Gerais** –Brumadinho (Linares & Eterovick 2013).

Habitat and micro-habitat: occupying sandy environments along the rivers, shrubs and anthropic environments (Vanzolini 1970; Avila-Pires 1995). According to Linares & Eterovick (2013), *C. Lemniscatus* is an exotic species accidentally imported from Pará state into the transport of plants.

Diet: this species feeds on arthropods (Beebe 1945).

Sexual dimorphism and reproduction: species with parthenogenetic populations (see Ávila Pires 1995). With litters of two eggs, the species seems to reproduce all year, with the highest reproductive activity occurring in the rainy season (Beebe 1973).

Remarks: predator information can be found in Carvalho-Filho (2008).

Glaucmastix cyanura Arias, Carvalho, Rodrigues & Zaher 2011

Popular name: ?

Locality type: “Morro do Chapéu, Bahia, Brazil”.

Distribution range: Bahia state (Pinto-Silva & Silva-Soares 2018).

Records from the Espinhaço (fig. 27) – *Published records*: Bahia – Morro do Chapéu and Santo Inácio (Arias *et al.* 2011b; 2014).

Habitat and micro-habitat: found in Campo Rupestre in white sandy soils Carvalho *et al.* 2011; Pinto-Silva & Silva-Soares 2018; Arias *et al.* 2011b; 2014).

Diet: ?

Sexual dimorphism and reproduction: ?

Kentropyx* aff. *paulensis

Popular name: ?

Locality type: ?

Distribution range: Minas Gerais.

Records from the Espinhaço (fig. 28) – *Published records*: **Minas Gerais** – Serra do Cabral (Buenópolis) (Drummond *et al.* 2014). *This study*: **Minas Gerais** – Augusto de Lima, Diamantina, São João da Chapada (Diamantina) Serra do Cabral (Buenópolis).

Habitat and micro-habitat: occurring in open highlands of the Espinhaço foraging in sandy and gramineous environments.

Diet: ?

Sexual dimorphism and reproduction: ?

Salvator duseni (Lonnberg, 1910).

Popular name: ?

Fig. 13f.

Type-locality: “Paraná, Brazil”

Distribution range: species recorded to Paraguay and Brazil. In Brazil this species occurs in Bahia, Distrito Federal, Goiás, Mato Grosso, Minas Gerais and Tocantins (see Nogueira 2006; Vitt *et al.* 2002; Drommund *et al.* 2014; Cacciali *et al.* 2016).

Records from the Espinhaço (fig. 28) – *Published records*: **Minas Gerais** – Serra do Cabral (Drummond *et al.* 2014).

Habitat and micro-habitat: species recorded to open areas in the Cerrado in sandy soils with grasses (Nogueira 2006; Vitt *et al.* 2002; Drommund *et al.* 2014; Cacciali *et al.* 2016).

Diet: ?

Sexual dimorphism and reproduction: ?

Salvator merianae (Duméril & Bibron, 1839)

Popular name: “Teiú” “Tiú”

Type-locality: (Lectotype: Brazil, State of Rio de Janeiro).

Distribution range: Species with the greatest geographical distribution in the New World (Pérez Junior 2003). In Brazil, *S. merianae* occurs in Amazonas, Bahia, Ceará, Distrito Federal, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Paraíba, Paraná, Pernambuco, Piauí, Rio de Janeiro, Rio Grande do Norte, Rio Grande do Sul, Rondônia, São Paulo and Tocantins (Vanzolini *et al.* 1980; Sazima & Haddad 1992; Ávila-Pires 1995; Pérez Júnior 2003; Nogueira 2006; Rodrigues & Santos 2008).

Records from the Espinhaço (fig. 28) – *Published records*: **Bahia** – Chapada Diamantina (Junca 2005); **Minas Gerais** – Brumadinho (Linares & Eterovick 2013), Grão Mogol (Nogueira 2006), Ouro Branco (Cruz *et al.* 2014), Serra da Piedade (Nogueira 2006). *This study*: **Minas Gerais** – Belo Horizonte, Cachoeira do Campo (Ouro Preto), Catas Altas, Conceição do Mato Dentro, Dolores de Guanhanes, Jaboticatubas, Nova Lima, Ouro Preto, Parque Estadual do Itacolomi, Parque Estadual do Rio Preto, Santana do Riacho, São Gonçalo do Rio Abaixo, Serro, UHE Irapé.

Habitat and micro-habitat: found in the edges of forests, gallery forests and sunny places of southern Amazonia, Atlantic forest, Cerrado, Caatinga and Chaco (Ávila Pires 1995; Pérez Junior 2003; Nogueira 2006).

Diet: Their diet is omnivorous, eating invertebrates, small vertebrates, eggs, carrion, and fruits (Ávila Pires 1995; Castro & Galletti 2004; Silva & Hillesheim 2004; Machado 2007; Oliveira-Santos & Leuchtenberger 2009). This species can act as a seed disperser (Castro & Galetti 2004).

Sexual dimorphism and reproduction: to oviposition this species preparing a burrow in sandy soil (Winck *et al.* 2011). The smallest reproductive male had 295mm SVL and the smallest female had 320mm SVL (Ceii 1993; Naretto *et al.* 2015). The reproductive activities range from October to December (Naretto *et al.* 2015), with courtship and copulation between October to

November and posture in November to December (Cei 1993; Naretto *et al.* 2015). The oviposition occur from November to December. The clutch size is considered large with up to 49 eggs (Yanosky & Mercolli 1991; Naretto *et al.* 2015).

Remarks: this species live from 17 to 20 years (Brito *et al.* 2001) and is considered partially endothermic (Yanosky & Mercolli 1991b). Studies on activity can be found in Van-Sluys & Rocha (1999), and interaction and antipredator behavior in Barros *et al.* (2009). This species presents aquatic behavior (Olmos 1995) and bipedism (Lema 1983).

Tupinambis quadrilineatus Manzani & Abe 1997

Popular name: “Teiú”

Type-locality: “Rosário do Oeste, Fazenda Bandeirantes, Baliza, Goiás”.

Distribution range: Bahia, Goiás, Maranhão, Mato Grosso, Minas Gerais, Pará, Piauí, Rondônia and Tocantins states (Manzani & Abe 1997; Colli *et al.* 1998; Vitt *et al.* 2002; Nogueira 2006; Silveira 2009; Ferreira *et al.* 2009; Freitas *et al.* 2011; Freitas & Moura 2013; Silva *et al.* 2013).

Records from the Espinhaço (fig. 28) – *Published records*: **Bahia** – Santa Rita de Cássia (Nogueira 2006). **Minas Gerais** – Parque Estadual do Rio Preto (Morato *et al.* 2015). *This study*: **Minas Gerais** – UHE Irapé (Cristália).

Habitat and micro-habitat: a typical species of Cerrado but occurs in Amazonian Cerrado in open and grassy areas and gallery forests (Manzani & Abe 1997; Colli *et al.* 1998; Ferreira *et al.* 2009).

Diet: species feeds on arthropods, molluscs, plants materials and small vertebrates (Colli *et al.* 1998).

Sexual dimorphism and reproduction: Silva *et al.* 2013 describ the hemipenial morphology.

Remarks: this lizard diving into the water to defend itself (Morato *et al.* 2015).

Key to identification of lizard's species from the Espinhaço montain range

- 1 Back of the head (dorsal) covered by granular scales and sometimes with tubercles.... 2.
 - Back of head (dorsal) covered by plaques or scales of angular shape, straight or irregular, but never granular..... 11.

- 2 Neck granular scales and body covered by subcycloid scales, flat, smooth and imbricate; ventral scales similar in shape and slightly larger in size than dorsal ones; claws obliquely retract in an asymmetrical case; three to four supralabials being the first bigger in comparison with the others; small species with short limbs and short and thick tail; general color of the dorsum reddish brown.....*Coleodactylus meridionalis*.
 - Body covered by granular scales and sometimes with presence of tubercles.....3.

- 3 Digits with two rows of infradigital lamellae4.
 - Digits with single rows or digital plates6.

- 4 First finger without claws; Males with eight pre-anal pores.....*Hemidactylus brasilianus*.
 - First digit with claws; more than 25 femoral pores.....5.

- 5 Fourth finger does not present lamellae from the base. This space is filled by small granules; Dorsal tubercles dispersed without apparent organization; males with 28-34 pores.....*Hemidactylus mabouia*.
- The fourth toe presents lamellae from the base instead of small granules; 26 to 34 femoral pores*Hemidactylus agrius*.
- 6 Proximal phalanges, ventral dilated covered with lamellae; long distal phalanges implanted on the dorsal surface of proximal dilatation.....*Phyllopezus pollicaris*.
- Proximal phalanges without dilatation.....7.
- 7 Fingers free and without dilation; Distal phalanges of digits high above basal.....8.
- Dorsal scales diminutive, juxtaposed and homogeneous; from three to seven preanal pores; well differentiated finger.....10.
- 8 Dorsal tubers arranged in rows well evident (large in relation to granules), broad, flat and slightly rounded, arranged in rows, slightly spaced and almost without granules between them; about 12 longitudinal rows on back; colored marbled or greyish pattern usually with slightly marked ocelli; close dorsal tubers, separated by one or two granules; 21 to 40 tubers in a paramedian row; 17 to 26 transverse row of dorsal scales; 21 to 34 ventral scales in longitudinal row; 11 to 16 infradigital lamellae in the fourth toe.....*Gymnodactylus geckoides*.
- Dorsal tubercles with no apparent organization.....9.

- 9 Dorsal patterns with small white patches and black bands interrupted; about 16 lamellae in the fourth toe..... *Gymnodactylus guttulatus*.
- About 10 to 12 longitudinal rows of dorsal tubers; dorsal part of the body coloring with dark brown transverse bands (tiger pattern); dorsal tubers of this species are smaller than *G. geckoides*; 35 to 36 ventral scales in longitudinal rows.....*Gymnodactylus vanzolinii*.
- 10 Three to five femoral pores. dark spot on the thighs and pre-anal part; Scales after femoral pores well-thickened and similar to pores.....*Lygodactylus klugei*.
- Seven femoral pores; Absence of black markings on the thigh.....*Lygodactylus wetzeli*.
- 11 Head with large scales in angular shape.....12.
- Head with small scales, no apparent symmetry.....53.
- 12 Presence of one or two pairs of internasals; Head scales slightly imbricate; Body and tail elongated and in cylinder shape; Smooth scales; Dorsal and ventral scales of similar shape and relief..... 13.
- Internasal absent; Nasal scales in medial contact or separated by one or two fronts nasal scals; Head scales juxtaposed.....20.
- 13 A pair of internals scales..... 14.
- Two pairs of internals.....18.

- 14 A frontoparietal and without black back band with well defined borders; Four to six supraciliar; Four or five supraocular; without well defined dorsolateral black bands.....*Notomabuya frenata*.
- Two frontoparietals 15.
- 15 Black lateral bands do not exceed on third of the body; Pre-frontal without contact; Sixth supralabial below the eye.....*Psychosaura macrorhyncha*.
- Black lateral band extends of the head to the end of of body.....16.
- 16 A very evident black dorsolateral band surrounded by a distinct white, dorsolateral and ventro-lateral thin line; Three or rarely four supraciliar; Three or rarely four supraocular; contact between the parietals.....*Aspronema dorsivittatum*.
- Coloring pattern different from that described above; zero to one nuchal scales..... 17.
- 17 Absence of contact between prefrontals; 5 to 6 supraciliar; Dark and pale dorsolateral bands; 157-194 lamellae in the total fingers.....*Brasiliscincus heathi*.
- With about 196 to 253 lamellae in the total fingers.....*Copeoglossum nigropunctatum*.
- 18 With frontal limbs; ear opening.....*Diploglossus fasciatus*.
- Anterior limbs absent and vestigial hindlimbs; external ear absent..... 19.
- 19 A series of light and dark points on the sides of the neck and beginning of the trunk that extend to the temporals and supralabials in the form of dark and clear bars; Light green lateral coloration; Five or eight scales on hind limbs; Row of dorsal scales: 147 a 164;

Scales around middle of the body 24 to 27; temporal longer than high; Hind limbs does not exceed the cloaca.....*Ophiodes striatus*.

- Light and dark bars present in the supralabials and loreals; One or two pairs of gular scales in contact with the infralabial; Posterior limbs exceeding the level of the cloaca (6 to 10 lateral scales). Dorsal scales: 130 to 147; 23 to 29 scales in the middle of the body.....*Ophiodes fragilis*.

20 Nasals separated by a prefrontal or frontonasal and in contact with the rostral.....21.

- Nasal in medium contact.....43.

21 Without eyelids.....22.

- With eyelids.....30.

22 Absence of anterior limbs and posterior reduced in shape of stilettos; Eye covered with an ocular scale; Supraocular absent; external ear absent.....23.

- Anterior limbs with 4 fingers25.

23 Posterior limb with 7 scales apically presenting a small claw.....*Calyptommatus nicterus*.

- Posterior limb with 5 scales and without claw.....24.

- 24 Dorsal scales keeled and hexagonal arranged in transverse strips.....*Calyptommatus sinebrachiatus*.
- Dorsal body with rounded posterior margin arranged in obliquely longitudinal rows.....*Calyptommatus leiolepis*.
- 25 Dorsal scales with sharp edges, keeled and tapered.....26.
- Dorsal scales smooth, cycloid and with some slightly keeled.....27.
- 26 Two conspicuous white dorsolateral strips ranging from the supraciliar to the tail; from seven to 14 subcaudals; 16 to 20 femoral pores..... *Psilops mucugensis*.
- Dorsolateral strips absence; Subcaudals: Three to seven; femoral pores: 16 to 20.....*Psilops paeminus*.
- 27 Prefrontal absent; blue tail..... 28.
- Prefrontal present; two supra-oculars; Three pairs of mental contact in the midline of the supra-ocular; Reddish tail.....29.
- 28 Fourth supralabial below the eye; Femoral pores present in both sexes (eight in males and five to seven females); A pair of lateral and dorsolateral white longitudinal row.....*Micrablepharus atticolus*.
- Fifth supralabial below the eye; Absence of dorsolateral white longitudinal row; Femoral pores only in males (10 a 15).....*Micrablepharus maximiliani*.

- 29 Frontoparietals present.....*Procellosaurinus tetradactylus*.
- Frontoparietals absent; Pre-frontal presence; More than 25 subcaudals; Femoral pores in males: 10 to 13; Reddish tail.....*Vanzosaura multiscutata*.
- 30 With two pairs of genial scales; Absent prefrontal; Reduced first finger.....31.
- With three or more pairs of genials scales (chinshields).....33.
- 31 Frontal and interparietal in contact; Some granular scales after the sixth supralabial anticipating the ear area; Posterior dorsal scales extremely keeled and mucronate.....*Heterodactylus lundii*.
- No contact between frontal and interparietal.....32.
- 32 Last supralabial narrow and low; Posterior margin of ventral scales rounded; dorsal scales lanceolate and heavily studded on all dorsum; Parietals in extensive contact.....*Heterodactylus imbricatus*.
- Sixth supralabial extremely wide and diagonally arranged; Posterior margin of ventral scales almost straight; Smooth anterior dorsal scales; Parietal in restrict contact to anterior part; Sixth supralabial in contact with the edge of the ear and without small scales; Scales of the central part of the dorsum without keels.....*Heterodactylus septentrionalis*
- 33 With three chinshield scales.....34.

- With four chinshield scales.....41.

- 34 With external ear.....35.
- No external ear.....39.

- 35 Head scales with rough and fluted relief.....*Leposoma scincoides*.
- Head scales smooth36.

- 36 Third pair of chinshields scales separate.....*Ecleopus gaudichaudii*.
- Third pair of chinshields in contact.....37.

- 37 Third pair of chinshields much smaller than the others; dorsal scales elongated and hexagonal.....*Colobosaura modesta*.
- Third pair of chinshields bigger than the others.....38.

- 38 Yellow or white band disposed from the frontal scale in the head to the level of the anterior limbs; anterior part of the body with smooth and rounded scales and becoming progressively exagonal and slightly pinched in the middle of the body.....*Acratosaura mentalis*.
- Anterior part of dorsal scales well mucronate and (quilhada); coloration of the dorsal scales dark brown with the arrangement of some points.....*Acratosaura spinosa*.

- 39 Four fingers on each foot; Exagonal scales, smooth and imbricate on the dorsum and lateral part of the body; quadrangular and moderately imbricate ventral scales; Nine gular scales.....*Rhachisaurus brachylepis*.

- Five toes on each foot.....40.

- 40 Prefrontal presents; Third toe larger; five toes on each foot.....*Anotosaura collaris*.
- Prefrontal absent; Fourth finger bigger; Five toes on each foot.....*Anotosaura vanzolinia*.

- 41 Preanal scales with pores.....*Placosoma cipoense*.
- Preanal without pores, long dorsal scales, lanceolate with sharp ends.....42.

- 42 With six rows of longitudinal ventral scales; full dorsolateral row and evident throughout the body; females with zero or a pair of femoral pores.....*Cercosaura schreibersii albostrigata*.
- With four longitudinal rows of ventral scales; dorsal scales similar to lateral of the body; With nine to 10 femoral pores in males.....*Cercosaura quadrilineata*.

- 43 Abdominal or precloacal pores present.....44.
- Abdominal or precloacal pores absent.....46.

- 44 A Loreal scale; 13 to 18 femoral pores; olive green coloring.....*Tupinambis quadrilineatus*.
- Two loreal scales.....45.

- 45 Dorsum with black transverse bands; total poros: 25–42; ventral rows: 30–38 transverse and 133–172 scales across midbody.....*Salvator merianae*.
- Body scales reddish or orange; about 84 to 105 dorsal scales.....*Salvator duseni*.
- 46 Long fifth toe; Sub articular scales of hands sub divided; nasal and pre-frontal separate; a pair of preanal spurs in males.....*Cnemidophorus lemniscatus*.
- Fifth reduced toe; sub articular scales hands entire; nasal and pre-frontal in contact.....47.
- 47 First supraciliar split; eight to ten longitudinal ventral scales; light vertebral strips; a bluish-green tails; one or two tibiotarsal lines of spines in males; six supraciliar scals; with 21 to 45 femoral pores; range of broad scales in the dorsal part of the anterior limbs.....*Glaucomatix cyanura*.
- First supraciliar entire.....48.
- 48 First supraciliar expanded dorsally; ten longitudinal ventral scales; 32 to 49 femoral pores; adults with anterior part of the body brown and posterior part and tail green; juvenils with a black band on upper part of flanks, and brown or with head and anterios half of body green.....*Ameiva ameiva*.
- With eight longitudinal ventral scales.....49.
- 49 Fronto-parietal in contact with the third supra-ocular; circumorbital with an incomplete series of small granules that allows the contact between frontoparietal and third

- supraocular; third pair of scales larger than the others; scales in the fourth toe 21-24.....*Ameivula cipoensis*.
- No contact between frontal and third supra-ocular.....50.
- 50 Black spot in the gular region of males; fourth toe scales: 30 to 32; from 190-200 dorsal scales.....*Ameivula nigrigula*.
- From 172 to 178 dorsal scales; Tibiotarsal spores present in males.....*Ameivula ocellifera*.
- 53 Dorsal scales imbricated; most species have bags or folds of mites on the sides of the neck, axillary or inguinal folds; A single scale under the eye.....54.
- Scales not described above as described above; never present bags or folds of mites....67.
- 54 Presence of vertebral crest.....55.
- Absence of vertebral crest.....58.
- 55-Three protruding dorso-nucal crests, one vertebral and two dorsolateral.....*Stenocercus tricristatus*.
- One vertebral crest.....56
- 56 Ventral scales, crenate and mucronate; pleats and mites bags absent at the side of the neck; head completely covered by a fringe of acicular scales; wide supra ocular; ventral

- face of the thigh and anal flap of the adult male without pigments; two symmetrical black spots on the supraocular area.....*Eurolophosaurus divaricatus*.
- Smooth ventral scales.....57.
- 57 Narrow supraoculars; Two symmetrical black spots on the supraocular area; Partially Hearing covered by a strip of acicular scales; Thigh ventral face and anal flap of adult males yellow gold*Eurolophosaurus amathites*.
- Small auricular fringe, leaving ear exposed.....*Eurolophosaurus nanuzae*.
- 58 Absence of mite pokets*Tropidurus sertanejo*.
- Presence of mite pokets on the neck.....59.
- 59 Presence of one mite pokets on the neck.....60.
- Presence of twomite pokets on the neck.....64.
- 60 Absence of mite pokets on the axilla.....61.
- Mite pokets on the axilla.....62.
- 61 Mite pokets on the inguinal*Tropidurus itambere*.
- Absence of mite pokets on the inguinal.....*Tropidurus oreadicus*.
- 62 Absence of mite pokets on the inguinal part.....*Tropidurus hispidus*.
- Mite pokets on the inguinal part.....63.
- 63 Sides of the neck with granules of thorns..... *Tropidurus mucujensis*.

- Neck without granules of thorns.....*Tropidurus montanus*.

- 64 Mite pokets on the axilla.....65.
- Absence of mite pokets on the axilla.....66.

- 65 Head has reddish coloration.....*Tropidurus erythrocephalus*.
- Head of greenish to gray color; Axillary with two to three areas with granular scales separated from each other by spaces coated with much larger scales.....*Tropidurus torquatus*.

- 66 More than 29 plates in the fourth finger; An average dorsal stripe width of a scale runs the occiput to the anterior third of the tail.....*Tropidurus cocorobensis*.
- Less than 29 plates in the fourth finger.....*Tropidurus etheridge*.

- 67 Vertebral crest absent..... 68.
- Vertebral crest present.....70.

- 68 Femoral pores present; Extendable sac-like gular fan present; Cone-shaped eyes with eyelids partially fused.....*Polychrus acutirostris*.
- Femoral pores absent.....69.

- 69 Extendable gular sacs absent; eyelids not partially fused; Marbled to greenish or gray body color.....*Urostrophus vautieri*.

- Extendable gular sac present in adult males; Brown or gray color; 124 to 157 scales around the body; Dorsal weakly chiliates; supraorbital circles separated by small granules.....*Norops fuscoauratus*.

70 Large, prominent scale below ear; Predominant green coloration; Vertebral crest well highlighted mainly in adult males; Lizard relatively large (reaches 445mm).....*Iguana iguana*.

- Without differentiated scale below ear as described above.....71.

71 Distinctive enlarged and elongate subocular present; Sexual dichromatism absent.....72.

- Subocular subdivided into several smaller scales.....73.

72 Supraocular smooth; Variegated coloring pattern, but never showing reddish spots; Ventral scales keeled.....*Enyalius bilineatus*.

- Smooth ventral scales, quadrangular; Smooth infradigital; Themales with a series of six well-marked black transverse dorsal bands, interspersed by spaces of greenish-green coloration and a reddish patch in the middle of the body clearly evident. Females have a dark brown dorsal stripe, extending from the nape to 1/3 of the tail, bordered by a small, thin, distinct stripe.....*Enyalius erythroceneus*.

73 Ventral scaleskeeled.....74.

- Smooth ventral scales, Fingers with Smooth lamellae.....76.

74 Infradigital lamellae stronglykeeled and mucronate; Males with greenish coloration.....*Enyalius boulengeri*.

- Smooth infradigital lamellae; Adult males with green coloration.....75.

75 Tibia with 30-44 scales; front portion of the cantal curved towards the midline.....*Enyalius catenatus*.

- Tibia with 20-27 scales; females with different shades of brown; front portion of the cantal straight or slightly curved.....*Enyalius perditus*.

76 Males have light cream uniform coloration; Female with similar coloration to *E. erythroceus* female; Three or more longitudinal lines slightly demarcated in the ventral part of the body; Males of this species have a uniform background cream with a spotted and reticulated pattern.....*Enyalius bibronii*.

- Males present a series of five well-marked black transverse dorsal bands; front portion of the cantal curved toward the midline.....*Enyalius pictus*.

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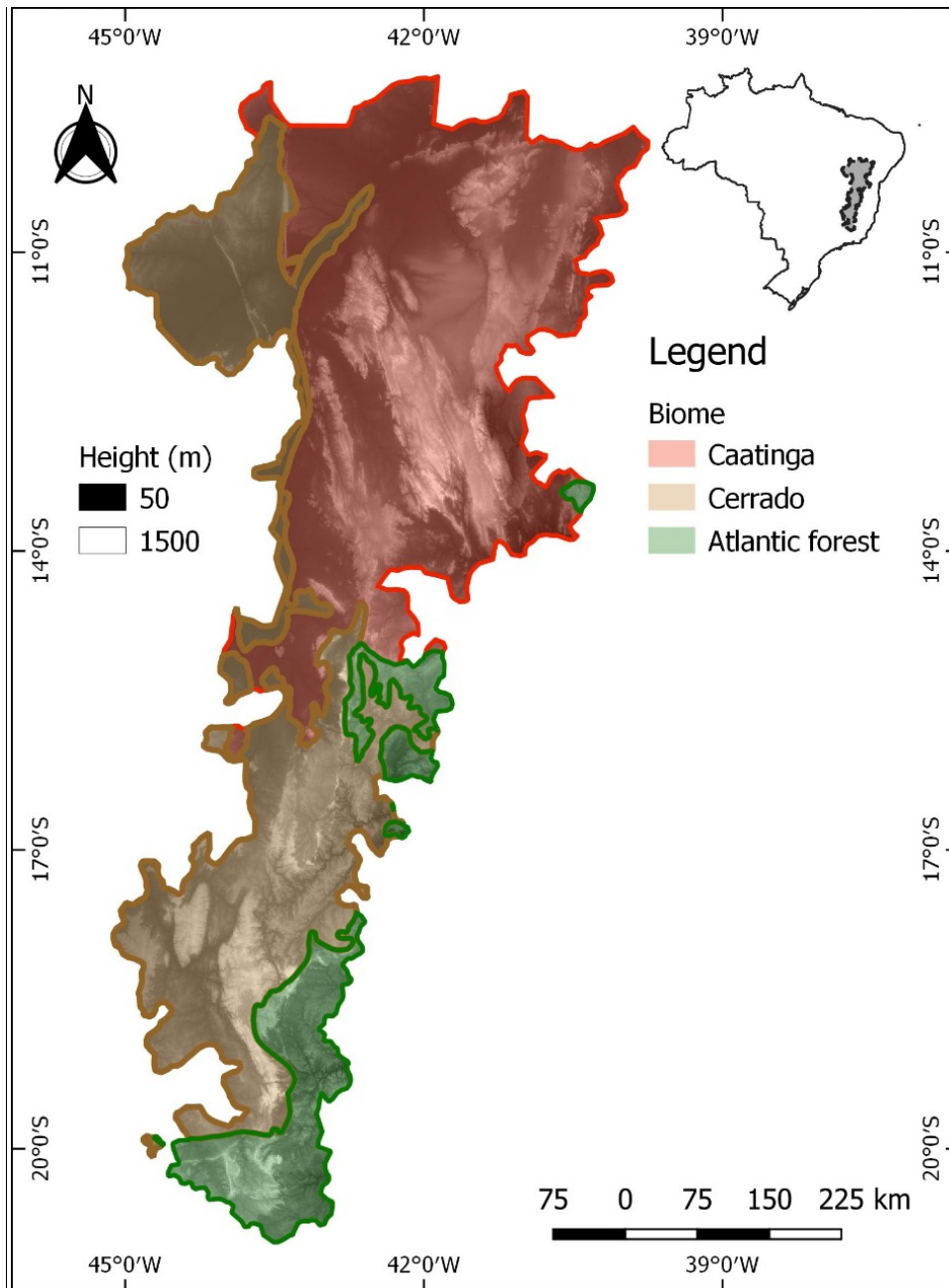


Figure 1. Espinhaço mountain range map between Bahia and Minas Gerais states, Brazil showing the Biomes: Caatinga, Cerrado and Atlantic forest.



Figure 2. Landscapes found in the Espinhaço mountain range. A: Campo Rupestre with predominance of grasses (Santana do Riacho, Serra do Cipó, Minas Gerais state); B: environments with tree formations in the Cerrado (Parque Estadual do Rio Preto, Minas Gerais state); C: Campo Rupestre with predominance of rocky outcrops (Santana do Riacho, Serra do Cipó, Minas Gerais state); D: Forest environments, Atlantic Forest (Itambé do Mato Dentro, Minas Gerais state).

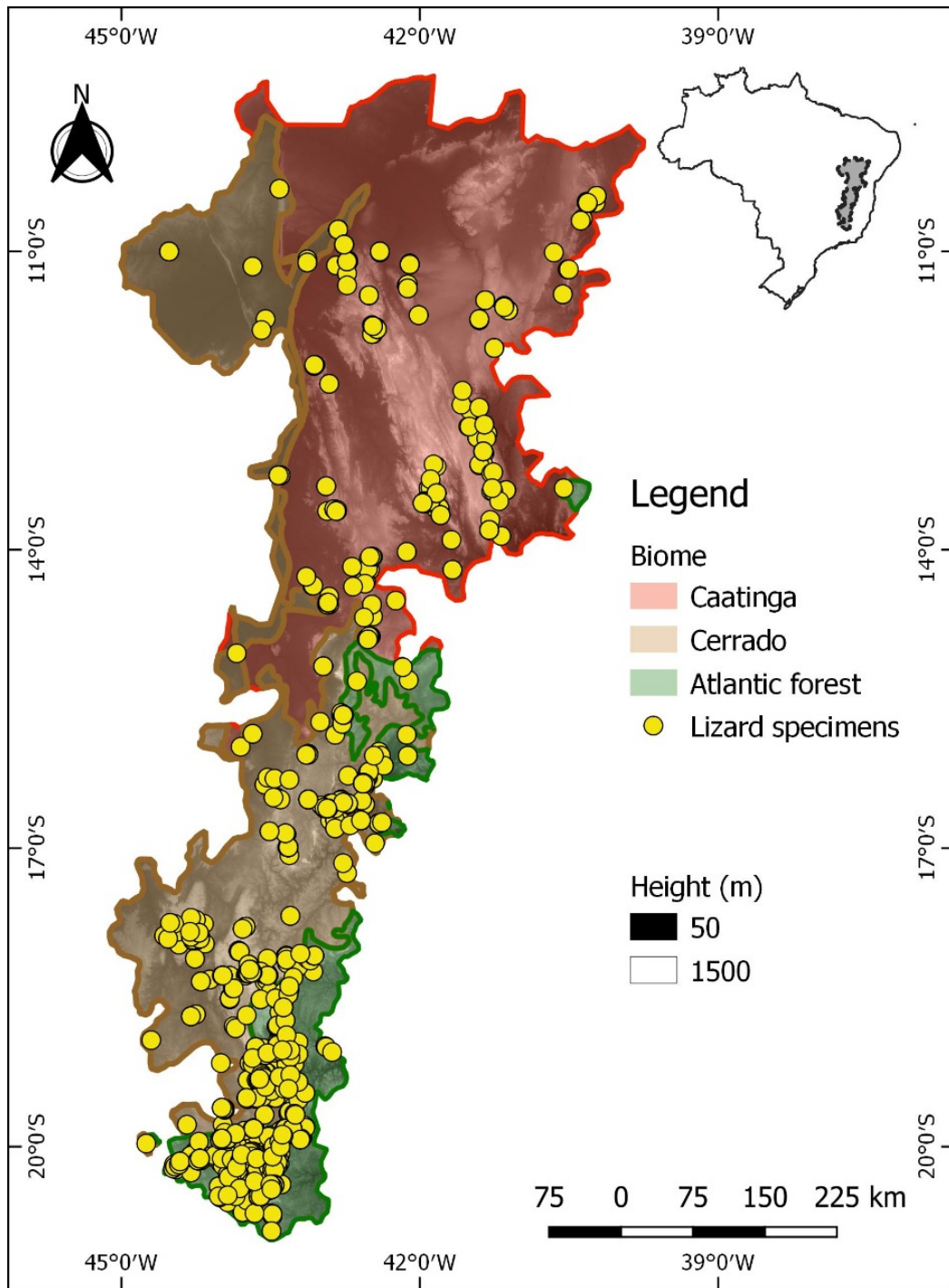


Figure 3. Lizard specimens recorded in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

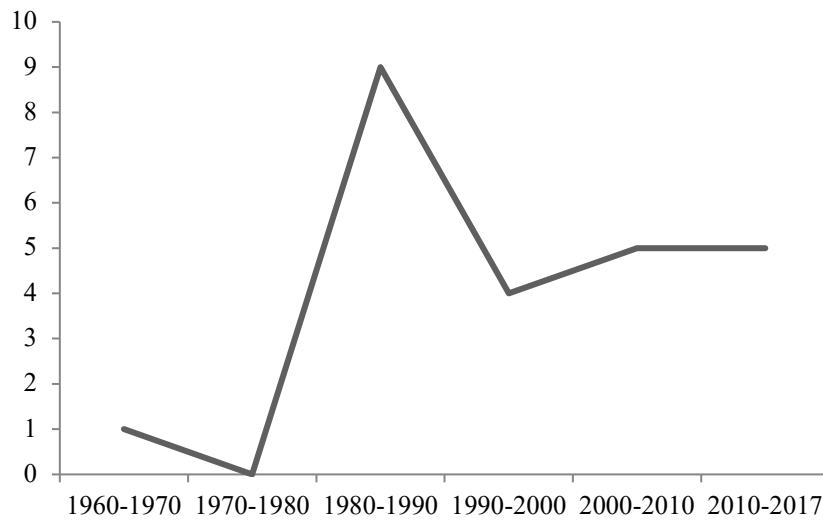


Figure 4. Endemic species described at the Espinhaço mountain range between 1960 and 2017.

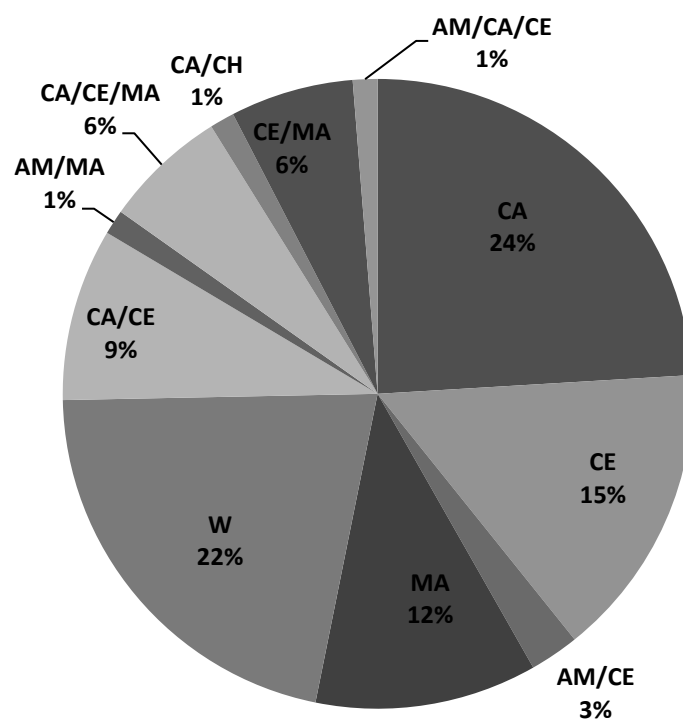


Figure 5. Biomes shared by the lizards from the Espinhaço mountain range: CA-Caatinga; CE-Cerrado; AM-Amazonia; MA-Atlantic Forest; W: widespread; CH-Chaco.

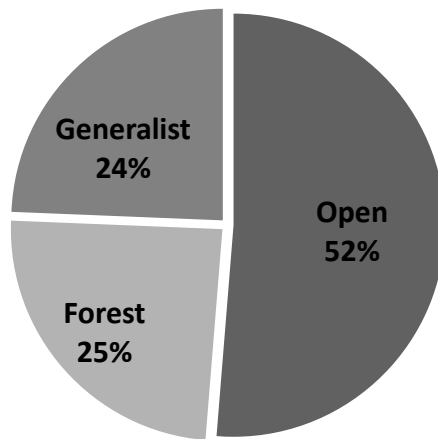


Figure 6. Habitats occupied by lizards from the Espinhaço mountain range: generalist, Forest: forests areas, Open: open areas.

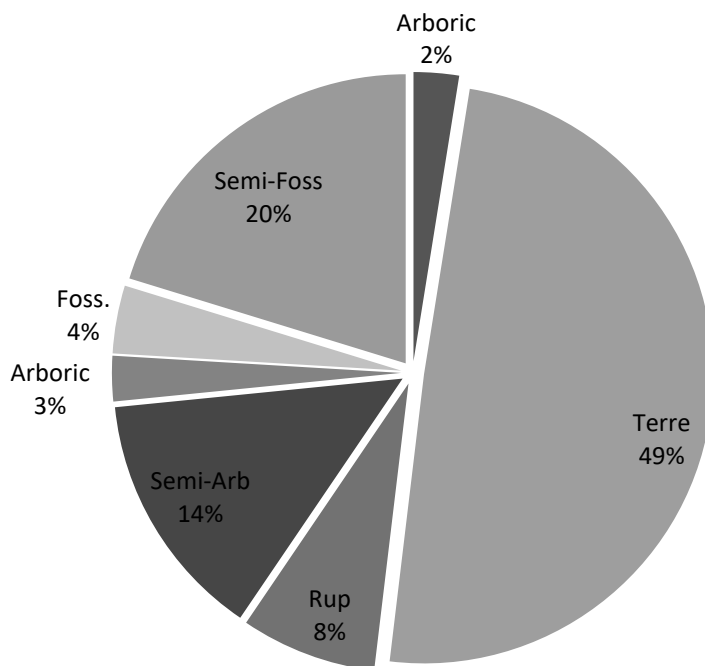


Figure 7. Lizards habits from Espinhaço mountain range. Arboric, Semi-Arb: semi-arboric, Foss: fossorial, Semi-Foss: semi fossorial, Rup: saxicolous, Terre: terrestrial.



Figure 8. Lizards recorded in the Espinhaço mountain range, Bahia, Minas Gerais, Brasil. a: *Hemidactylus agrius* (Piauí; Photo: Leandro Drummond); b: *Hemidactylus brasiliensis*; c: *Hemidactylus maboiua*; d: *Coleodactylus meridionalis* (Bahia; Photo: Victor Luri); e: *Phyllopezus pollicaris*; f: *Aspronema dorsivittatum*.



Figure 9. Lizards recorded in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil. a: *Brasiliscincus heathi* (Paraíba; Photo: Leandro Drummond); b: *Notomabuya frenata* (Photo: Victor Luri); c: *Copeoglossum nigropunctatum* (Minas Gerais; Photo: Leandro Drummond); d: *Psychosaura macrorhyncha* (Photo: Leandro Drummond), e: *Norops fuscoauratus* (Bahia; Photo: Leandro Drummond); f: *Iguana iguana* (Goiás; Photo: Leandro Drummond).



Figure 10. Lizards recorded in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil. a: *Enyalius bilineatus* (Photo: Carla Guimarães); b: *Enyalius boulengeri* (Espírito Santo; Photo: Leandro Drummond); c: *Enyalius perditus*; d: *Enyalius pictus meridionalis* (Bahia; Photo: Victor Luri); e: *Urostrophus vautieri*.



Figura 11. . Lizards recorded in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil. a: *Eurolophosaurus nanuzae*; b: *Tropidurus itambere*; c: *Tropidurus montanus*; D: *Tropidurus oreadicus* (Pará; Photo: Leandro Drummond); e: *Tropidurus semitaeniatus* (Bahia; Photo: Victor Luri); f: *Diploglossus fasciatus* (Photo: Adriano Silveira).



Figure 12. Lizards recorded in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil. a: *Acratosaura mentalis*; b: *Cercosaura quadrilineata*; c: *Ecpleopus gaudichaudii* (Ouro branco; Photo: Leandro Drummond); d: *Heterodactylus imbricatus* (Ouro Branco; Photo: Leandro Drummond); e: *Micrablepharus atticolus* (Photo: Rodrigo Tinoco); f: *Micrablepharus maximiliani* (Photo: Bárbara Vitorino).



Figure 13. Lizards recorded in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil. a: *Placosoma cipoense* (Parque Estadual do Itambé; Photo: Leandro Drummond); b: *Rhachysaurus brachylepis*; c: *Ameiva ameiva*; d: *Ameivula cipoensis*; e: *Ameivula ocellifera* (Goiás; Photo: Leandro Drummond); f: *Salvator duseni* (Photo: Victor Luri)).

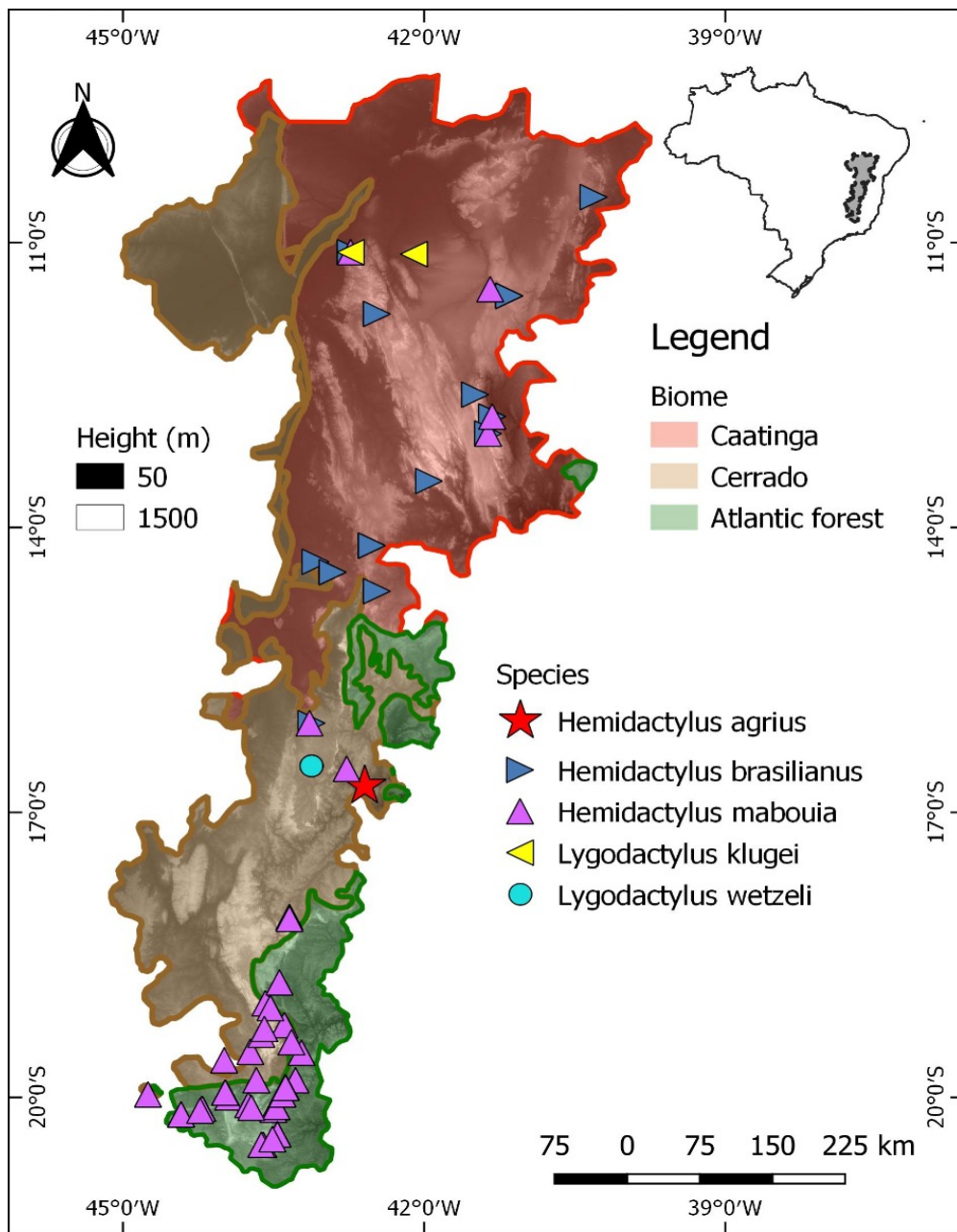


Figure 14. Geographic distribution records for *Hemidactylus agrius*, *H. brasiliensis*, *H. maboia*, *Lygodactylus klugei* and *L. wetzeli* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

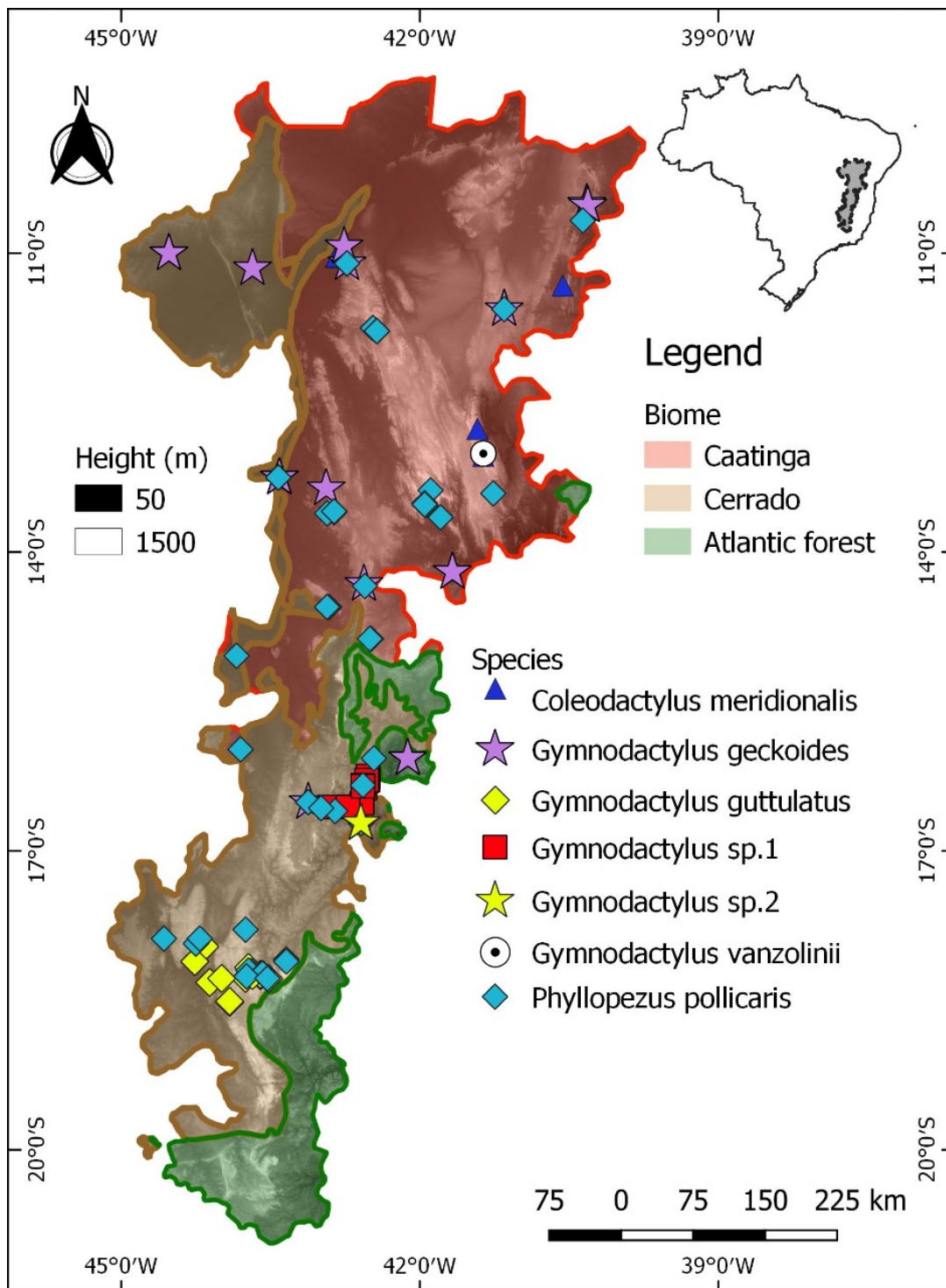


Figure 15. Geographic distribution records for *Coleodactylus meridionalis*, *Gymnodactylus geckoides*, *G. guttulatus*, *Gymnodactylus sp.1*, *Gymnodactylus sp.2*, *Gymnodactylus vanzolinii* and *Phyllopezus pollicaris* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

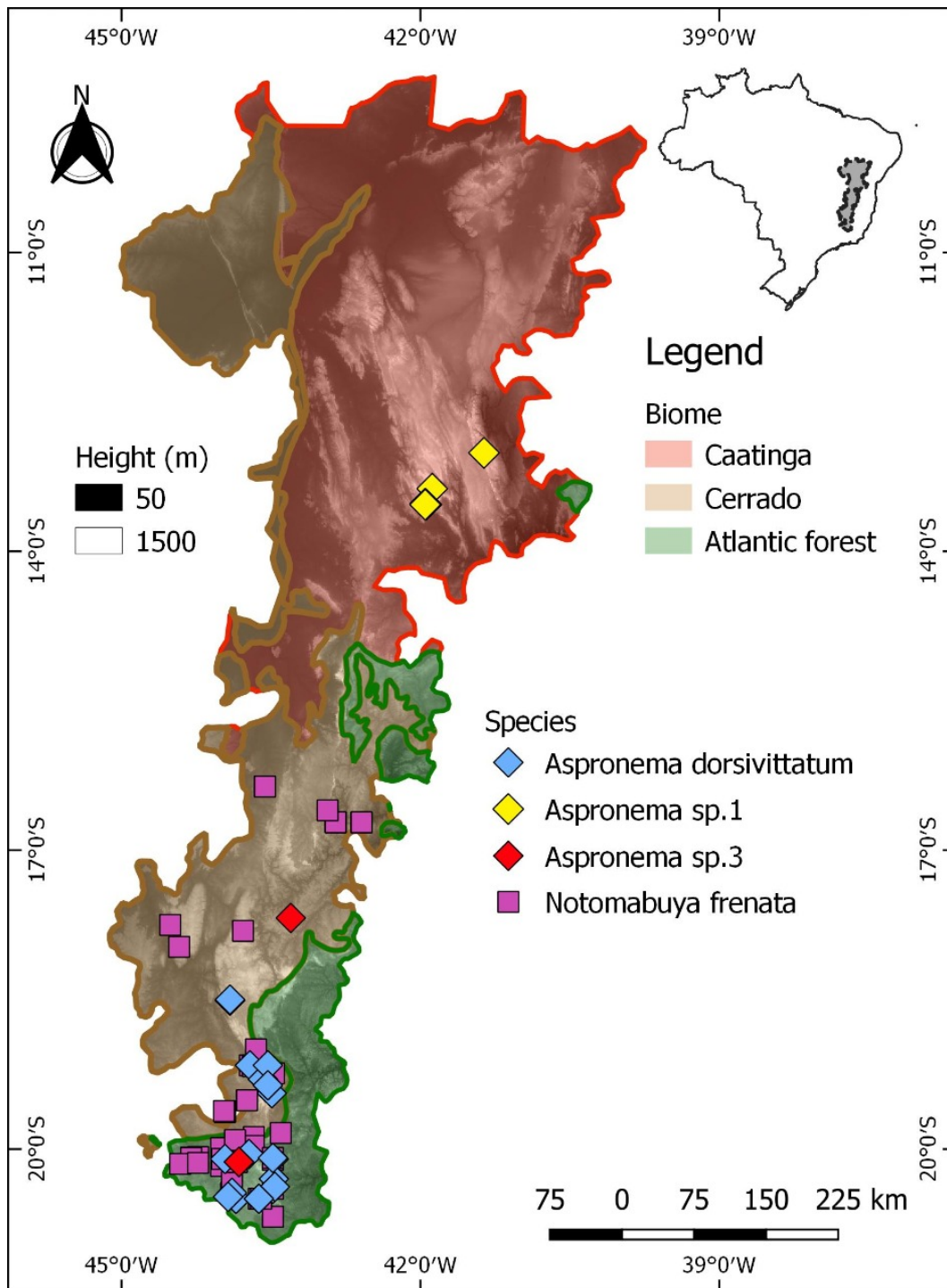


Figure 16. Geographic distribution records for *Aspronema dorsivittatum*, *Aspronema sp. 1*, *Aspronema sp. 3* and *Notomabuya frenata* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

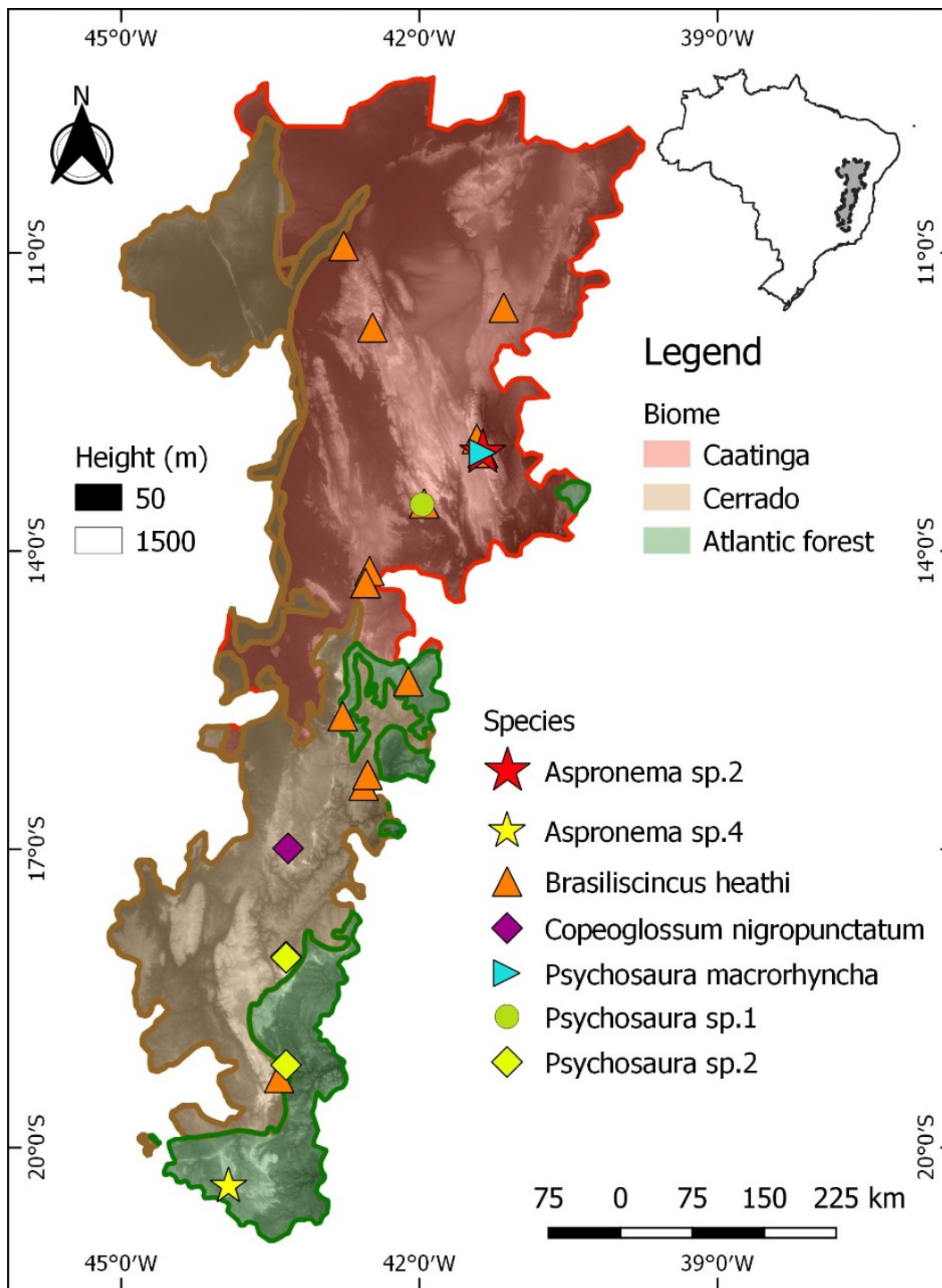


Figure 17. Geographic distribution records for *Aspronema* sp. 2, *Aspronema* sp. 4, *Brasiliscincus* heathi, *Copeoglossum* nigropunctatum, *Psychosaura* macrorhyncha, *Psychosaura* sp. 1 and *Psychosaura* sp. 2 in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

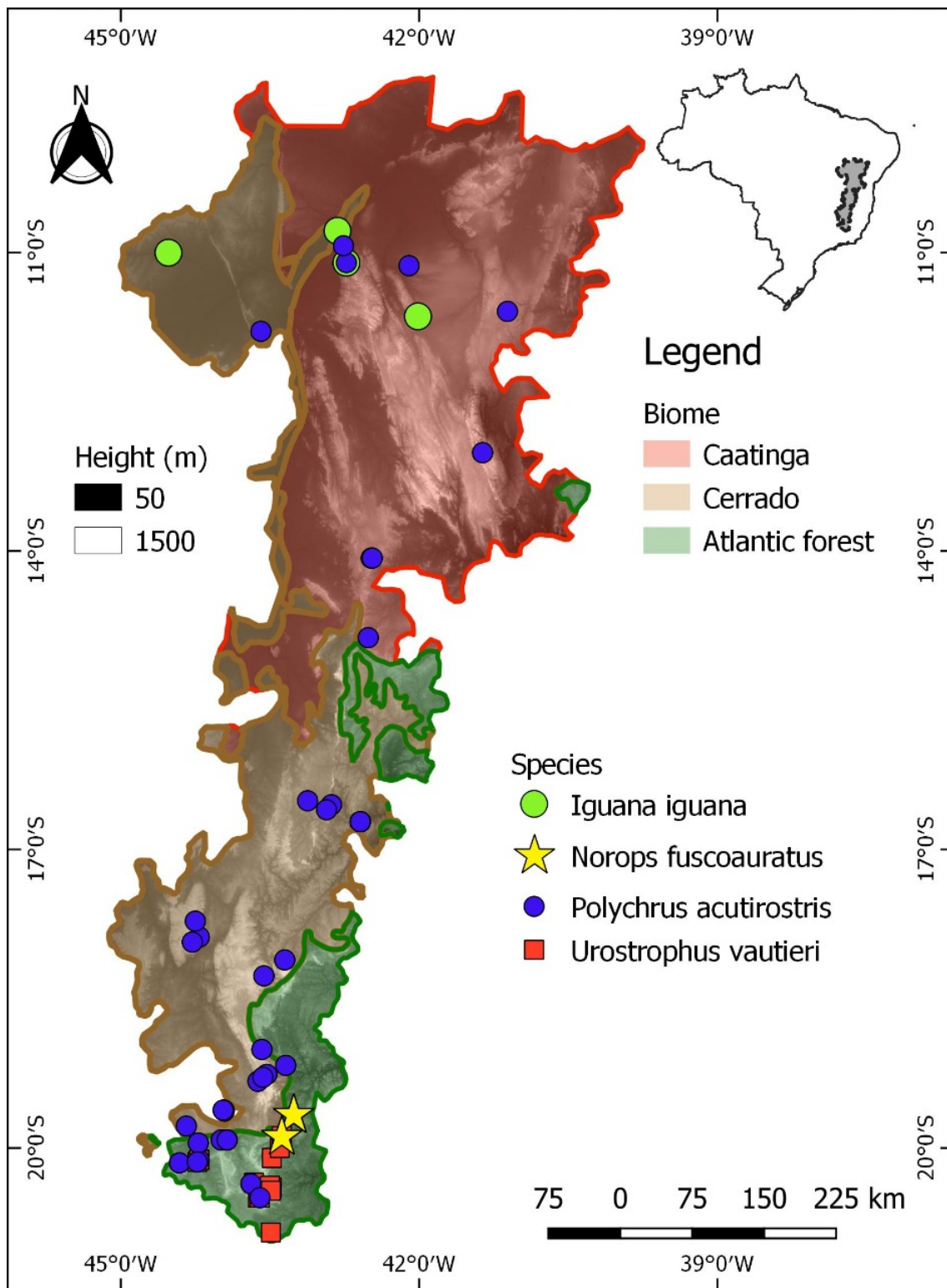


Figure 18. Geographic distribution records for *Iguana iguana*, *Norops fuscoauratus*, *Polychrus acutirostris* and *Urostrophus vaultieri* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

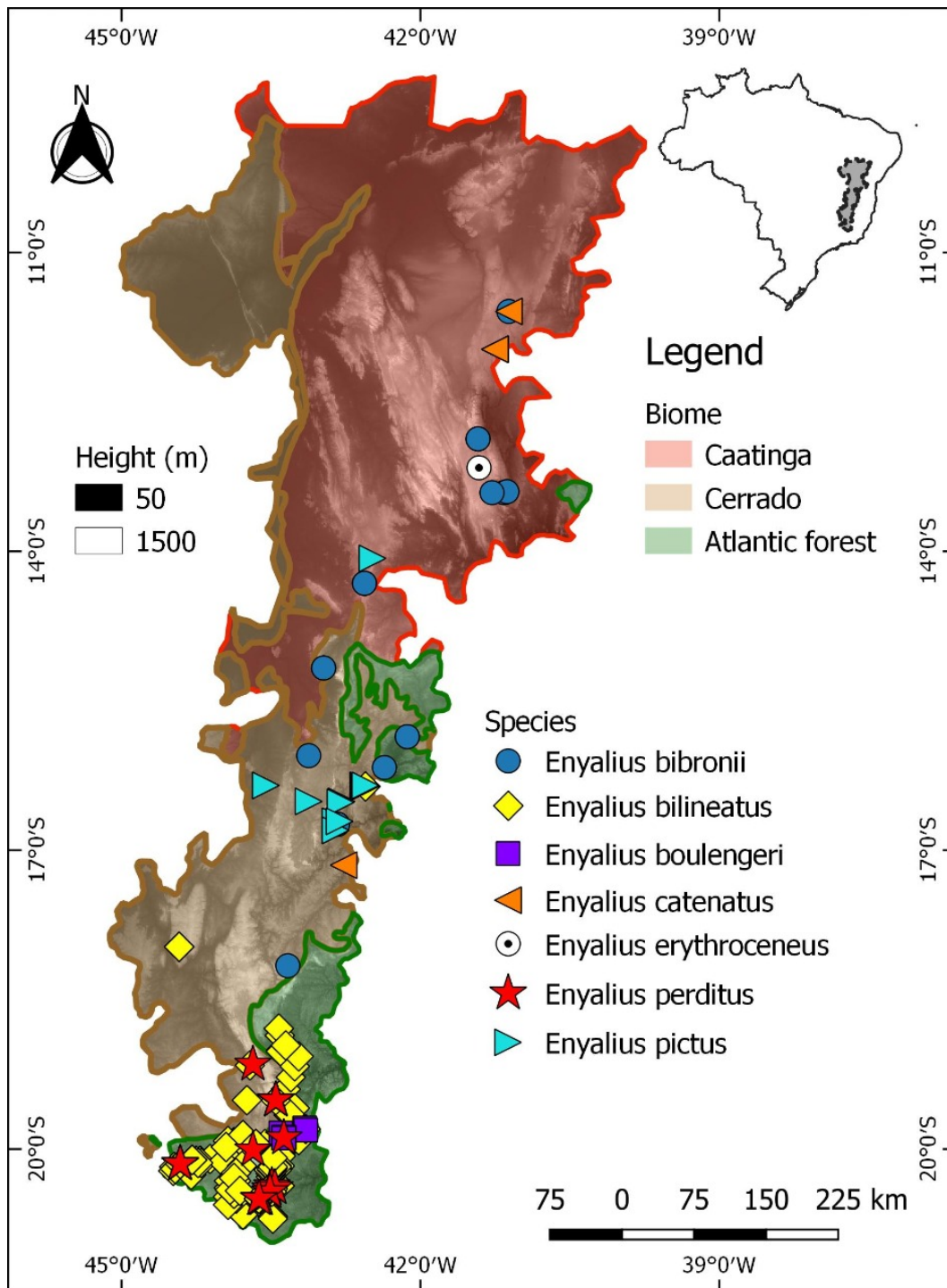


Figure 19. Geographic distribution records for *Enyalius bibronii*, *E. bilineatus*, *E. boulengeri*, *E. catenatus*, *E. erythroceus*, *E. perditus* and *E. pictus* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

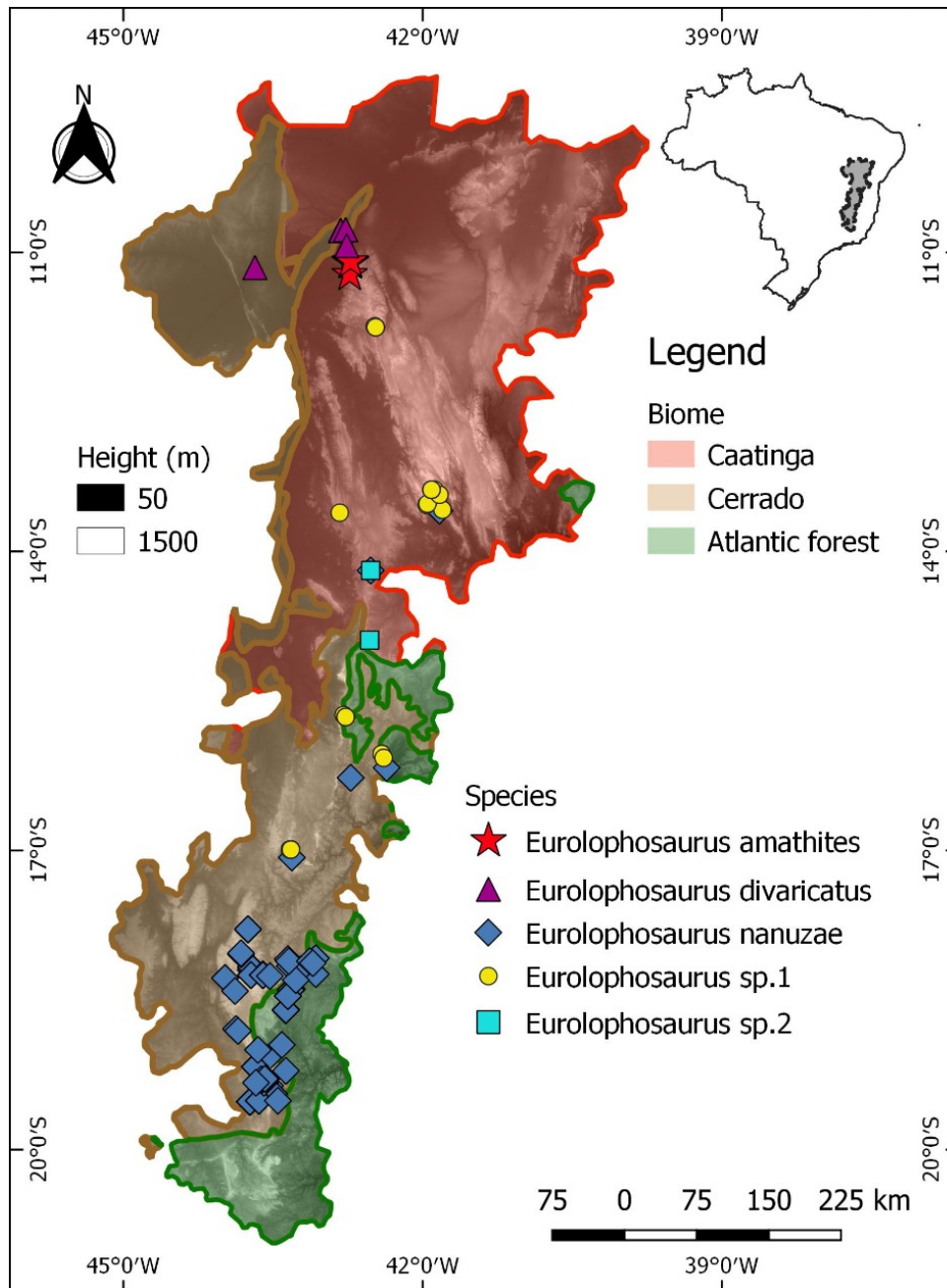


Figure 20. Geographic distribution records for *Eurolophosaurus amathites*, *E. divaricatus*, *Eurolophosaurus sp. 1* and *Eurolophosaurus sp. 2* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

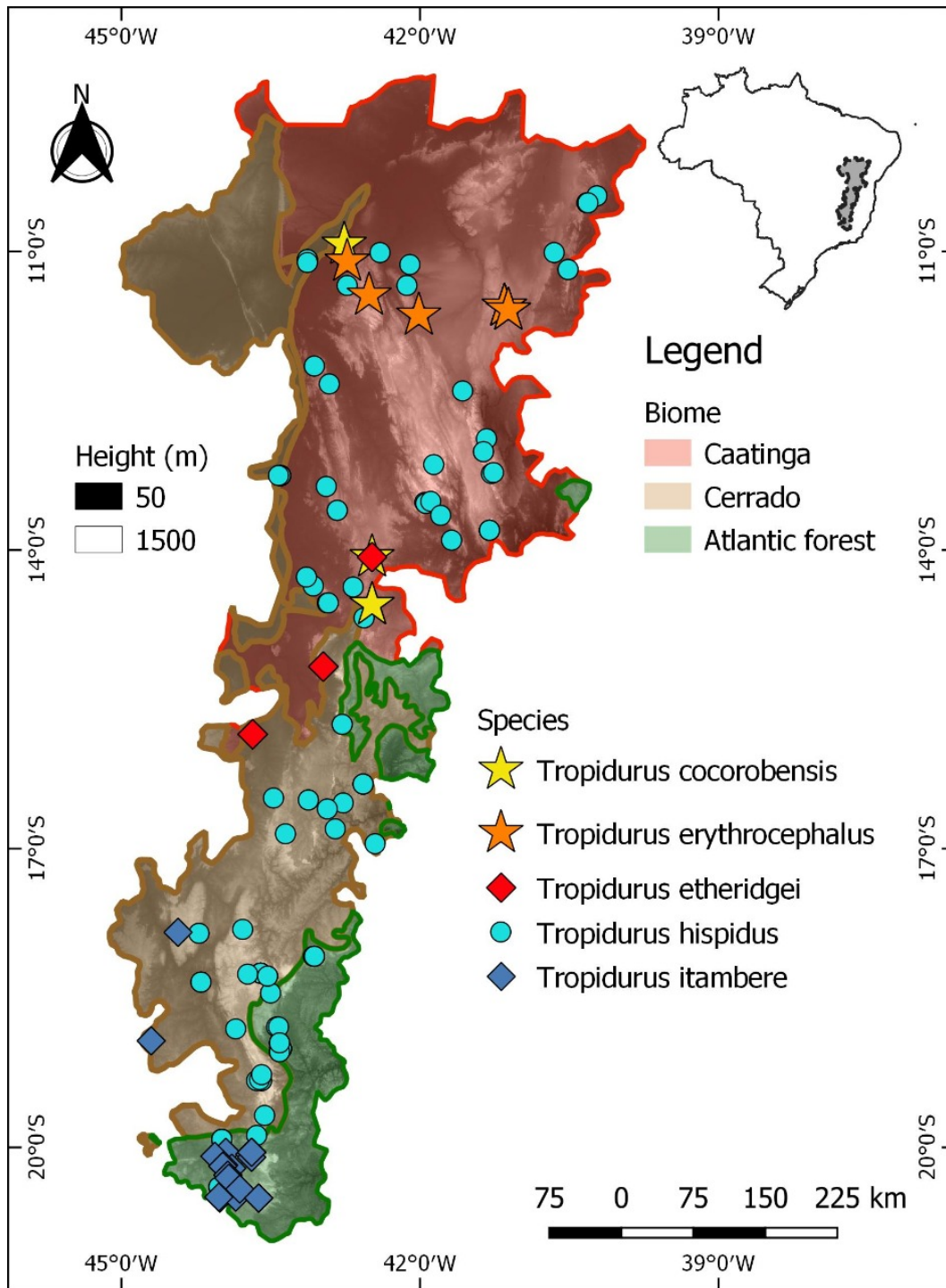


Figure 21. Geographic distribution records for *Tropidurus cocorobensis*, *T. erythrocephalus*, *T. etheridgei*, *T. hispidus* and *T. itambere* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

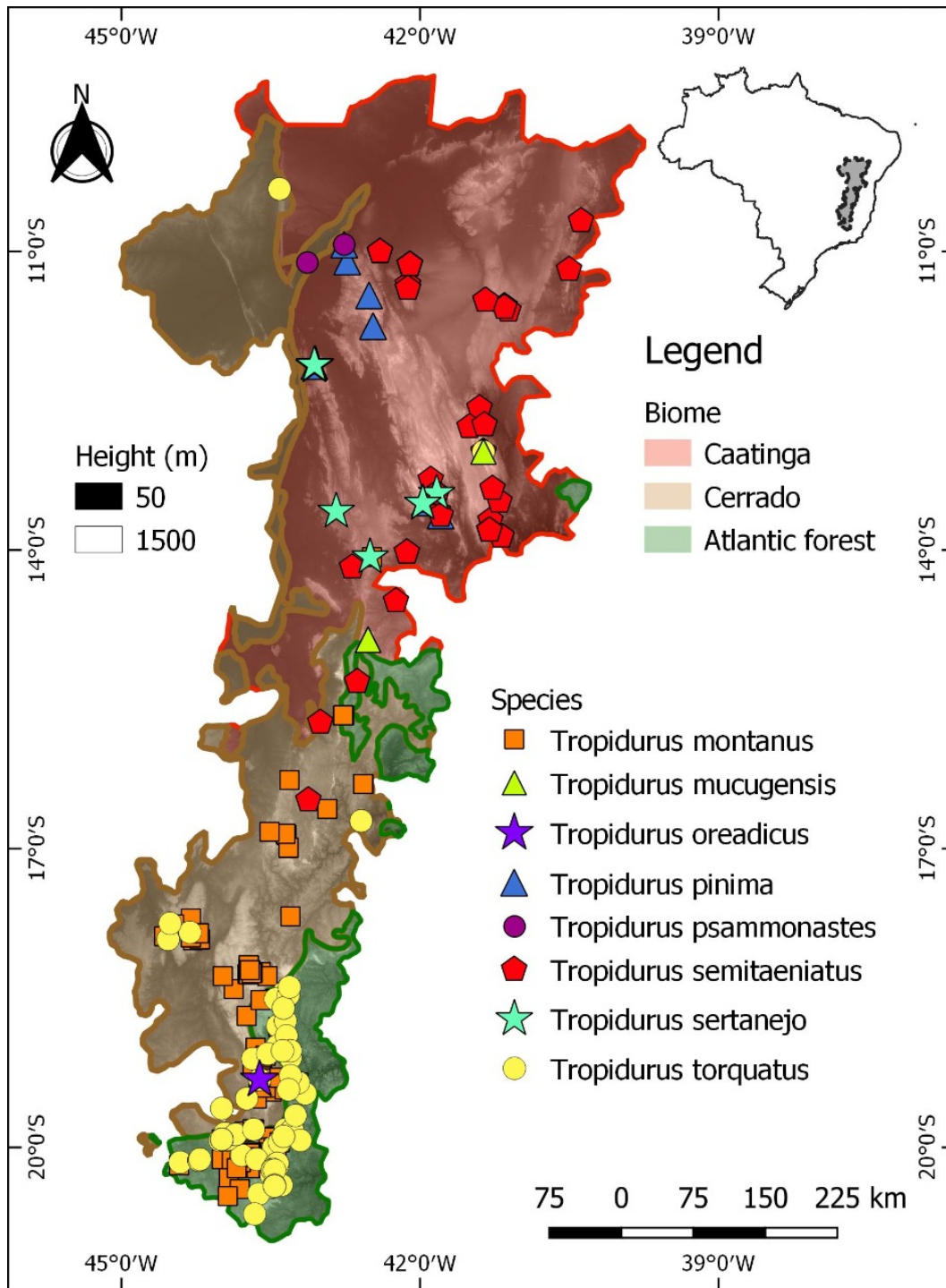


Figure 22. Geographic distribution records for *Tropidurus montanus*, *T. mucugensis*, *T. oreadicus*, *T. pinima*, *T. psammonastes*, *T. semitaeniatus*, *T. sertanejo* and *T. torquatus* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

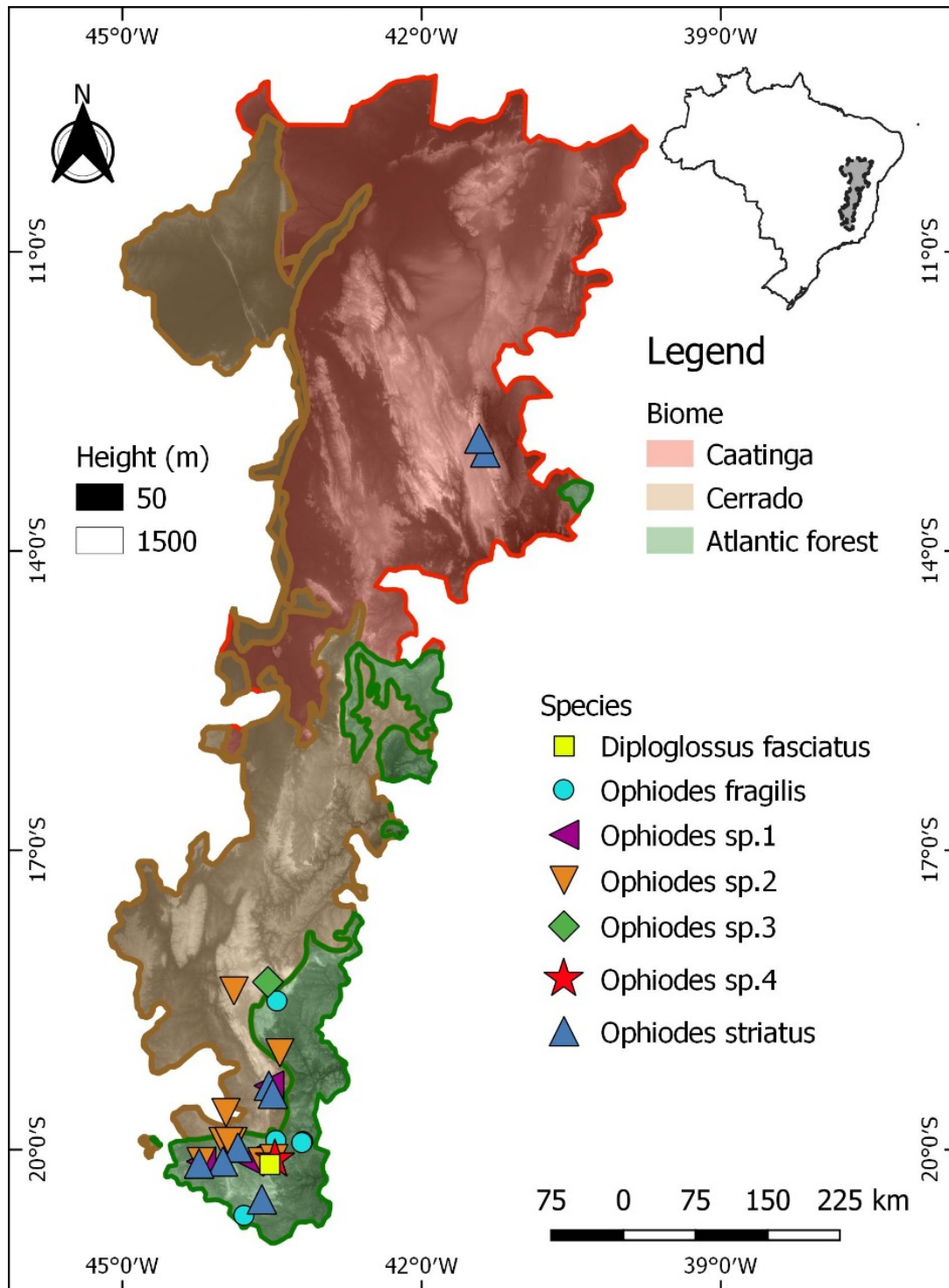


Figure 23. Geographic distribution records for *Diploglossus fasciatus*, *Ophiodes fragilis*, *Ophiodes* sp. 1, *Ophiodes* sp. 2, *Ophiodes* sp.3, *Ophiodes* sp. 4, and *O. striatus* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

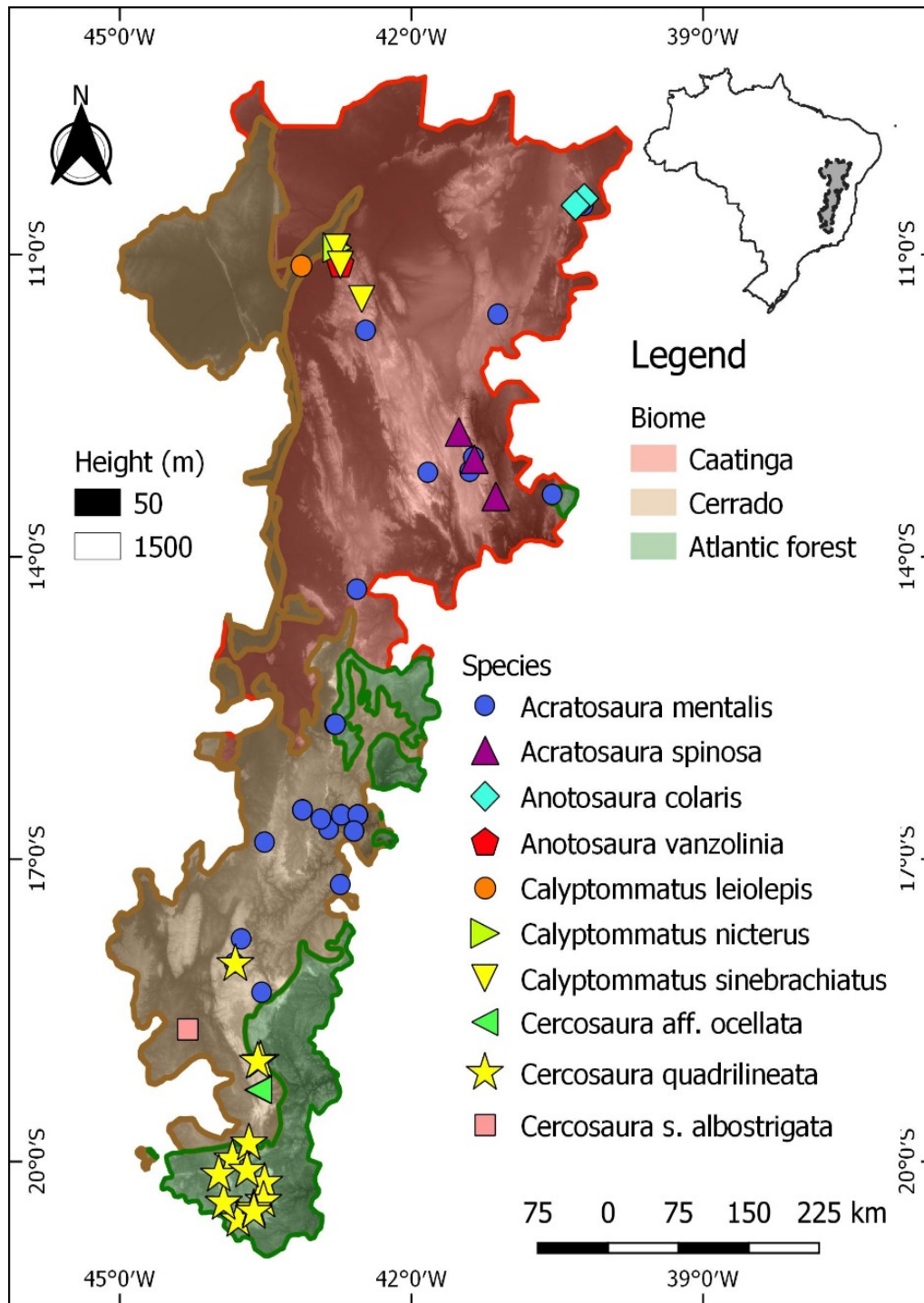


Figure 24. Geographic distribution records for *Acratosaura mentalis*, *A. spinosa*, *Anotosaura colaris*, *A. vanzolinia*, *Calyptommatus leiolepis*, *C. nicterus*, *C. sinebrachiatus*, *Cercosaura aff. ocellata*, *C. quadrilineata* and *Cercosaura s. albostrigata* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

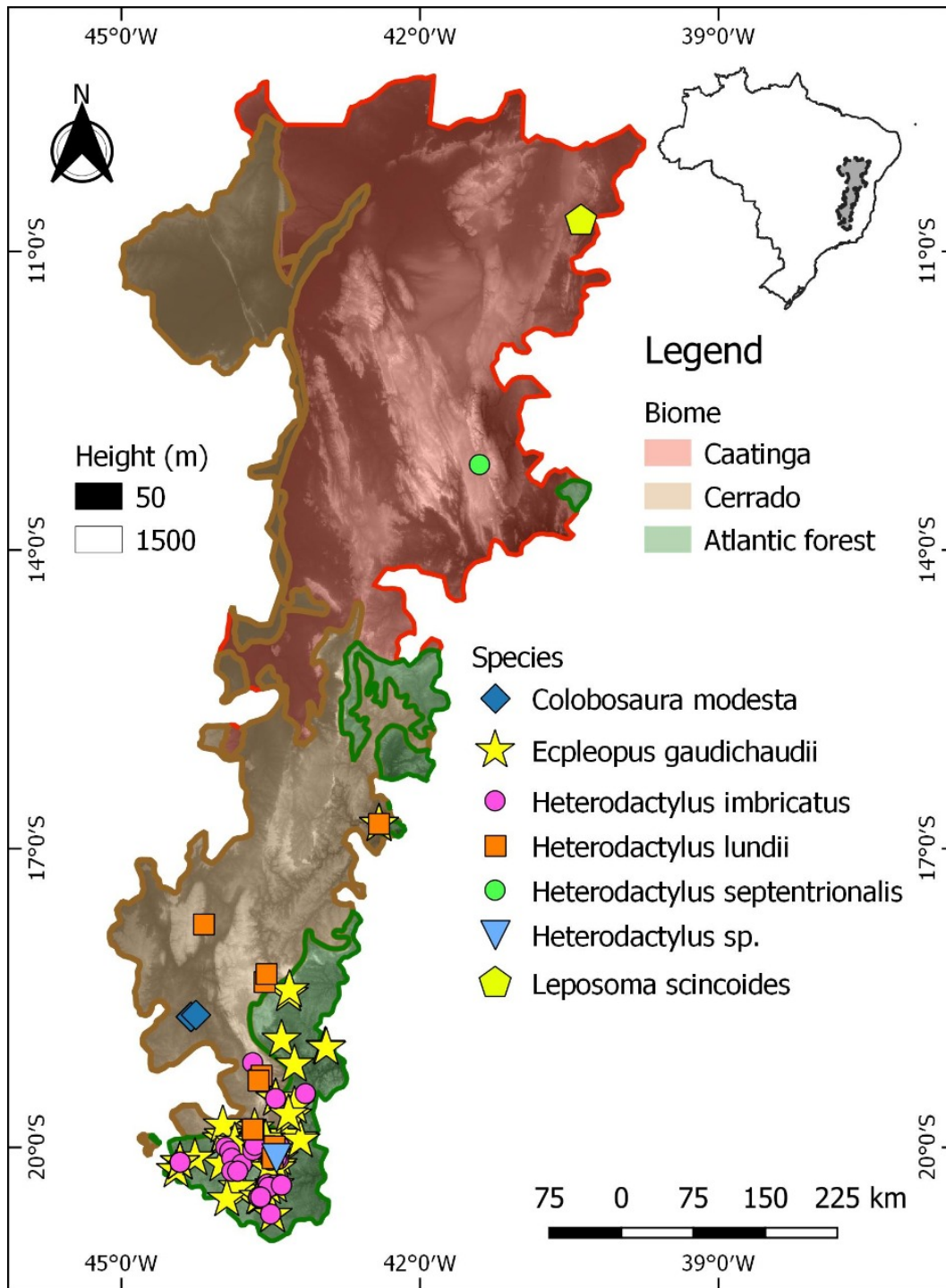


Figure 25. Geographic distribution records for *Colobosaura modesta*, *Ecleopus gaudichaudii*, *Heterodactylus imbricatus*, *H. lundii*, *H. septentrionalis*, *Heterodactylus* sp. and *L. scincoides* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

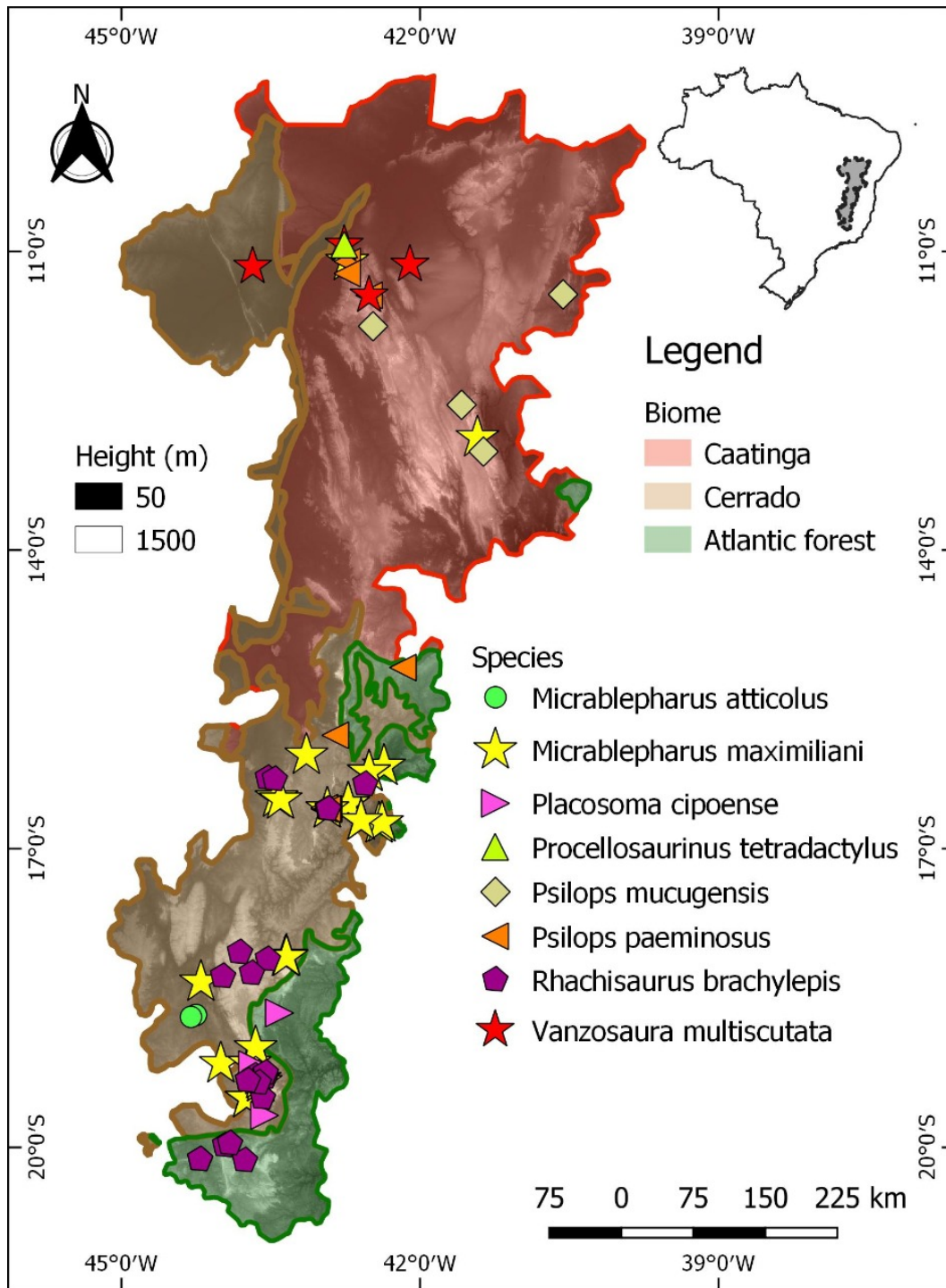


Figure 26. Geographic distribution records for *Micrablepharus atticolus*, *M. maximiliani*, *Placosoma cipoense*, *Procellosaurinus tetradactylus*, *Psilops mucugensis*, *P. paeminus*, *Rhachisaurus brachylepis* and *Vanzosaura multiscutata* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

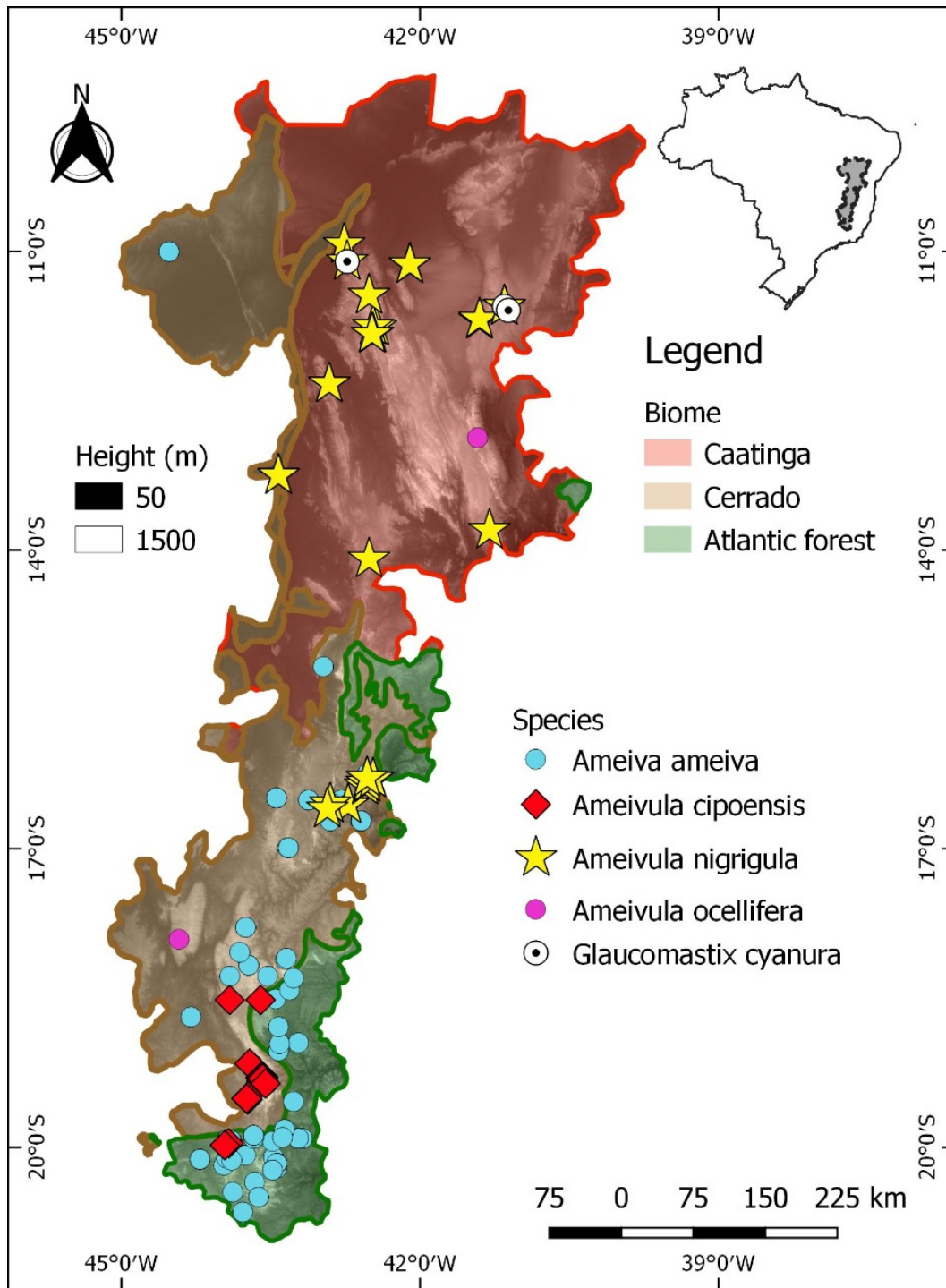


Figure 27. Geographic distribution records for *Ameiva ameiva*, *Ameivula cipoensis*, *A. nigrigula*, *A. ocellifera* and *Glaucomastix cyanura* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

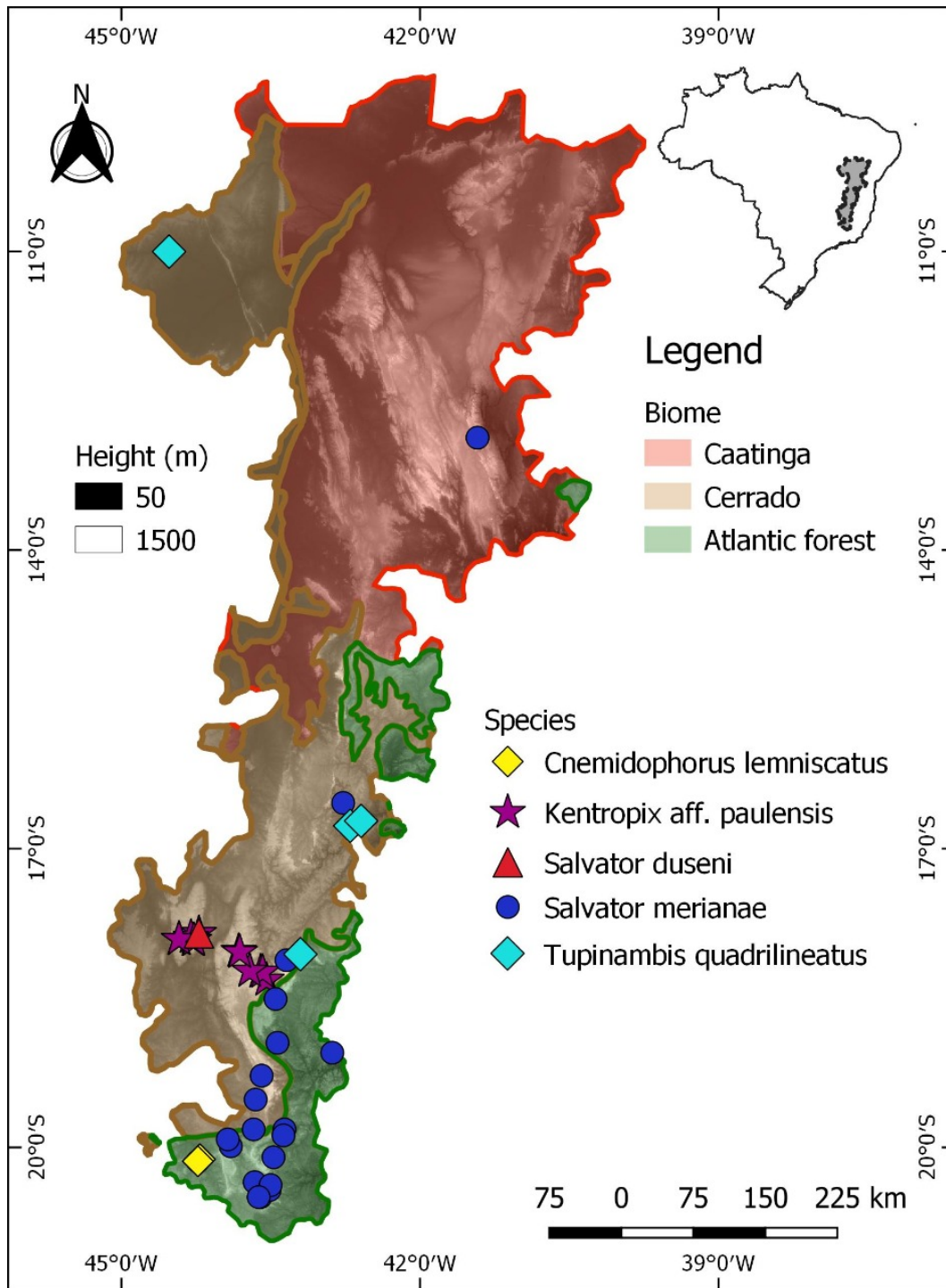


Figure 28. Geographic distribution records for *Cnemidophorus lemniscatus*, *Kentropix* aff. *paulensis*, *Salvator duseni*, *S. merianae* and *Tupinambis quadrilineatus* in the Espinhaço mountain range, Bahia, Minas Gerais, Brazil.

Appendix 1: Voucher specimens examined in scientific collections.

Hemidactylus agrius MINAS GERAIS – HUE Irapé (Grão Mogol) (MCNR –4620).

Hemidactylus brasiliensis BAHIA – Andaraí (MNRJ – 22720, 22721), Caetité (UFMG– 3257, 3258), Ipupiara (UFMG – 3157), Morro do Chapéu (UFMG –2327, 2576, 2577, 2578), Palmas do Monte alto (UFMG –1170), Palmeiras (MNRJ –21659), Sebastião Laranjeiras (UFMG– 1158); Minas Gerais – Riacho dos Machados (MCN – 5273).

Hemidactylus mabouia MINAS GERAIS Belo Horizonte (UFMG – 408, 410, 416), Cardeal Mota (UFMG–417), Catas Altas (MNRJ – 16948, 17477, 17854, 24557), Conceição do Mato Dentro (UFMG – 2263), Estação Ambiental Peti (UFMG – 1067), Grão Mogol (MNRJ – 25043), Igaratinga (UFMG – 2981), Inhotim (Brumadinho) (MCN – 3907, 3908, 3909, 3932, 3933, 3934, 3935), Itambé do Mato Dentro (UFMG – 2852), Itapamoacanga (MCN – 5790), Jaboticatubas (MNRJ – 14863), Morro do Pilar (UFMG – 2010), Mutuca (Belo Horizonte) (MCN – 733), Ouro Preto (LZV – 207s, 208s, 240s), Parque Estadual do Rio Preto (LZV – 1437s), Pedro Leopoldo (UFMG – 3073), Riacho dos Machados (MCN – 5098), Rio Acima (UFMG – 411, 412, 3006), Santa Bárbara (MCN – 6331), São Gonçalo do Rio Abaixo (UFMG – 413; MNR J– 16758, 16962), Serra Azul (Itatiaiuçu) (LZV – 1324s, 1325s), Serra do Intendente (Conceição do Mato Dentro–Distrito de Itacolomi) (MCN – 3532), Serra da Piedade (Caeté) (MCN – 5296).

Gymnodactylus geckoides BAHIA – Bom Jesus da Lapa (MNRJ – 10503, 10504, 10505, 10507, 10508), Brumado (UFMG – 1908, 1908), Caetité (UFMG – 1206), Campo Formoso (MNRJ – 22465, 22466), Morro do Chapéu (UFMG – 2572, 2573), Santa Rita de Cássia (MNRJ – 24355, 24356); MINAS GERAIS– Itacambira (UFMG – 1206), Salinas (MNRJ – 17589, 17590) e Riacho dos Machados (MCN – 5272).

Gymnodactylus gutullatus MINAS GERAIS – Augusto de Lima (UFMG – 2910, 2913, 2915), Buenópolis (UFMG – 2914), Diamantina (MCN – 727; 1802, 1803; MNRJ – 13812; UFMG – 2304), Gouveia (LZV – 1376s), Monjolos (LZV – 1401s; MCN – 765), Parque Nacional das Sempre Vivas (UFMG – 1005, 1006, 1007, 1008, 1009, 1013).

***Gymnodactylus* sp.1** MINAS GERAIS – Grão Mogol (UFMG – 897, 2175, 2176, 2177, 2178, 2187, 2196, 2201, 2203, 2204, 2207, 2208, 2212, 2220, 2222, 2223; MNRJ – 25039, 25042, 25140, 25159).

***Gymnodactylus* sp.2** MINAS GRAIS – UUE Irapé (MCN – 2129, 2130, 2131, 2157, 2150, 5433, 5434, 5436, 5437, 5438, 5439, 5440, 5441, 5442, 5443, 5444).

Lygodactylus klugei: BAHIA – Central (MNRJ – 19638).

Lygodactylus wetzeli MINAS GERAIS – Riacho dos Machados (MCN – 5274, 5717, 5175).

Phyllopezus pollicaris BAHIA – Baixa D'Anta (Morro do chapéu), Bom Jesus da Lapa (MNRJ – 11221, 11222, 11223, 11224), Caetité (UFMG – 3151), Canudos (MNRJ–11219), Ibiçara (UFMG – 3136), Ipupiara (UFMG – 3159, 3160, 3163, 3168, 3169, 3170, 3171), Jaborandi (MNRJ– 11220), Jacaraci (UFMG – 1156, 1157), Jaíba (UFMG – 2974), Morro do Chapéu (UFMG – 2575), Pindobaçu (UFMG – 1173), Riacho Santana (UFMG – 1163, 1165, 1166, 1167), Rio de Contas (UFMG –1144, 2598, 2599, 2600, 2604), Sebastião das Laranjeiras (UFMG – 1159, 1160, 1161, 1162); MINAS GERAIS – Diamantina (MCN – 2025, 2026, 2028, 2029, 2030, 2033, 2034, 2035, 2027, 2038, 2039, 2041, 2043, 2044, 2045, 2046, 2047, 2050, 2052, 2055, 2056, 2057, 2060, 2061, 2062, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2079, 2080, 2083, 2086, 2087, 2092, 2094, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2108, 2109, 2112, 2113, 2114, 2115, 2117, 2118, 2120, 2122, 2123, 2125, 2158, 2160, 2162, 2163, 2165, 2167, 2168, 2169, 2172, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2196, 2197, 2299, 2302, 2304, 2305, 2306, 2307, 2308, 2309, 2311, 2312, 2316, 2317; MNRJ – 12800; UFMG – 972), Lassance (MCN – 4350), Grão Mogol (UFMG – 895, 896, 2202). Parque Estadual do Rio Preto (LZV – 1435s, 1439s), Parque Nacional Sempre Vivas (MCN – 2580), Riacho dos Machados (MCN – 4813, 4814, 4815, 6239), São João da Ponte (UFMG –2983), Serra do Cabral (Buenópolis) (UFMG – 3205, 3206), UHE Irapé (MCN – 1893, 5431, 5432).

Aspronema dorsivittatum Minas Gerais – Antônio Pereira (Ouro Preto) (LZV– 858s), Caeté (UFMG– 3051), Catas Altas (MNRJ– 22981), Congonhas (UFMG– 3124; MCN–5193, 5323,

5859), Monjolos (LZV – 1408, 1409), Nova Lima (959), Ouro Preto (Campus UFOP) (LZV – 52s), Parque Estadual do Itacolomi (LZV – 042s), Santana do Riacho (UFMG – 533, 3099, 3972, 4868), Serra do Cipó (Jaboticatubas) (UFMG – 3128).

Aspronema sp.1 BAHIA– Mucugê (UFMG – 2607), Rio de Contas (UFMG – 1143, 3154, 2602, 2505, 2601).

Aspronema sp.2 BAHIA – Mucugê (UFMG – 2606)

Aspronema sp.3 MINAS GERAIS – Nova Lima (UFMG – 860, 2729, 2734, 2736).

Aspronema sp.4. MINAS GERAIS – Congonhas (UFMG – 1732).

Brasiliscincus heathi MINAS GERAIS – Grão Mogol (UFMG – 2158, 2160, 2218, Rio Pardo de Minas (UFMG – 2380), Serra do Cipó (Santana do Riacho) (MCN – 446); BAHIA – Caetité (UFMG – 2560, 2561, 2571, 3150), Ipupiara (UFMG – 3161), Mucugê (UFMG – 2610), Rio de Contas (UFMG – 3153).

Copeoglossum nigropunctatum MINAS GERAIS – Itacambira (UFMG – 858), Parque Estadual do Rio Preto (LZV– 1431s).

Notomabuya frenata MINAS GERAIS – Augusto de Lima (UFMG –1653), Belo Horizonte (MCN –117), Belo Horizonte (Barreiro) (MCN – 1073), Brumadinho (MCN – 2784, 2785,2786, 2787, 2788, 2789, 2795, UFMG – 947, 949), Caeté (MCN – 4800; UFMG – 3052), Catas Altas da Noruega (MNRJ – 18713, 18714), Congonhas (MCN – 5707), Cristália (MNRJ – 12674, 12675), Grão Mogol (UFMG – 2183, 2194), Igarapé (UFMG – 1848, 1849, 1850, 1851, 1864, 1865), Irapé (MCN – 2337), Itabirito (UFMG – 1914), Jaboticatubas (UFMG – 2936, 2938), Lassance (UFMG – 2905), Morro do Pilar (UFMG – 1103), Nova Lima (MCN – 5994, 27, 2731), Ouro Branco (LZV – 490s, 1061s, 1121s, 1066S, 002S–L), Parque das Mangabeiras (MCN –132), Parque Estadual do Itacolomi (LZV – 788s), Parque Estadual do Rio Preto (MCN – 4339, 4340), Parque Nacional Sempre Vivas (MCN – 2573, 2575, 2576, 2577), Santana do Riacho (MCN – 446, UFMG – 539, 934), São Gonçalo do Rio Abaixo (MCN – 5366), São Joaquim de Bicas (UFMG – 1861), UHE Irapé (MCN – 2337, 4618).

Psicosaura sp.1 BAHIA – Bahia Rio de Contas (UFMG – 3180).

Psicosaura sp.2 MINAS GERAIS – Parque Estadual do Rio Preto (UFMG – 2837), Serra do Cipó (MCN – 5068).

Norops fuscoauratus MINAS GERAIS – São Gonçalo do Rio Abaixo (UFMG – 1076), Itabira (MCN – 4746, 4747, 4748).

Iguana iguana iguana MINAS GERAIS – Belo Horizonte (UFMG – 3231, 3232, 3233, 3234, 3235, 3236, 3237, 3238, 3239).

Enyalius bibronii MINAS GERAIS – Ibicoara (MNRJ – 24768), Riacho dos Machados (MCN – 5072), Salinas (MCN – 4502); BAHIA – Caetité (UFMG – 2559), Iramaia (MNRJ – 24705, 24706).

Enyalius bilineatus MINAS GERAIS – Augusto de Lima (UFMG– 1638, 1640, 1641), Belo Horizonte (UFMG – 482, 3244), Bocaina (Serra do Caraça) (MCN – 5071), Brumadinho (MCN – 4612; UFMG – 488), Caeté (UFMG – 3044, 3045), Carmésia (UFMG – 2848), Catas Altas (MNRJ – 17494, 17496, 18733, 18734, 18736, 18737; MCN – 3891, 3892, 3894; UFMG – 485, 1139, 1130, 2069), Catas Altas da Noruega (MNRJ – 19291, 19327), Conceição do Mato Dentro (MCN–5869, 5299; UFMG – 1810, 2848, 2851), Congonhas (MCN–4865, 5858; UFMG – 1049, 1730, 1731, 1176; 2025, 2026, 2864), Conselheiro Lafaiete (MCN – 3840, 3841), Igarapé (UFMG – 1852, 1853, 1854, 1857), Casa Branca (UFMG – 2807), Inhotim (Brumadinho) (MCN – 3860, 3861, 3862, 3863, 3864, 3865, 3866, 3867, 3868, 3869, 3870, 3871, 3872, 3873, 3874, 3875), Itabira (MCN – 5918; UFMG – 2847, 2850), Itabirito (UFMG – 1910, 2414, 2840); LZV – 1465s), Itatiaiuçu (UFMG–903, 1847, 1866), Jaboticatubas (UFMG – 480), João Monlevade (MCN – 5522), Mariana (MCN – 4483; UFMG – 907, 909, 911, 1033, 2505, 3218, 3223, 3063, 3065, 3066), Macacos (MCN–4081), Morro do Pilar (Conceição do Mato Dentro) (MCN – 4188; UFMG – 2846), Nova Lima (MCN – 4014; UFMG – 481, 490, 956), Ouro Branco (LZV 943S, 971S, 1060S, 1065S), Ouro Preto (MNRJ – 10919, 10136; LZV – 043, 044, 915, 1445; UFMG – 3211, 3216; MCN – 4375, 4634), Parque Estadual do Itacolomi (LZV – 854S), Raposos (UFMG – 1953, 1955, 1956, 1957, 1958), Rio Manso (MCN – 5234), Rio Piracicaba (MCN – 4635, 5908), Sabará (UFMG – 2416, 2417; MCN –

6258), Santana do Riacho (UFMG – 489), São Joaquim de Bicas (UFMG – 1855, 1856), Serra da Ferrugem (Conceição do Mato Dentro) (MCN – 4018), Serra da Moeda (MCN – 5233), Serra da Serpentina (Conceição do Mato Dentro) (MCN – 4795), Serra do Cabral (UFMG – 1638).

Enyalius boulengeri MINAS GERAIS – Estação Ambiental de Peti (UFMG – 1070), João Monlevade (MCN – 4341; UFMG – 879), São Gonçalo do Rio Abaixo (MCN – 6129; UFMG – 1053, 1054, 1061, 1070).

Enyalius perditus MINAS GERAIS – Caeté (UFMG – 3053), Ouro Branco (LZV – 939S, 940S, 942S, 944S, 966S, 967S, 968S, 976S, 977S, 978S, 993S, 995S, 996S, 997S, 1005S, 1038S, 1039S, 1040S, 1042S, 1043S, 1045S, 1047S, 1048S, 1057S, 1059S, 1062S, 1067S, 1070S, 1071S, 1075S, 1076S, 1077S, 1079S, 1080S, 1081S, 1082S, 1083S, 1085S, 1086S, 1087S, 1098S, 1099S, 1117S, 1118S, 1109S, 1110S), Parque Estadual do Itacolomi (LZV – 776S), Rio Acima (MCN – 3104), Santa Bárbara (Gandarela) (MCN – 4146), São Gonçalo do Rio Abaixo (UFMG – 1075).

Enyalius catenatus BAHIA – Bonito (MNRJ – 10895, 10896, 10897, 10898); MINAS GERAIS – Leme do Prado (UFMG – 2398).

Enyalius pictus MINAS GERAIS – Cristália (MNRJ – 6342, 6351, 6429, 12846, 12847), Grão Mogol (MCN – 4508; MNRJ – 25026, 25027), Parque Estadual Grão Mogol (UFMG – 2159, 2174, 2197, 2206, 2215, 2219, 2227), Riacho dos Machados (MCN – 4820),

Urostrophus vautieri MINAS GERAIS – Brumadinho (MCN – 928, 1918, 1919, 1920, 1921, 1922), Catas Altas (MNRJ – 19811, 25999; UFMG – 493), Inhotim (Brumadinho) (MCN – 3918, 3919, 3920, 3921, 3922), Ouro Branco (LZV – 1046S), Parque Estadual do Itacolomi (LZV– 727s, 789S), São Gonçalo do Rio Abaixo (UFMG – 1074).

Polychrus acutirostris BAHIA – Caetité (MNRJ –10532, 10544), Central (MNJR – 14550), Jacarici (UFMG – 1155); MINAS GERAIS – Belo Horizonte (UFMG – 512, 517; MCN – 116), Betim (UFMG – 518), Brumadinho (UFMG – 2657), Confins (UFMG – 1755, 1769, 1779), Joaquim Felício (UFMG – 2057), Diamantina (MCN – 6218), Estação Ecológica da Pampulha (UFMG – 517), Grão Mogol (MNRJ – 16116), Inhotim (Brumadinho) (MCN – 3857, 3858), Jaboticatubas (MNRJ – 16112), Morro do Pilar (UFMG – 3037), Ouro Preto (LZV – 856s), Ouro Preto (Santo Antônio do Leite) (LZV – 1336s), Parque Estadual do Rio Preto (LZV – 1142s, 1301s), Parque das Mangabeiras (Belo Horizonte) (MCN – 1278), Peixe Tolo (MCN – 2769), Ribeirão das Neves (MCN – 5996), Riacho dos Machados (MCN – 5035), Santana do Riacho (UFMG – 3111), Serra da Calçada (UFMG –2657), Serra do Cabral (Buenópolis) (UFMG – 3204), UHE Irapé (MCN – 1743, 4652, 4653, 4654, 4655, 4656, 4657, 4660, 4661, 4664, 4666, 4671, 4674, 4675, 4681, 4689, 4720, 4721, 4722, 4723, 4724, 4725, 4730, 4732).

Eurolophosaurus amathites BAHIA – Gentio de Ouro (MNRJ – 13655, 13656, 13657, 13658, 13659, 13660, 13661, 13662, 13663, 13664, 13665, 13666, 13667, 13668, 13669, 13670, 13671, 13672, 13673, 13674, 13675, 13676, 13677, 13678, 13679, 13680, 13681, 13682, 13683, 13684, 13685, 13686, 13687, 13688, 13689, 13690, 13691, 13692, 13693, 13694, 13695, 13696, 13697, 13698, 13699, 13700, 13701, 13702, 13703, 13704).

Eurolophosaurus divaricatus BAHIA – Barra (MNRJ – 13599, 13600, 13601, 13602, 13603, 13604, 13605, 13606, 13607, 13608, 13608, 13609, 13610, 13612, 13613, 13614, 13615, 13616, 13617, 13618, 13619, 13620, 13620, 13621, 13622, 13623, 13624, 13625, 13626, 13627, 13628, 13628, 13629, 13630, 13631, 13632, 13633, 13634, 13635, 13636, 13637, 13638, 13639, 13640, 13641, 13641, 13642, 13643, 13644, 13645, 13646, 13647, 13648, 13649, 13650, 13651, 13652, 13653, 13654).

Eurolophosaurus nanuzae BAHIA – MINAS GERAIS Cardeal Mota (UFMG – 627), Conceição do Mato Dentro (LZV – 916; UFMG – 920, 921), Conselheiro Mata (MCN – 530, 531, 53), Diamantina (MCN – 2414, 6160, 6256); MNRJ – 12641, 12642, 12643, 12644, 13850, 13851, 13852, 13853, 13854, 13855, 13856, 13857, 13858, 13859, 13860, 13861, 13862, 13863, 13864, 13865, 13866, 13867, 13868, 13869, 13970, 13871, 13872, 13873, 13874, 13875, 13876, 13877, 13878, 13879, 13980, 13881, 13883, 13884, 13885, 13886, 13887, 13888, 13889, 13890, 13891, 13891, 13892, 13893, 13894, 13895, 13896, 13897, 13898, 13899, 13900, 13901, 13902, 13903, 13904, 13905, 13906, 13907; UFMG – 961, 962, 963,

1004, 1011, 1012, 1014), Felício dos Santos (UFMG – 1308), Grão Mogol (UFMG – 925), Jaboticatubas (MNRJ – 13489, 13490, 13491, 13492, 13493, 13493, 13494, 13495, 13496, 13497, 13498, 13499, 13500, 13501, 13502, 13503, 13504, 13505, 13506, 13507, 13508, 13509, 13510, 13511, 13512, 13513, 13514, 13515, 13516, 13517, 13518, 13518, 13520, 13521, 13522, 13523, 13524, 13525, 13526, 13527, 13528, 13529, 13530, 13531, 13532; MCN – 3961, 3962, 3963, 3964, 3965, 3966; UFMG – 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 626), Monjolos (MCN – 6226), Morro do Pilar (UFMG – 1121), Parque Estadual Pico do Itambé (UFMG – 1787; 1788; 1789; 1790; 1791; 1887; 1898; 1899; 1900), Parque Estadual do Rio Preto (LZV –1434; MCN – 4335, 4336), Parque Municipal Ribeirão do Campo Tabuleiro (Conceição do Mato Dentro) (MCN – 5109), Parque Nacional das Sempre Vivas (MCN – 5037, 5038, 5039, 5040, 5045, 5046, 5047, 5048, 5049, 5050, 5051, 5052), Parque Nacional Serra do Cipó (UFMG – 697), Rio Vermelho (UFMG – 987, 988, 989, 2393), Salinas (MCN – 4506), Santana do Paraíso (Serra do Cipó) (MCN – 575), Santana do Riacho (MNRJ – 13224, 13225, 22256, 22257, 22258, 22259, 22260, 22261, 22262, 22263, 22264, 22265, 22266, 22267, 22268, 22269, 22270, 22271, 22272, 22273, 22274, 22275, 22276, 22277, 22278, 22279, 22280, 22281, 22282, 22283, 22284, 22285, 22286, 22287, 22288, 22289, 22290, 22291, 22292, 22293, 22294, 22295, 22296, 22297, 22298, 22299, 22300, 22301, 22302, 22303, 22304, 22305, 22306, 22307, 22308, 22309, 22310, 22311, 22312, 22314, 22315, 22316, 22317, 22318, 22319, 22320, 22321, 22322, 22323, 22324, 22325, 22345, 22346, 22347, 22348, 22349, 22350, 22351, 22352, 22353, 22354, 22355, 22356, 22357, 22358, 22359, 22360, 22361, 22362, 22363, 22364, 22365, 22366, 22367, 22368, 22369, 22370, 22371, 22372, 22373, 22374, 22373, 22376, 22377, 22378, 22379, 22381, 22382, 22383, 22384, 22385, 22386, 22387, 22388, 22389, 22390, 22391, 22392, 22393, 22394, 22395, 22396, 22397, 22398, 22399, 22400, 22401, 22402, 22403, 22404, 22405, 22406, 22407, 22408, 22409, 22410, 224011, 22412; UFMG – 625, 628, 629, 973, 974,

975, 976, 979; 3102, 3103, 3104), São João da Chapada (LZV – 1402s, 1406s), Serro (MNRJ – 13533, 13534, 13535, 13536, 13537, 13538, 13539, 13540, 13541, 13542, 13543, 13544, 13545, 13546, 13547, 13548, 13549, 13550, 13551, 13552, 13555, 13556, 13557, 13558, 13559, 13560, 13561, 13562, 12563, 13564, 13565, 13566, 13567, 13568, 13569, 13570, 13571, 13572, 13573, 13574, 13575, 13576, 13577, 13578, 13579, 13580, 13581, 13582, 13583, 13584. 13585, 13586, 13587, 13588, 13589, 13590, 13591, 13592, 13593, 13594).

***Eurolophosaurus* sp1.** MINAS GERAIS – Itacambira (UFMG – 843, 844, 845, 846, 847, 849, 854, 855, 856, 861, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 923, 924, 1948), Novorizonte (MCN – 4515, 4516), Rio Pardo de Minas (UFMG – 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555); BAHIA – Ipupiara (UFMG – 3187, 3188, 3189, 3192, 3194), Riacho Santana (UFMG – 3177), Rio de Contas (MNRJ – 13595, 13596, 13597, 13598; UFMG – 1145, 1210, 1211, 2036, 2050, 2051, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 3181, 3183).

***Eurolophosaurus* sp2.** BAHIA – Caetité (UFMG – 3256), Morro do Chapéu (Jacaraci) (MCN – 4297).

Tropidurus cocorobensis BAHIA – Morro do Chapéu Morro do Chapéu (MNRJ – 13705, 13706, 13708, 13709, 13710, 13711, 13712, 12713, 13714, 13715, 13716, 13717), Caetité (MNRJ – 17043, 17044, 17045).

Tropidurus erythrocephalus Morro do Chapéu (MNRJ – 13718, 13719, 13720, 13721, 13722, 13723, 13719, 13720, 13721, 13722, 13723, 13724, 13725, 13726, 13727, 13728, 13730, 13739).

Tropidurus hispidus MG – Belo Horizonte (MCN – 6221CW31, 6221CW32, 6221CW33, 6221CW34, 6221CW35, 6221CW36, 6221CW51, 6221CW67, 6221CW68, 6221CW69, 6221CW91, 6221CW92, 6221CW93, 6221CW94, 6221CW99, 6221CW100), Belo Vale (UFMG – 705, 706, 707, 708), Bom Jesus da Lapa (MNRJ– 17881, 17882, 17883, 17884, 17885, 17886, 17887, 17888, 17889, 17890, 17891, 17892, 17893, 17894, 17895, 17896, 17897, 17898, 17899, 17900, 17902, 17904, 17905, 17906, 17907, 17908, 17909, 17910, 17911, 17912, 17913, 17914, 17915, 17916, 17917, 17918, 17919, 17910, 17921, 17922, 17923, 17924), Botumirim (UFMG – 980), Buenópolis (UFMG – 2306, 2307, 2308), Cardeal Mota (UFMG – 703, 711), Conceição do Mato Dentro (MCN – 5689, 5690; UFMG – 1132, 2859, 2860, 2855, 2856, 2857, 2858), Cristália (MNRJ –16681), Diamantina (UFMG – 996, 997, 998, 999, 1001, 1003, 1010), Francisco Sá (UFMG – 701), Grão Mogol (MNRJ – 25045; UFMG – 2171, 2172, 2173), Parque Estadual do Rio Preto (PUC–4332), Parque Nacional das Sempre Vivas (MCN – 4461, 4615), Riacho dos Machados (MCN – 4811, 4812) Rio Vermelho (UFMG – 990, 991, 992, 993, 994), Santana do Riacho (UFMG – 1943, 1996), Serra da Ferrugem (Conceição do Mato Dentro (MCN – 4016, 4017), Serra da Piedade (PUC – 5257), Serranópolis de Minas (UFMG – 2313, 2314), Serro (UFMG – 1811); BAHIA – Barra (MNRJ – 15979, 15980, 15981), Ibicoara (UFMG – 2055, 2056), Inhancica (Sempre Vivas) (MCN – 1806), Itaguaçu da Bahia (MNRJ – 14521,14522, 14523, 14524, 14525), Itapamonhacanga (MCN– 5793), Oliveira dos Brejinhos (UFMG–3198), Palmas do Monte Alto (UFMG – 1169), Piatã (UFMG – 2054), Riacho Santana (UFMG– 3178, 3179), Rio de Contas (UFMG – 2596, 2603).

Tropidurus itambere MINAS GERAIS – Augusto de Lima (UFMG – 1654), Brumadinho (UFMG – 927), Caeté (LZV – 1143s, 1144s), Congonhas (MCN – 5191), Itabirito (UFMG – 1912; MCN – 4121), Ouro Branco (LZV – 1084s), Parque Estadual Serra do Rola Moça (MCN – 1518), Parque Nacional Serra do Gandarela (Rio Acima) (LZV – 1462s, 1464s), Rio Acima (LZV – 1145s, 1463s), Serra da Moeda (Nova Lima) (MCN – 1045), Serra do Rola Moça (UFMG – 952, 953, 1342, 1343).

Tropidurus montanus: MINAS GERAIS – Alto Palácio (Serra do Cipó) (MCN – 141, 142), Barão de Cocais (UFMG – 960, 2972), Botumirim (UFMG – 691, 692; 981, 982, 984), Caeté (UFMG – 3072), Cachoeira do Tabuleiro (Conceição do Mato Dentro) (MCN – 533), Catas Altas (UFMG – 690; MNRJ – 15496, 15497, 15498, 15499, 15500, 16961, 17850, 17851, 17852, 19971, 19972, 20738, 21095, 21096, 22982, 24559, 24560), Conceição do Mato Dentro (MCN – 130, 131; UFMG – 1944, 1945, 1946, 1947), Congonhas (LZV – 873s), Diamantina (MNRJ – 21550, 21559, 21560, 24684, 24685, 24686, 25687, 24688, 24689, 24690; UFMG – 964, 965, 966, 967, 970, 971, 1002), Grão Mogol (UFMG – 694, 695, 696, 2169, 2170), Itabirito (LZV – 1454s, 1461s), Itacambira (UFMG – 848, 850, 852, 853, 859, 878), Jaboticatubas (MNRJ – 16754; MCN – 3970, 3971; UFMG – 635, 636, 637, 638, 639, 640, 641, 1949), Joaquim Felício (UFMG – 2012), Lassance (MCN – 4317; UFMG – 2904), Monjolos (MCN – 6224, 6225), Nova Lima (LZV – 1052; UFMG – 958), Ouro Preto (UFMG – 3207, 3208, 3209, 3210), Parque Municipal Ribeirão do Campo (Tabuleiro) (MCN – 524), Parque Nacional Serra do Gandarela (LZV – 1457s, 1450s, 1451s, 1452s, 1453s, 1456s, 1459s), Rio Acima (LZV – 1458s; UFMG – 3010, 3011, 3012, 3013, 3015, 3016, 3018, 3019, 3020, 3021, 3022), Rio Pardo de Minas (UFMG – 2381, 2382, 2556), Santana do Riacho (MNRJ – 12898, 13211, 21551, 21552, 21553, 21554, 21555, 21556, 21557, 21558, 22241, 22242, 22243, 22244, 22245,

22246, 22247, 22248, 22249, 22250, 22251, 22252, 22253, 22254, 22255, 22326, 22327, 22328, 22329, 22330, 22331, 22332, 22333, 22334, 22335, 22336, 22336, 22337, 22338, 22339, 22340, 22341, 22342, 22343, 22344, 22413, 22414, 22415, 22416, 22417, 22418, 22419, 22420, 22421, 22422, 22423, 22424, 22425, 22426, 22427, 22428, 22429, 22430, 22432, 22432, 22433, 22434, 22435, 22436, 22437, 22438, 22439, 22440, 22441, 22442, 22443; UFMG – 693, 3097, 3098), Santo Antônio do Itambé (UFMG – 1888, 1891, 1894, 1902), Serra do Cabral (Buenópolis) (LZV – 1126s, 1127s, 1128s, 1129s, 1130s; UFMG – 2062, 2310, 2311), Serra do Capanema (Santa Bárbara) (LZV – 1449s), Serra do Caraça (RPPN Santuário do Caraça) (LZV – 1448s, 1455s), Serra do Cipó (UFMG – 3132, 3233), Serra da Piedade (Caeté) (MCN – 3046, 3047, 3048, 3049, 3050, 5114, 5115, 5116, 5117, 5118, 5119, 5120, 5121, 5122, 5123, 5124, 5125, 5126, 5127, 5128, 5129, 5130, 5131, 5132, 5133, 5134, 5135, 5136, 5137, 5138, 5139, 5140, 5141, 5142, 5143, 5144, 5145, 5217, 5218, 5219, 5220, 5221, 5222, 5223, 5224, 5225, 5226, 5227, 5228, 5229, 5230, 5231, 5244, 5245, 5246, 5247, 5248, 5249, 5250, 5251, 5252, 5254, 5285, 5286, 5287, 5288, 5289, 5291, 5292, 5346, 5347, 5348, 5350, 5351, 5352, 5353, 5354, 5355, 5356, 5469, 5470, 5471, 5472, 5473, 5474, 5475, 5476, 5477, 5478).

Tropidurus mucujensis BA – Jacaraci (UFMG – 1152, 1153, 1154).

Tropidurus pinima Bahia – Ipupiara (UFMG – 3195, 3196), Rio de Contas (UFMG – 2597).

Tropidurus semitaeniatus BAHIA – Abaíra (UFMG – 1147), Brumadinho (UFMG – 2597), Catalés de Cima: Pico do Barbado (UFMG – 1147), Central (MNRJ – 14527, 14528, 14529, 14592, 14593, 15473, 15474, 15475, 15476, 15477, 15478, 15479, 15480, 15481, 15482,

15485, 15931, 15931, 15932, 15933, 15934, 15925, 15936, 15937, 15938, 15939, 15940, 15942, 15942, 16707, 16708, 16709, 16718, 16719, 16720, 16721, 16722, 16723, 16724, 16725, 16726, 16727, 16728, 16729, 16730, 16731, 16732, 16733, 16734, 16735, 16736, 16737, 16738, 16739, 16740, 16741, 18212, 18212, 18213, 18214, 18215, 18216, 18217, 18218, 18219, 18220, 18221, 18222, 18223, 18224, 18225, 18226, 18227, 18228, 12229, 18230, 18231, 18232, 18233, 18234, 18235, 18236, 18237, 18238, 18239, 18240, 18241, 18242, 18243, 18244, 18245), Ibicoara (UFMG – 2611), Itaguaçu da Bahia (MNRJ – 14597, 14598, 14599, 14600, 14601, 14602, 14603, 14604, 14605, 14606, 14607, 14608, 14609, 14610, 14611, 14612, 14613, 14614, 14615, 14616, 14617, 16742, 16743, 16744, 16745), Guiné (PARNA – Chapada Diamantina) (UFMG – 1150, 2608, 2609, 2611); Lagoa Real (MNRJ – 16518, 16519), Morro do chapéu (MNRJ – 13740, 13741, 13742, 13743, 13744, 13745, 13746, 13747, 13748, 13749, 13750, 13751, 13752, 13753, 13754, 13755, 13756, 13757, 13758, 13759, 13760, 13761, 13762, 13763, 13764, 13765, 13766, 13767, 13768, 13769, 13770, 13771, 13772, 13773; UFMG – 2326, 2579), Mucugê (UFMG – 2608, 2609), Palmeiras (UFMG – 1150), Pindobaçu (UFMG – 1172), Rio de Contas (UFMG – 2043, 2044, 2045), Santo Antônio do Retiro (MCN – 3832), Uibaí (MNRJ – 14594, 14595, 16751, 16752, 16753), MINAS GERAIS – Porteirinha (MCN – 3649), Riacho dos Machados (MCN – 5714), Serra do Pau D'arco (Santo Antônio do Retiro) (MCN – 3832).

Tropidurus sertanejo BAHIA – Riacho de Santana (UFMG – 3176), Rio de Contas (UFMG – 2052, 3182, 3184, 3185).

Tropidurus torquatus MINAS GERAIS – Alvorada de Minas (MNRJ – 14517, 14518), Belo Horizonte (UFMG – 709, 710, 713, 719, 721, 837, 1691, 3113; MCN – 6221, 6221CW2, 6221CW3, 6221CW4, 6221CW5, 6221CW6, 6221CW7, 6221CW8, 6221CW9, 6221CW10,

6221CW11, 6221CW12, 6221CW13, 6221CW14, 6221CW15 , 6221CW16, 6221CW17, 6221CW18, 6221CW19, 6221CW20, 6221CW21, 6221CW22, 6221CW23, 6221CW24, 6221CW25, 6221CW26, 6221CW27, 6221CW28, 6221CW29, 6221CW30, 6221CW37, 6221CW38, 6221CW39, 6221CW40, 6221CW41 , 6221CW42, 6221CW43, 6221CW44 , 6221CW45, 6221CW46, 6221CW47, 6221CW48, 6221CW49, 6221CW50, 6221CW52, 6221CW53, 6221CW54, 6221CW55, 6221CW56, 6221CW57, 6221CW58, 6221CW59, 6221CW60, 6221CW61, 6221CW62, 6221CW63, 6221CW64, 6221CW65, 6221CW66, 6221CW70, 6221CW71, 6221CW72, 6221CW73, 6221CW74, 6221CW75, 6221CW76, 6221CW77, 6221CW78, 6221CW79, 6221CW80, 6221CW81, 6221CW82, 6221CW83, 6221CW84, 6221CW85, 6221CW86, 6221CW87, 6221CW88, 6221CW89, 6221CW90, 6221CW95, 6221CW96, 6221CW97, 6221CW98), Buenópolis (UFMG – 2058), Conceição do Mato Dentro (UFMG – 2264, 2265, 2266, 2861; MCN – 5693), Inhotim (Brumadinho) (MCN – 3757, 3758, 3759, 3760, 3761, 3947), Itabira (UFMG – 2268, 2269), Jaboticatubas (UFMG – 2935), Mariana (LZV – 1446s, 1460s; UFMG – 3222; MCN – 3064, 3067, 3070, 3112, 4331, 4482), Morro do Pilar (UFMG – 2863), Museu Ciências Naturais Puc–Minas (Belo Horizonte) (MCN – 4821, 5176, 6263), Ouro Preto (UFMG – 3225, 3219, 3220, LZV – 055s, 356s, 413s, 730s, 1347s), Parque Estadual do Itacolomi (LZV – 045s), Pedro Leopoldo (UFMG – 3074, 3075), Rio Acima (UFMG– 726, 3017), Rio Piracicaba (MCN – 5910), Sabará (LZV – 228s, 229s, 230s, 231s, 232s, 233s), Santa Bárbara (MCN – 6178; UFMG – 725), Santa Maria de Itabira (MCN – 5704), Santo Antônio do Itambé (UFMG – 1892), São Gonçalo do Rio Abaixo (MNRJ – 11714, 11715, 11716, 11717, 15779, 17994, 15995, 15996, 15997, 15999, 16142, 16144, 16145, 16147, 16167, 16168, 16169, 16170, 6172, 16173, 16174, 16183, 16184, 16185, 16186, 16187, 16188, 16232, 16233, 16234, 16235, 16236, 16237, 16238, 16239, 16240, 16248, 16249, 16250, 16251, 16252, 16253, 16254, 16255, 16256, 16257, 16258, 16259, 16260, 16261, 16262, 16263, 16264, 16265, 16266, 16267, 16268, 16269, 16270, 16271,

16272, 16273, 16274, 16275, 16276, 16635, 16636, 16637, 18157, 18301, 18302; UFMG– 704, 723, 1063, 1071), Serra Azul (LZV–1016s 1323s), Serra da Piedade (Caeté) (MCN – 5257, 5258), Serro (MCN – 5510), UHE (Irapé) (MCN – 4613, 4614).

Ophiodes striatus MINAS GERAIS – Brumadinho (UFMG – 2980), Jaboticatubas (MCN – 3973), Nova Lima (UFMG– 838, 839), Santana do Riacho (MCN – 2595).

Ophiodes fragilis MINAS GERAIS – Barão de cocais, Conselheiro Lafaiete (MCN – 2605), Rio Piracicaba (MCN – 4646, 4847, 4643), Serro (UFMG – 1388).

Ophiodes sp1 MINAS GERAIS – Inhotim (Brumadinho) (MCN – 3791), Santana do Riacho (MCN – 2768), Parque Nacional da Serra do Cipó (MCN – 4333), Rio Acima (UMFG – 2991).

Ophiodes sp2 MINAS GERAIS – Belo Horizonte (MCN – 154; 511), Conceição do Mato Dentro (MCN – 6041), Inhotim (Brumadinho) (MCN – 3790, 3792), Monjolos (MCN – 6227), Museu de Ciências Naturais PUC (Belo Horizonte) (MCN – 118), Retiro das Pedras (Belo Horizonte) (MCN – 943), RPPN Serra do Caraça (MCN – 4261).

Ophiodes sp3 MINAS GERAIS – Buenópolis (UFMG – 2014).

Ophiodes sp4 MINAS GERAIS – Serra do Caraça (Catas Altas) (MNRJ – 16949).

Acratosaura mentalis BAHIA – Piatá (UFMG – 2053), Caetité (Brejinho das Ametistas) (UFMG – 2562), Maracás (MNRJ – 24694), Ipupiara (UFMG – 3197); MINAS GERAIS – Diamantina (MCN – 6159), Botumirim (UFMG – 983), UHE Irapé (Grão Mogol/Cristália) (MCN – 1340, 2496), Grão Mogol (MNRJ – 25040, 25109, 25138, 25139, 25154, 25155), Riacho dos Machados (MCN – 5149, 5716, 4819), Cristália (MNRJ – 9966, Parque Estadual Serra Nova (UFMG – 2545; 2546; 2547) (UFMG – 2545, 2546), Parque Nacional Sempre Vivas (MCN – 5044), São João da Chapada (Diamantina)(LZV – 1404s).

Acratosaura spinosa BAHIA– Iramaia (MNRJ – 24250, 24698, 24699), Chapada Diamantina (UFMG–?).

Cercosaura aff. *ocellata* MINAS GERAIS – Santana do Riacho (UFMG – 3091, 3092).

Cercosaura schreibersii albostrigata MINAS GERAIS – Curvelo (MCN – 3508).

Cercosaura quadrilineata MINAS GERAIS – Congonhas (MCN – 5710), Conselheiro Lafaiete (MNRJ – 18710), Diamantina (LZV – 1403), Mariana (UFMG – 2372), Nova Lima (MCN – 5993), Ouro Branco (LZV 003S – L), Ouro Preto (UFMG – 2370), Ribeirão do Campo (Tabuleiro – Conceição do Mato Dentro) (MCN – 535), Rio Acima (UFMG – 3014), Serra da Moeda (Nova Lima) (UFMG – 957), Serra da Piedade (Caeté) (MCN – 6029), Serra do Salitre (UFMG – 424), Serra do Intendente (MCN – 3677).

Ecpleopus gaudichaudii Minas Gerais – Barão de Cocais (PUC – 3408, 4183, 4632; UFMG – 2970), Belo Horizonte (UFMG – 455, 823; MCN – 6318), Brumadinho (MCN – 3828), Caeté (UFMG – 3042, 3043), Catas Altas (UFMG – 829), Catas Altas da Noruega (MNRJ – 18738, 18739, 18740), Conceição do Mato Dentro (MCN – 6121; UFMG–2845), Congonhas (MCN – 6145), Estação ambiental de Peti (UFMG – 1060, 1065, 1066, 1068, 1069, 1072), Itabira (UFMG – 2843, 2844; MCN – 4640), Itatiaiuçú (UFMG – 905), Mariana (UFMG – 914), Miguel Bournier (MCN – 2752), Museu de História Natural da PUC (Coração eucarístico – Belo Horizonte)(MCN – 1087, 3404, 3405, 4788, 4789, 4791, 4792),Ouro Branco (LZV – 973S, 991S, 992S, 1000S, 1006S, 1007S, 1008S, 1009S, 1010S, 1024S, 1041S, 1044S, 1049S, 1050S, 1051S, 1063S, 1064S, 1068S, 1069S, 1090S, 1091S, 1101S, 1111S, 1112S, 1113S, 1114S, 1115S, 1116S, 1148S), Ouro Preto (UFMG – 3217), Parque das Mangabeiras (MCN – 123), Ribeirão das Neves (UFMG – 1109), Rio Piracicaba (MCN – 4641, 6108), Sabará (MCN – 6259; UFMG – 1960), Santa Bárbara (UFMG – 2557), Santo Antônio do Itambé (UFMG – 1890, 1895, 1896, 1903), São Gonçalo do Rio Abaixo (MCN – 4184), São Joaquim de Bicas (UFMG – 1862), Serra da Piedade (Caeté) (MCN – 6030), Serra do Baú (Santa Bárbara)(MCN – 3284), Virgem da Lapa (MCN – 2782, 2783, 2784, 2785, 2786, 2787, 2788),

Heterodactylus imbricatus MINAS GERAIS – Barão de Cocais (MCN – 4182), Caeté (MCN – 2964, 4799; UFMG – 3055), Catas Altas (MCN – 4850; MNRJ – 17863; UFMG – 461), Congonhas (5706), Itabirito (LZV – 621s; UFMG – 2415), Macacos (Nova Lima) (MCN – 3414), Mariana (MCN – 3648, 4517), Morro do Pilar (UFMG – 2011), Nova Lima (MCN – 121, 2220; UFMG – 460), Ouro Preto (LZV – 1056s; MNRJ – 12931, 12932, 53s, 54s, 138s, 431s), Rio Acima (3100, 3101), RPPN Santa Bárbara (MNRJ – 17479; UFMG – 3054), Serra da Piedade (MCN – 5375), Serra do Caraça (MCN – 1509), Serra do Gandarela (Santa Bárbara) (MCN – 4147), Serra do Ouro Branco (LZV – 887s, 906s, 914s, 927s, 941S, 974S, 990S, 999S,

1017S, 1019S, 1052S, 1058S, 1119S 1100S, 1153s, 1154s, 1155s, 1157s), Vale do Mutuca (Nova Lima) (MCN – 4319),.

Heterodactylus lundii MINAS GERAIS – Brumal (UFMG – 2378), Cardeal Mota (UFMG – 462), Diamantina (MCN – 6212, 6254), Santana do Riacho (UFMG ?), Serra da Piedade (Caeté) (MCN – 5375), Virgem da Lapa (MCN – 2781),

Heterodactylus sp. MINAS GERAIS – Serra do Caraça (UFMG – 461).

Leposoma scincoides BAHIA – Pindobaçú (UFMG – 1171).

Micrablepharus maximiliani MINAS GERAIS – Buenópolis (UFMG – 2309), Francisco Sá (MCN – 2147), Grão Mogol (UFMG – 2168, 2186, 2209, 2211; MNRJ – 25050, 25150, 25151, 25152), Jaboticatubas (UFMG – 463, 464, 465, 466, 467, 468, 469), Parque Estadual do Rio Preto (LZV – 1432, 1433, 1436), Riacho dos Machados (MCN – 5096), Salinas (MCN – 4505), Santana do Riacho (UFMG – 470, 471, 472, 473, 1355, 1356), UHE Irapé (Grão Mogol) (MCN – 2132, 2133, 2154, 2558, 5777), Virgem da Lapa (MCN – 2789).

Placosoma cipoense MINAS GERAIS – Parque Estadual do Itambé (UFMG – 1467), Jaboticatubas (UFMG – 476), Santana do Riacho (UFMG – 2078).

Psilops mucugensis BAHIA – Ipupiara (UFMG – 3191).

Psilops paeminosus MINAS GERAIS – Grão Mogol (MCN – 3429; UFMG – 2188, 2189, 2221, 2226), São João do Paraíso (MCN – 3429).

Rhachisaurus brachylepis MINAS GERIAS – Brumadinho (UFMG – 2743), Diamantina (LZV – 1419s; MNRJ – 4786), Grão Mogol (UFMG – 2213, 2216), Rio Acima (477), São Bento (Belo Horizonte) (MCN – 453), São João da Chapada Diamantina (LZV).

Ameiva ameiva Minas Gerais – Barão de Cocais (MCN– 963), Belo Horizonte (UFMG– 550, 557, 558, 560, 562, 563, 564, 565, 567, 1793, 1885, 1919, 3249), Belo Horizonte (Puc Minas) (MCN – 150), Cachoeira do Campo (Ouro Preto)(LZV – 265s), Caeté (UFMG – 552), Cardeal Mota (UFMG – 551), Catas Altas (MNRJ – 20682), Congonhas (MCN – 6222), Conceição do Mato Dentro (MCN – 5003, 5692, 6175; UFMG – 1812), Conselheiro Lafaiete (MNRJ – 19328), Conselheiro Mata (MCN – 468), Diamantina (MNRJ – 21561, 21562, 21563, 21564, 21565), Francisco Sá (MCN – 2135, 2136, 2137, 2138, 2140, 2141, 2142, 2143), Grão Mogol (UFMG – 2167, 2193; MCN – 4509, 4510; MNRJ – 25023, 25114, 25129, 25130), Inhotim (Brumadinho) (MCN – 3905, 3906, 3928, 3929, 3930, 3931, 3945, 3946), Itabira (UFMG – 2841), Itacambira (UFMG – 857, 863, 1024), Mariana (UFMG – 926, 3225, 3068, 3069; MCN – 4964), Nova Lima (UFMG – 951, 2072, 2273), Ouro Branco (LZV – 494s, 616s), Ouro Preto (UFMG – 3212, 3213; LZV – 1036s), Parque das Mangabeiras (MCN – 114, 461, 1404), Parque Nacional Sempre Vivas (MCN – 2566; 5054, 5055), Parque Estadual Serra do Rola Moça (MCN – 3494), Parque Estadual do Rio Preto (LZV – 1429, 1430), Riacho dos Machados (MCN – 4806, 4807, 4808, 4832), Rio Acima (MCN – 2598), Rio Piracicaba (MCN – 4644, 5367, 5911, 5912), Rio Vermelho (UFMG – 2506), Sabará (UFMG – 2592), Santa Bárbara (MCN – 3279), Santana do Riacho (UFMG – 935, 936, 1995), Santo Antônio do Itambé (UFMG – 1901), São Gonçalo do Rio Abaixo (UFMG – 568, 588, 589), São João da Chapada (Diamantina) (LZV – 1412s), Serra da Ferrugem (Conceição do Mato Dentro) (MCN – 4015), Serra do Cipó (MCN – 3420), Serro (UFMG – 1382), UHE Irapé (MCN – 911, 912, 913, 928, 1317, 1504, 1606, 1607, 1634, 1671, 1695, 1703, 1704, 1784, 2126, 2155, 2287, 2288, 2335, 2981, 2982, 2983, 2985, 2997, 4617, 4619, 5600, 5607, 5608, 5609, 5610, 5611); BAHIA –

Ipupiara (MNRJ – 25923), Morro do Chapéu (MNRJ – 13833), Santa Rita de Cássia (MNRJ – 24357).

Ameivula cipoensis MINAS GERAIS – Belo Horizonte (UFMG – 3247), Cardeal Mota (UFMG – 583), Jaboticatubas (MNRJ – 12235; UFMG – 570, 571, 572, 573, 574, 575, 576, 577, 578, 579), Parque Serra do Curral (Belo Horizonte) (UFMG – 1786), Santana do Riacho (UFMG – 584, 585, 3087, 3088, 3089, 3090, 3100, 3101), Serra do Cipó (MCN – 3409).

Ameivula nigrigula BAHIA – Bom Jesus da Lapa (MNRJ – 11406, 11417, 11418, 11425), Caetité (UFMG – 3145), Cafarnaum (MNRJ – 25928, 25931, 25932, 25933, 25934), Central (MNRJ – 16714, 17639, 17640, 17641, 17642, 17643, 17644, 17645, 17646, 17647, 17648, 17649, 17650, 17651, 17652, 17643), Ipupiara (UFMG – 3156, 3162; MNRJ – 25935, 25936, 25937), Itaguaçu da Bahia (MNRJ – 14622), Morro do Chapéu (MNRJ – 13816, 13817, 13818, 13819, 13820, 13821, 13822, 13823, 13824, 13825, 13826, 13827, 13828, 13829, 13830, 13831, 13831, 13832, 13834, 13835, 13836, 13837, 13838, 13839, 13841, 13842, 13843, 13844, 13845, 13846, 13847, 13848, 13849), Oliveira dos Brejinhos (UFMG – 3172, 3173); MINAS GERAIS – Grão Mogol (MNRJ – 25041), Parque Estadual Grão Mogol (UFMG – 587, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2184, 2198, 2205, 2209, 2211).

Ameivula ocellifera Bahia – Morro do Chapéu (2574); MINAS GERAIS – Augusto de Lima (UFMG – 1655).

Glaucmastix cyanura BAHIA – Morro do Chapéu (MNRJ – 13840).

Kentropyx aff. *paulensis*: Minas Gerais – Augusto de Lima (UFMG – 1632, 1633, 1634, 1636, 1658), Diamantina (LZV – 1405s, 1420s; MCN – 5681, 6157, 6257; UFMG – 968, 969), São João da Chapada (Diamantina) (LZV-?), Serra do Cabral (Buenópolis) (LZV – 1125s, 1131s; UFMG – 2059, 2060, 2061).

Salvator merianae MINAS GERAIS – Belo Horizonte (MCN – 4189; UFMG – 3023), Cachoeira do Campo (Ouro Preto) (LZV – 1319), Catas Altas (MNRJ – 24244), Conceição do Mato Dentro (MCN – 4165, 4166, 5868), Nova Lima (MCN – 256), Ouro Branco (LZV – 994s), Santa Barbara (MCN – 3282), São Gonçalo do Rio Abaixo (UFMG – 597, 1058), Serro (UFMG – 1879), UHE Irapé (MCN – 2259).

Tupinambis quadrilineatus Minas Gerais – UHE Irapé (Cristália) (MCN – 2518), UHE Irapé (MCN – 6075).

Appendix 2: First author's occasional records.

Hemidactylus maboia MINAS GERAIS – Parque Estadual do Itacolomi, Santana do Riacho.

Aspronema dorsivittatum MINAS GERAIS – Santana do Riacho.

Heterodactylus lundii MINAS GERAIS – Santana do Riacho (n=2).

Cercosaura quadrilineata MINAS GERAIS – Ouro Preto (n=1).

Tropidurus itambere MINAS GERAIS – Serra do Rola Moça (n=1)

Tropidurus montanus MINAS GERAIS – Santana do Riacho n=15).

Enyalius bilineatus MINAS GERAIS – Ouro Preto (n=1), Parque Estadual do Itacolomi (n=1).

Enyalius perditus MINAS GERAIS – Parque Estadual do Itacolomi (n=1).

Urostrophus vautieri MINAS GERAIS – Serra do Caraça (n=1), Ouro Preto (n=6), Parque Estadual do Itacolomi (n=2).

Salvator merianae MINAS GERAIS – Parque Estadual do Itacolomi (n=1), Parque Estadual do Rio Preto (n=1), Jaboticatubas (n=1), Santana do Riacho (n=2), Ouro Preto (n=2).

Table 1.

Table 1: Lizard species recorded at the Espinhaço mountain range, Bahia, Minas Gerais, Brazil, with related natural history information and conservation status. ED: Endemic; Biome - AM: Amazonia; CA: Caatinga; CE: Cerrado; CH: Chaco; Atlantic Forest: MA; W: widespread; W; Habitat - FO: Forest; OP: Open habitats; Habit – AR: Arboric; F: Fossorial; T: Terrestrial; R: Saxicolus; SA: Semi-arboric; SF: Semi fossorial; AC: Activity - N: Nocturnal; D: Diurnal; MMA: Ministério do Meio Ambiente; BA: Bahia State; MG: Minas Gerais state; Conservation status - CR: critically endangered; EN: Endangered; LC: Least concern; DD: Data deficient; VU: Vulnerable. Exotic*.

| Taxon | ED | Biome | Habitat | Habit | AC | IUCN | MMA | BA | MG |
|---|-----|------------|---------|-------|-----|------|-----|----|----|
| Gekkonidae | | | | | | | | | |
| <i>Hemidactylus agrius</i> Vanzolini, 1978 | | CA, CE | OP/FO | T | N | | | | |
| <i>Hemidactylus brasilianus</i> (Amaral, 1935) | | CA, CE, MA | OP/FO | T | N | | | | |
| <i>Hemidactylus mabouia</i> (Moreau de Jonnés, 1818) | | W | OP/FO | T | N | | | | |
| <i>Lygodactylus klugei</i> (Smith et al. 1977) | | CA, CE | FO | AR | D | | | | |
| <i>Lygodactylus wetzeli</i> (Smith et al. 1977) | | CH, CA | FO | AR | | | | | |
| Phyllodactylidae | | | | | | | | | |
| <i>Gymnodactylus geckoides</i> Spix, 1825 | | CA, CE, MA | OP/FO | T | D/N | | | | |
| <i>Gymnodactylus</i> sp.1 | | CA | OP | ? | N | | | | |
| <i>Gymnodactylus</i> sp.2 | | CE | OP | ? | N | | | | |
| <i>Gymnodactylus guttulatus</i> Vanzolini 1982 | Yes | CE | OP | R | N | | | | |
| <i>Gymnodactylus vanzolinii</i> Cassimiro & Rodrigues, 2009 | Yes | CA | OP | R | N | | | EN | |
| <i>Phyllopezus pollicaris</i> (Spix, 1825) | | W | OP/FO | T | N | | | | |
| Sphaerodactylidae | | | | | | | | | |
| <i>Coleodactylus meridionalis</i> (Boulenger, 1888) | | CA, CE, MA | FO | T | D | | | | |
| Mabuyidae | | | | | | | | | |
| <i>Aspronema dorsivittatum</i> (Cope, 1862) | | CE, MA | OP/FO | T | D | | | EN | |
| <i>Aspronema</i> sp.1 | | CA | OP | T | D | | | | |
| <i>Aspronema</i> sp.2 | | CA | OP | T | D | | | | |
| <i>Aspronema</i> sp.3 | | CE | OP | T | D | | | | |

| | | | | | | | | |
|--|-----|------------|-------|----|---|----|--------------|----|
| <i>Aspronema</i> sp.4 | | MA | OP/FO | T | D | | | |
| <i>Brasiliscincus heathi</i> (Schmidt & Inger, 1951) | | CA, CE, MA | OP/FO | T | D | | | |
| <i>Copeoglossum nigropunctatum</i> (Spix 1825) | | AM/CAA/CE | OP/FO | T | D | | | |
| <i>Notomabuya frenata</i> (Cope, 1862) | | CE, MA | OP/FO | T | D | | | |
| <i>Psychosaura macrorhyncha</i> Hoge, 1947 | | MA | FO | T | D | | | |
| <i>Psyshosaura</i> sp.1 | | CA | ? | ? | D | | | |
| <i>Psyshosaura</i> sp.2 | | CE | OP | T | D | | | |
| Dactyloidae | | | | | | | | |
| <i>Norops fuscoauratus</i> | | MA | FO | SA | D | | | |
| Iguanidae | | | | | | | | |
| <i>Iguana iguana iguana</i> (Linnaeus, 1758) | | W | FO | SA | D | | | |
| Leiosauridae | | | | | | | | |
| <i>Enyalius bibronii</i> Boulenger, 1885 | | W | FO | SA | D | | | |
| <i>Enyalius bilineatus</i> Duméril & Bibron, 1837 | | CE,MA | OP/FO | SA | D | | | |
| <i>Enyalius boulengeri</i> Etheridge 1969 | | MA | FO | SA | D | | | |
| <i>Enyalius catenatus</i> (Wied 1821) | | MA | FO | SA | D | | | |
| <i>Enyalius erythroceneus</i> Rodrigues et al. 2006 | Yes | CA | FO | SA | D | | CR-Blab(iii) | EN |
| <i>Enyalius perditus</i> Jackson, 1978 | | MA | FO | SA | D | | | |
| <i>Enyalius pictus</i> (Schinz, 1822) | | MA | FO | SA | D | | | |
| <i>Urostrophus vautieri</i> Duméril & Bibron, 1837 | | CE, MA | OP/FO | SA | D | | | |
| Polychrotidae | | | | | | | | |
| <i>Polychrus acutirostris</i> Spix, 1825 | | W | OP/FO | SA | D | | | |
| Tropiduridae | | | | | | | | |
| <i>Eurolophosaurus amathites</i> (Rodrigues, 1984) | Yes | CE/CA | OP | T | D | DD | EN-Blab(iii) | VU |
| <i>Eurolophosaurus divaricatus</i> (Rodrigues, 1986) | | CA | OP | T | D | | | VU |
| <i>Eurolophosaurus nanuzae</i> (Rodrigues, 1981) | Yes | CE/CA | OP | T | D | NT | | |
| <i>Eurolophosaurus</i> sp.1 | ? | | OP | T | D | | | |
| <i>Eurolophosaurus</i> sp.2 | ? | | OP | T | D | | | |

| | | | | | | | | |
|--|-----|--------|-------|----|---|----|----------------|----|
| <i>Stenocercus tricristatus</i> (Duméril, 1851) | ? | ? | ? | ? | D | | | |
| <i>Tropidurus cocorobensis</i> Rodrigues, 1987 | | CA | OP | T | D | | | |
| <i>Tropidurus erythrocephalus</i> Rodrigues, 1987 | Yes | CA | OP | T | D | NT | VU-Blab(iii) | VU |
| <i>Tropidurus etheridgei</i> Cei, 1982 | | W | OP | T | D | | | |
| <i>Tropidurus hispidus</i> (Spix, 1825) | | W | OP | T | D | | | |
| <i>Tropidurus itambere</i> Rodrigues, 1987 | | CE | OP | R | D | | | |
| <i>Tropidurus montanus</i> Rodrigues, 1987 | Yes | CE | OP | T | D | | | |
| <i>Tropidurus mucujensis</i> Rodrigues, 1987 | Yes | CA | OP | R | D | | | EN |
| <i>Tropidurus oreadicus</i> Rodrigues, 1987 | | W | OP | T | D | | | |
| <i>Tropidurus pinima</i> Rodrigues, 1984 | | CA | OP | R | D | | | |
| <i>Tropidurus psammonastes</i> Rodrigues et al. 1988 | Yes | CA | CAA | T | D | DD | EN - Blab(iii) | EN |
| <i>Tropidurus semitaeniatus</i> (Spix, 1825) | | W | OP | R | D | | | |
| <i>Tropidurus sertanejo</i> Carvalho et al. 2016 | Yes | CA | OP/FO | T | D | | | |
| <i>Tropidurus torquatus</i> (Wied, 1820) | | W | OP | T | D | | | |
| Anguidae | | | | | | | | |
| <i>Diploglossus fasciatus</i> (Gray, 1831) | | AM/MA | FO | SF | D | | | |
| <i>Ophiodes fragilis</i> (Raddi, 1820) | | | OP/FO | SF | D | | | |
| <i>Ophiodes striatus</i> (Spix, 1824-25) | | W | OP/FO | SF | D | | | |
| <i>Ophiodes</i> sp.1 | | CE, MA | ? | SF | D | | | |
| <i>Ophiodes</i> sp.2 | | CE, MA | ? | SF | D | | | |
| <i>Ophiodes</i> sp.3 | | CE | ? | SF | D | | | |
| <i>Ophiodes</i> sp.4 | | CE, MA | ? | SF | D | | | |
| Gymnophthalmidae | | | | | | | | |
| <i>Acratosaura mentalis</i> (Amaral, 1933) | | CE, CA | OP | T | D | | | |
| <i>Acratosaura spinosa</i> Rodrigues et al.2009 | Yes | CA | OP | T | D | | | EN |
| <i>Anotosaura colaris</i> Amaral ,1933 | | CA | FO | SF | D | | | CR |
| <i>Anotosaura vanzolinia</i> Dixon, 1974 | | CA/ MA | FO | SF | D | | | |
| <i>Calyptommatus leiolepis</i> Rodrigues, 1991 | | CA | OP | F | N | | EN - Blab(iii) | VU |

| | | | | | | | |
|--|-----|-------|-------|----|---|----------------|----|
| <i>Calyptommatus nicterus</i> Rodrigues, 1991 | Yes | CA | OP | F | N | EN - Blab(iii) | EN |
| <i>Calyptommatus sinebrachiatus</i> Rodrigues, 1991 | Yes | CA | OP | F | N | EN - Blab(iii) | VU |
| <i>Cercosaura</i> aff. <i>ocellata</i> Wagler, 1830 | | W | OP | T | D | | |
| <i>Cercosaura quadrilineata</i> (Boettger, 1876) | | CE | OP/FO | SF | D | | |
| <i>Cercosaura s. albostrigata</i> (Ruibal 1952) | | CE | OP | T | D | | |
| <i>Colobosaura modesta</i> (Rheinhardt e Lütken 1862) | | W | FO | T | D | | |
| <i>Ecpleopus gaudichaudii</i> Duméril e Bibron, 1839 | | MA | FO | SF | D | | |
| <i>Heterodactylus imbricatus</i> Spix, 1825 | | MA | FO | SF | D | | |
| <i>Heterodactylus lundii</i> Reinhardt & Luetken, 1862 | | CE | OP/FO | SF | D | VU -Blab(iii) | |
| <i>Heterodactylus septentrionalis</i> Rodrigues, Freitas & Silva, 2009 | Yes | CA | OP | SF | D | EN - Blab(iii) | CR |
| <i>Heterodactylus</i> sp. | | MA | OP | ? | D | | |
| <i>Leposomascincoides</i> | | | | | D | | |
| <i>Micrablepharus atticolus</i> Rodrigues, 1996 | | CE/AM | OP | T | D | | |
| <i>Micrablepharus maximiliani</i> (Reinhardt & Luetken, 1862) | | W | OP | T | D | | |
| <i>Placosoma cipoense</i> Cunha, 1966 | Yes | CE | OP | T | D | EN - Blab(iii) | VU |
| <i>Procellosaurinus tetradactylus</i> Rodrigues, 1991 | Yes | CA | OP | SF | D | EN - Blab(iii) | EN |
| <i>Psilops mucugensis</i> Rodrigues et al.2017 | Yes | CA | OP | SF | D | | |
| <i>Psilops paeminosus</i> Rodrigues, 1991 | | CE | OP | SF | D | VU | EN |
| <i>Rhachysaurus brachylepis</i> (Dixon, 1974) | | CE | OP | SF | D | | |
| <i>Vanzosaura multiscutata</i> (Amaral, 1933) | | CA/CE | OP | SF | D | | |
| Teiidae | | | | | | | |
| <i>Ameiva ameiva</i> (Linnaeus, 1758) | | W | OP/FO | T | D | | |
| <i>Ameivula cipoensis</i> Àrias et al. 2014 | Yes | CE | OP | T | D | | |
| <i>Ameivula nigrigula</i> Àrias et al. 2011 | Yes | CA/CE | OP | T | D | | |
| <i>Ameivula ocellifera</i> (Spix, 1825) | | W | OP | T | D | | |
| <i>Cnemidophorus lemniscatus</i> (Linnaeus, 1758)* | | W | OP | T | D | | |
| <i>Glucomastix cyanura</i> Arias et al. 2011 | Yes | CA | OP | T | D | | EN |

| | | | | | |
|---|---|-------|-------|---|---|
| <i>Kentropyx</i> aff. <i>paulensis</i> Boettger, 1893 | ? | CE | OP | T | D |
| <i>Salvator duseni</i> Lönnberg, 1896 | | CE | OP | T | D |
| <i>Salvator merianae</i> (Duméril & Bibron, 1839) | | W | OP/FO | T | D |
| <u><i>Tupinambis quadrilineatus</i> Manzani & Abe, 1997</u> | | CE/AM | OP | T | D |

Patterns of richness, endemism, and sample gaps of lizards (Squamata) in the Espinhaço, an ancient mountain range from Brazil

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Abstract

Aim: To test the spatial congruence of lizard species richness, endemism and sample gaps, to improve our understanding of the distribution of vertebrate fauna in neglected and ancient tropical mountains.

Location: Espinhaço, a tropical mountain range from Brazil. This set of peaks and plateaus is located between three Biomes in Brazil, Atlantic Forest, Cerrado and Caatinga. In addition, it is the main portion of the Campo Rupestre, environments of open areas, extremely ancient and rich in endemic species.

Taxon: Lizards (Squamata)

Methods: With information available in the literature, in reference collections, and personal data we used about 3079 geographical distribution records of lizard species. To identify the areas of endemism we used Geographical Interpolation of Endemism with two categories: one with 3 classes and more comprehensive (<50km, 50-200km, and <200km) and another with 5 classes and of smaller amplitude (< 25km, 25km-50km, 51- 100km, 101-200km, and <200km). We used Resample Species Richness to identify the areas of greatest species richness. The areas of greater overlap of collections were evidenced through a density analysis using the kernel interpolator.

Results: We gathered a total of 20 endemic species. Five areas of endemism were identified, and the highest species richness occurs in northern Espinhaço mountain range. The greatest collection effort in the Espinhaço mountain range is concentrated mainly in the South region.

Main conclusion: The lizard's fauna of the Espinhaço mountain range proved extremely rich and diverse and excellent models to understand the evolution of fauna in tropical mountains.

This study reaffirms the relevance to preserve the open environments as well as forest areas. These environments can house a well-diversified fauna including unic and restricted species.

Key words: Atlantic Forest, Campo Rupestre, Caatinga, Cerrado, Reptilia, Biogeography.

Introduction

The identification of spatial patterns of biodiversity distribution has been one of the best tools used in the study of evolution and conservation biology (Rangel *et al.*, 2018). Information extracted from such analyses improves our understanding of species occupancy and their historical and ecological relationships in time and space (Werneck *et al.*, 2012; Rangel *et al.*, 2018). This type of approach has only been possible thanks to the use of computational models (Werneck *et al.*, 2012; Oliveira *et al.* 2015; Oliveira *et al.* 2019; D'Amen *et al.*, 2017). The data complexity and variables involved sometimes require powerful computers. However, each day these tools have become more accessible and groups of scientists have been creating more complex data analysis platforms (D'Amen *et al.*, 2017; Oliveira *et al.* 2019). Thus, several fields of biology involving ecology, biogeography, and evolution have contributed with new perspectives on our understanding of biodiversity (D'Amen *et al.* 2017; Oliveira *et al.* 2015). These tools have been instrumental in the conservation of biodiversity and are mainly used to identify priority areas and species for conservation (Oliveira *et al.* 2015; Rangel *et al.*, 2018; Fernandes *et al.* 2018).

Like islands, mountains are excellent natural laboratories. In addition to serving as a refuge for species during climate change, mountains can be a cradle for new lineages of species (Rangel *et al.*, 2018). Therefore, they are also considered important centers of biodiversity diversification (Rangel *et al.*, 2018). The Espinhaço is a relictual mountain range (over 500

million years old) and one of the largest in South America outside the Andes (see Derby, 1906; Saadi, 1995; Shaefer, 2013). These mountains range shelter a mosaic of environments and is considered one of the most important areas for biodiversity conservation in Brazil (IBGE, 2004; Silveira *et al.* 2015; Fernandes *et al.* 2018). Several biological groups studied in the Espinhaço mountain range, such as plants (Jacobi & Carmo, 2012; Echternacht *et al.*, 2011), bees (Azevedo *et al.*, 2008), fish (Alves *et al.*, 2008), amphibians (Leite *et al.* 2008) and mammals (Lessa *et al.* 2008; Braga *et al.* 2016) present a considerable and expressive species richness and endemism for Brazil. However, except plant species (Echternacht *et al.*, 2011) and amphibians (Leite *et al.*, 2008) little we know about the patterns of species richness.

Despite the fact that the Espinhaço mountain range shelters a high number of endemic species (Azevedo *et al.*, 2008; Alves *et al.*, 2008; Echternacht *et al.*, 2011), so far we have only investigated patterns of endemism for plants and birds. Echternacht *et al.* (2011), taking into account only the Espinhaço of Minas Gerais, elected 10 areas of endemism for plants. Among these, Planalto Diamantina and Serra do Cipó stood out in relation to other areas. For birds, Vasconcelos *et al.*, (2008) found only four endemic species, and all the Espinhaço mountain range were designated as an area of endemism, and two sub-areas were identified (Vasconcelos *et al.*, 2008).

Reptiles are great models for studying the ecology and evolution of vertebrate faunas, especially in open or semi-arid areas (Pianka 1969; Nogueira *et al.* 2009; Werneck *et al.* 2012; Guedes *et al.* 2014a, 2014b; Lewin *et al.*, 2016). Among reptiles, lizards have a greater ability to survive in drier regions, being one of the few groups of vertebrates that have a hot spot in these environments (Lewin *et al.*, 2016). In Brazil several studies have demonstrated the importance of lizards to understand the ecology and evolution of open areas (Nogueira *et al.* 2009; Werneck *et al.* 2012). However, the fauna distribution patterns in environments of

extreme biological importance like mountains is unknown. In the case of the the Espinhaço mountain range this scenario becomes more complicated. There are no strategies of sample effort distribution and for many reasons (see Oliveira *et al.* 2015; Moura *et al.* 2018), large portions are super-sampled and other regions remain unsampled and practically unknown. This situation is further complicated by the fact that these mountains are extremely threatened by mining activities, agriculture and other anthropic activities (Derby 1906; Jacobi *et al.* 2011; Fernandes *et al.* 2014; Fernandes *et al.* 2016; Fernandes *et al.* 2018). In the case of the mountains of the Espinhaço mountain range it is difficult to choose priorities to conserve. This scenario becomes more complicated when there are no strategies of sample effort distribution. For many reasons (see Oliveira *et al.* 2015; Moura *et al.* 2018) large portions are super-sampled and other regions remain unsampled and practically unknown. Thus, in the present study, we use all available information plus new field data to reduce knowledge gaps related to lizard biodiversity in the Espinhaço mountain range. We identify sampling gaps, the areas with the highest species richness and the main areas of endemism.

Material and methods

The Espinhaço mountain range is a set of peaks and plateaus that extends throughout the states of Bahia and Minas Gerais, Brazil (Fig. 1). Along about 1200km, its mountains present a mosaic of complex environments under the influence of three South American biomes (IBGE 2004): the Atlantic Forest, the Cerrado, and the Caatinga, the two first ones considered as biodiversity hotspots (Myers *et al.*, 2000). The Cerrado includes varied vegetation formations, from open meadows to dry forests. The Caatinga is a dry formation typical from Brazil, and exhibit trees and shrub forests (Ab'Saber 1977; Prado 2003). Transitional environments occur where the biomes are in touch. Above 900 meters a.s.l., a typically open

vegetation known as “Campo Rupestre” grows on sandy soils (Fernandes *et al.*, 2016; Silveira *et al.*, 2015). They represent ancient environments, with many endemic and extremely threatened species (Fernandes *et al.*, 2016; Silveira *et al.*, 2015). Gallery forests, rocky outcrops, and semi-deciduous island forests are also part of the landscape at the Campos Rupestres (Fernandes *et al.*, 2016; Silveira *et al.*, 2015).

For this study we defined the Espinhaço mountain range based on an adaptation of the definition proposed by the Instituto Brasileiro de Geografia e Estatística (IBGE, 2004). Although there is a known difference in origin, formation, and age of the Quadrilátero Ferrífero in relation to the remaining extension of the Espinhaço, we included this southernmost region in our study due to some biogeographical similarities (Echternacht *et al.*, 2011). Thus, the whole lizard fauna reported for the municipalities that are part of Espinhaço, from Minas Gerais to Bahia, was considered (Appendix 1. Voucher specimens examined in scientific collections).

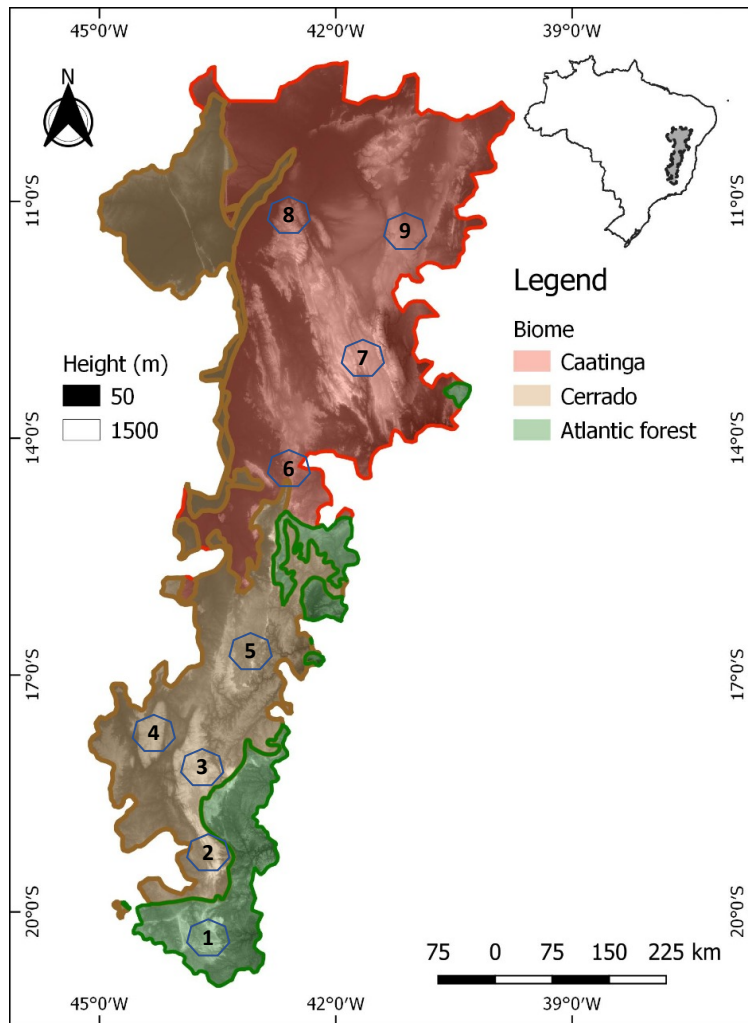


Figure 1. Location of the Espinhaço mountain range and the Biomes found between Minas Gerais and Bahia states. The numbers correspond to some important localities or regions mentioned at work: 1- Quadrilátero Ferrífero, 2- Serra do Cipó, 3- Planalto Diamantina, 4- Serra do Cabral, 5- Grão Mogol, 6- Rio de Contas and Catité, 7- Chapada Diamantina, 8- Santo Inácio and Gentio de Ouro, 9- Morro do Chapéu.

Data collection

We used about 3079 geographical records to assess the distribution of lizard species in the Espinhaço mountain range (Cap. 1). These species records were based on the deposited

material registered in the scientific collections of Museu Nacional (MNRJ), Universidade Federal de Ouro Preto (UFOP), Universidade Federal de Minas Gerais (UFMG) and Pontificia Universidade Católica de Minas Gerais (PUC-Minas). The data were complemented by records from scientific papers and records gathered during field work developed by other projects, namely Comcerrado (in Serra do Cipó and Parque Estadual do Rio Preto). Occasional records were added by the first author (see in the attachment/ Cap. 1).

To identify the lizards, we based only on external morphological characters. Each lizard was analyzed individually by the first author using reference as Vanzolini *et al.* (1980), Avila-Pires (1995), Rodrigues (1981, 1984a, 1984b, 1987, 1986, 1991a, 1991b, 1991c), Rodrigues *et al.* (1988, 2006, 2009a, 2009b, 2009c, 2017), Arias *et al.* (2011a, 2011b, 2014). Taxonomy follows Estes *et al.* (1988), Frost *et al.* (2001) and Gamble *et al.* (2008). For the Scincidae we follow Hedges & Conn (2012) and Teiidae we follow Pyron *et al.* (2013).

We obtained coordinates for each specimen from worksheets deposited in the reference collections. Some of them did not have a very precise location. In many cases, data associated to specimens just listed the name of a mountain or conservation unit, what could cover many kilometers. In such situations, we used the centroid of the municipality as a spatial reference, or we marked a place within the limits of the pre-defined location, when mentioned.

For the spatial analysis of the lizards in the Cadeia do Espinhaço, a single working environment was used on the Dinamica-Ego platform, called Biodinamica (Oliveira *et al.*, 2019). These platforms have a set of tools and methods used for spatial biogeographic analyzes (Oliveira *et al.*, 2015; 2019). For this work we used the version 4.0.10.0 (access: <https://csr.ufmg.br/dinamica/dokuwiki/doku.php?id=biodinamica>) to evaluate the sampling effort, to point out the areas of greatest species richness, and to propose areas of endemism for the lizards of the Espinhaço mountain range.

In order to obtain an overview of the lizard collection effort in the Espinhaço, all records of species occurrence were used. The areas of greater overlap of collections were evidenced through a density analysis using the kernel interpolator. For sample density analysis, the influence radius of the samples was defined as 100000 m.

Sampling bias and collection effort affect interpretations derived from patterns of species spatial distribution (Oliveira *et al.*, 2016). Based on the assumption that the collection effort should be very unequal throughout the Espinhaço, we used the method Resample Species Richness to identify the areas of greatest species richness. This function, through a resampling by lot, simulates a more uniform sampling in the study area (Oliveira *et al.*, 2016). With this, a minimum number of species within certain spaces defined by hexagons is determined. In the case of the present study, we only considered areas represented by 1km hexagons harboring at least 12 species. In each round of sampling, 6 subsamples were counted. Average values of species richness were calculated based on 1000 repetitions. To map species richness, we used the tools Interpolator Spline, Nearest Neighbor, and Kriging. The size of the raster output cell of the figures was 0.05, the smooth factor of Nearest Neighbor was 8, the smooth factor of Spline was 30, and the smooth factor of Kriging was 30.

To identify the areas of endemism we used the method Geographical Interpolation of Endemism (GIE) (Oliveira *et al.*, 2018). This method calculates the centroid of the distribution for each species through kernel interpolation, identifying the areas of highest point density (Oliveira *et al.*, 2018). A high concentration of centroids indicates the greatest congruence. For delimitation of areas of endemism, we use a minimum of 2 species. According to the distance of the centroid and the farthest point, 2 groups of combinations of distance of the centroids were created, one with 3 classes and more comprehensive (<50km, 50-200km, and >200km) and another with 5 classes and of smaller amplitude (< 25km, 25km-50km, 51- 100km, 101-200km, and >200km).

Results

The greatest collection effort in the Espinhaço mountain range is concentrated mainly in the South region, involving the Quadrilátero Ferrífero, the Serra do Cipó, and the planalto Diamantino, in Minas Gerais state. Another hotspot for sampling in Espinhaço is located in the vicinity of Grão Mogol, in Minas Gerais. In Bahia state, the largest collection effort is concentrated in the region surrounding Gentio do Ouro, Santo Inácio and Morro do Chapéu municipalities. Chapada Diamantina, Rio de Contas, and Caetité are shown as sites with an intermediate sampling effort in relation to the others (Fig. 2).

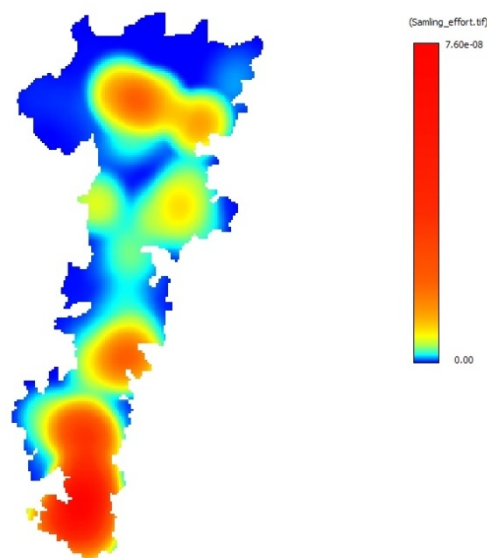


Figure 2. Lizard sample effort in the Espinhaço mountain range, Minas Gerais and Bahia states, Brazil. In the figure, the regions with greater collection effort are represented by warmer colors (red, orange, and yellow) and the less sampled ones by blue.

All the interpolators used show that the highest averages of lizard species richness occur in northern Espinhaço, in Bahia state (Fig. 3; Appendix 2). The Voronoi index, which shows if

there is a correlation, was close to one (0.91), which reinforces the results of the analyzes in the present study.

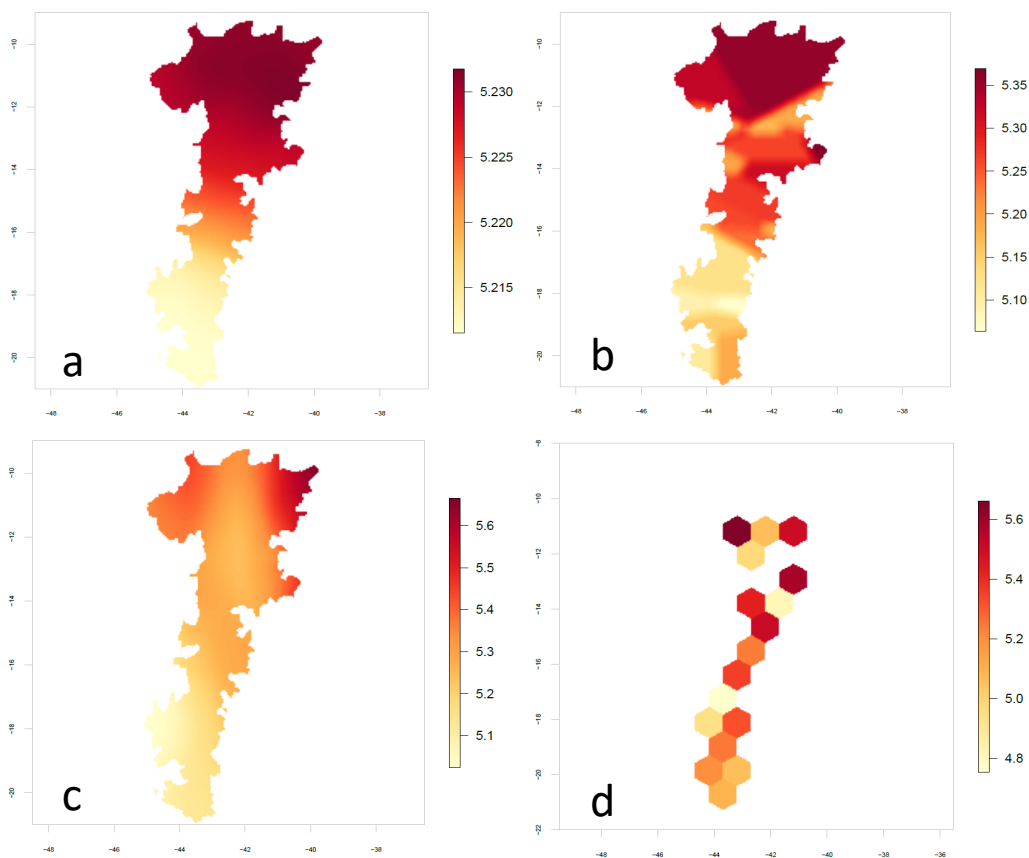


Figure 3. Different Interpolators used to model lizard species richness in the Cadeia do Espinhaço. Legends: a-Kriging Richness, b-NN Richness, c- Spline richness and d- hexagons with weighted richness for each site evaluated (the centroids are available as Supplementary Material).

In both the most comprehensive spatial scale (3 classes) and the most restricted one (5 classes), 5 areas of endemism were identified for the Espinhaço (Figs.4, 5, 6 and 7) (see species contribution: Apendix3). As can be seen in the consensus maps for each spatial scale

the areas of coincide in space. Other smaller spatial scales were tested. However, some were very broad or very restrictive because of the size of the Espinhaço and data quality.

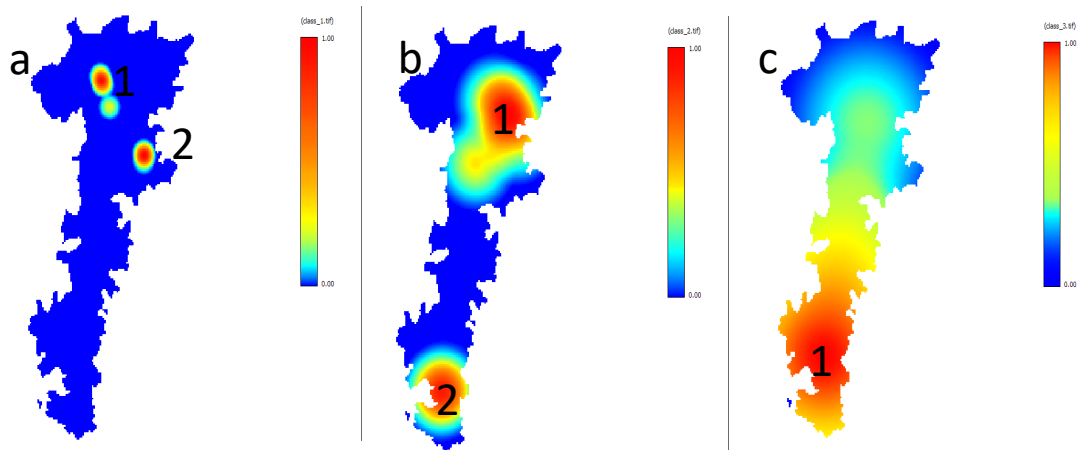


Figure 4. Areas of endemism for lizards in the Serra do Espinhaço with three classes or categories: a) Up to 50km; B) from 51 to 200km; c) above 200km. In the figure, the warmer colors (red, orange, and yellow) represent the areas of endemism.

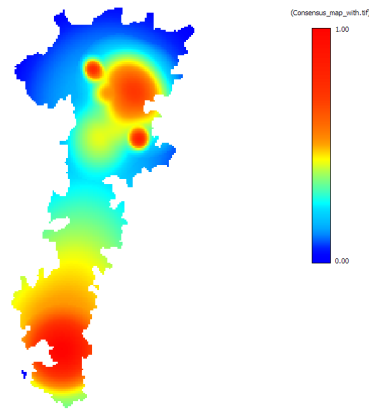


Figure 5. Consensus map of the endemic areas of lizards in the Espinhaço mountain range with three classes or categories (<50, 200, >200km). In the figure, the warmer colors (red, orange, and yellow) represent the areas of endemism.

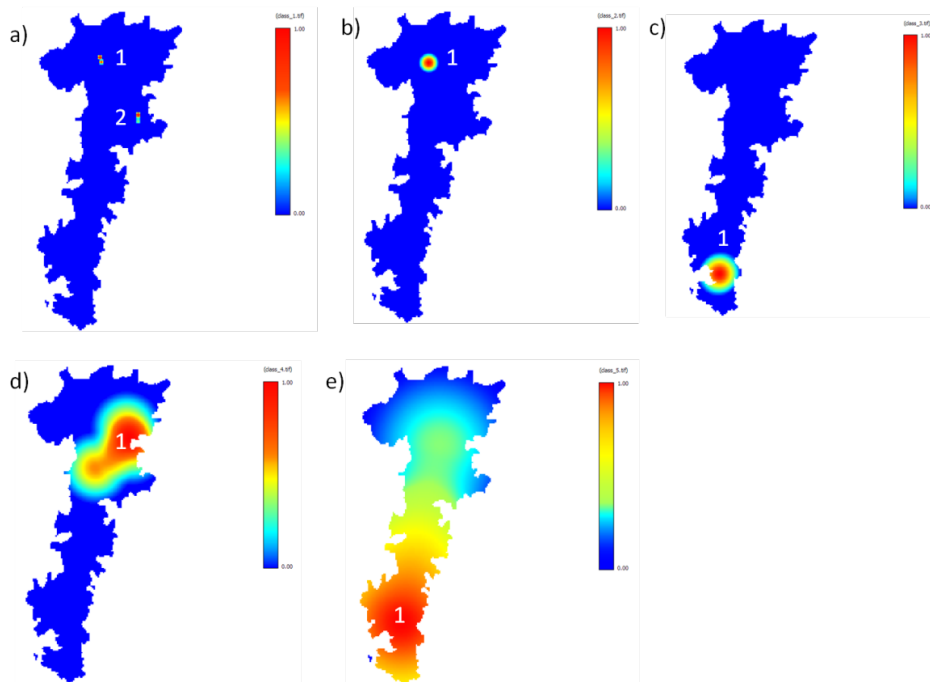


Figure 6. Consensus map of the areas of lizard endemism in the Espinhaço mountain range with five classes or categories (<25, 50, 100, 200, >200). The region designated as endemism area in the smallest category (<25km) (a) overlaps with the area of the second category. In the figure, the warmer colors (red, orange, and yellow) represent the areas of endemism.

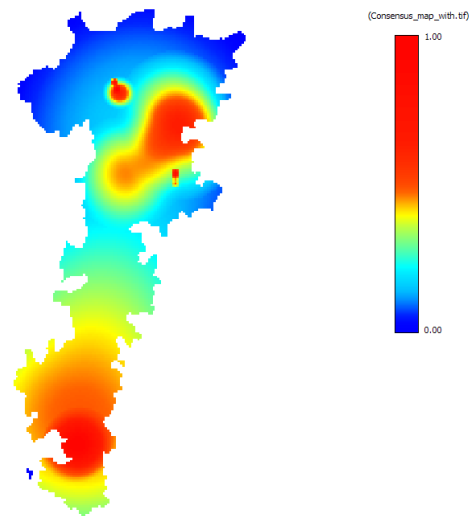


Figure 7. Map of consensus on the endemic areas of lizards in the Espinhaço mountain range with five classes or categories (<25, 50-100km, 100-200km, and >200). In the figure, the warmer colors (red, orange, and yellow) represent the areas of endemism.

For the ranges of three more comprehensive categories (50-51-200 and > 200) two areas of endemism of 50km were evidenced in Bahia (a). For the second category (from 51-200km) there are two areas of endemism, one in Bahia and the other in the south of Minas Gerais, in the regions of Serra do Cipó and Diamantina. The last category (> 200km) is the largest area of endemism in terms of area and has its centroid located in the central region of the Diamantino Plateau (Fig.6e) (Appendix 3. Table of species and their contributions to a delimitation of each area of endemism, three classes).

For the ranges of five more restrictive categories (up to 25km, 26-50km, 51-100km, 100-200km and > 200km) two areas smaller than 25km were detected as areas of endemism in

Northern Bahia (Fig. 6 and 7; see species contribution: Appendix 4). For areas of endemism from 26 to 50 km only in the Bahia (Fig. B) and from 50 to 100km one located in the region of Serra do Cipó and Diamantina (Fig). For more extensive endemism areas two large regions are presented, the one of 100-200km being located in Bahia (encompassing Morro do Chapéu, Mucugê, Rio de Contas, and Caetité municipalities) and the most extensive >200km, occupying the South of Espinhaço and the central part of the Diamantino plateau (Appendix 4. Table of species and their contributions to a delimitation of each area of endemism, five classes).

Discussion

Among the five areas of endemism presented here, four are located on mountainous complexes with higher elevation in the landscape. The Serra do Cipó and Planalto Diamantino in Minas Gerais state, Morro do Chapéu, Santo Inácio, Chapada Diamantina, Rio de Contas, and Caetité in Bahia state are mountain complexes that stand out in the landscape. The diversity of landscapes, such forested and open environments, and the altitude differences, can act as a barrier to each other and probably favored a diversification of several groups (Vanzolini 1982; Rodrigues 1987; Nogueira *et al.* 2009). Different ecological and historical dynamic throughout generations led to the formation of distinct species and some are restricted to small clusters of mountains. Some lizards such as *Gymnodactylus vanzolinii*, *Heterodactylus setentrionalis*, *Tropidurus mucugensis*, *Acratosaura spinosa*, *Enyalius erythroceus*, and *Psilops mucugensis* are some examples that strengthen this hypothesis. These species have restricted distributions, so that in our analyses they formed areas of endemism in categories of up to 25km and up to 50km.

Among the regions designated here as areas of endemism for lizards within the Espinhaço municipalities, some were already pointed as areas of endemism and high species richness. The dunes of the São Francisco River in the Caatinga, at the municipalities of Barra, Gentio de Ouro, and Xique-Xique in Bahia, had already been recognized as areas of endemism for the herpetofauna (Rodrigues, 2005). This region hosts several restricted species such as *Procellosaurinus tetradactylus*, *Calyptommatus nicterus*, *C. sinebrachiatus*, *Eurolophosaurus divaricatus*, and *Eurolophosaurus amathites*.

The only study on endemic areas, involving vertebrates in the Espinhaço mountain range, as a whole, has identified only one area of endemism (the Espinhaço as a whole) for birds (Vasconcelos *et al.*, 2008). In the same study two areas are designated as sub regions within the Espinhaço, one in the Chapada Diamantina complex and another in the southern center portion. Of the 5 regions proposed as endemic areas for lizards in the Espinhaço, two regions of the largest size categories (100-200km or >200k) coincided with the sub-areas pointed out for birds by Vasconcelos *et al.*, (2008). However, lizards seem to respond to scales smaller than birds. Among the 5 areas of endemism proposed here, three are smaller than 100km.

Several of the 10 regions designated as areas of endemism for plants in the Espinhaço of Minas Gerais are inserted within large regions designated as endemic areas for lizards. For the vegetation, the pattern of distribution of endemic species seems to respond better in even lower scales than lizards. Although some lizards are restricted to certain areas. Only two regions located in Bahia presented areas of endemism with scales smaller than 25 km or 50 km. However, regions already identified as areas of endemism for plants, mainly in the region of Grão Mogol, Serra do Cabral, and north of Minas Gerais state, were not identified as areas of endemism for lizards in the present study. Both the Linnean and Wallacean shortfalls (knowledge gaps in taxonomy and species distribution, respectively) should explain this result. These regions, except for Grão Mogol, were poorly sampled, and even some sampled

species were identified as potentially new to science. Therefore, the hypothesis that cryptic species exist in these sites being confirmed, the scenario on the areas of endemism in the north of Minas Gerais state may change.

The Caatinga is one of the most arid regions of South America with a relatively low annual average temperature and precipitation (see Ab'Saber, 1977; Prado, 2003). Unlike other vertebrate groups, the number of lizard species tends to be higher in arid environments (Lewin *et al.*, 2016; Nogueira *et al.*, 2009). These vertebrates seem to tolerate extreme conditions and are extremely diverse even in regions where other vertebrates are absent (Lewin *et al.*, 2016). In the Espinhaço mountain range the richness of species of lizards follows this pattern in a latitudinal gradient, and the most arid regions located in the Caatinga domain present higher average species richness than the regions located to the south of the Espinhaço mountain range. This pattern is similar to those observed in the Brazilian Cerrado, Mexico, Australia and Africa, where the number of lizard species tends to increase towards arid or open environments (Nogueira *et al.*, 2009; Lewin *et al.*, 2016). However, the Caatinga's reptile biodiversity was previously considered poor (Vanzolini (1980). Due to new studies, this perception has been abandoned. Recent initiated followed by Rodrigues (1987; 1991a, 1991b, 1991c, 1996a, 2003, 2005b) and Guedes *et al.*, (2014a, 2014b) has contributed to reinforce the idea of a rich Caatinga. But considering other group such as amphibians, the pattern of species richness changes throughout the Espinhaço. In this case, more species occurring at the landscape dominated by forested environments located in the south portion (Leite *et al.*, 2008).

The collection effort in the Espinhaço mountain range is still very uneven. Several portions, located in the north of Minas Gerais, south and central Bahia, besides some portions adjacent to the continuous range of mountains, still remain with little or no sampling. However, some regions such as the Quadrilátero Ferrífero and the Planalto Diamantino in Minas Gerais and

the extreme north are relatively well sampled. In the south of this mountain range the greatest concentration of efforts is mainly related to environmental licensing for mining. This portion of the Espinhaço mountain range is one of the most mined areas in the world (Derby 1906; Jacobi *et al.* 2011; Fernandes *et al.* 2018), and several sampled populations may already be extinct due to the impact of this activity. Another reason for this result is the proximity of research centers. Aspects related to field logistics, and difficulty to be access perhaps is the main reasons for the persistence of these gaps (Oliveira *et al.*, 2014; Moura *et al.* 2018).

Due to the negligence and consequent threats to the natural environments of Espinhaço mountain range (Fernandes *et al.*, 2014, 2018; Silveira *et al.*, 2015), the lizards studys can be a crucial tool to change the perspective on the biodiversity of these. The presence of unique species in particular sets of mountains are important vestiges and represent promising frontiers for the study of vertebrate evolution in Brazil and South America.

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Appendix 1. Voucher specimens examined in scientific collections (cap 1).

Appendix 2. Mean values of lizard species by exagonous and their centroid.

| Hexagons | Long | Lat | Richness |
|----------|--------------|--------------|----------|
| 1 | -43.68123947 | -20.71545668 | 5.096 |
| 2 | -44.18123947 | -19.84943128 | 5.204 |
| 3 | -43.18123947 | -19.84943128 | 5.058 |
| 5 | -43.68123947 | -18.98340587 | 5.247 |
| 6 | -44.18123947 | -18.11738047 | 4.935 |
| 7 | -43.18123947 | -18.11738047 | 5.325 |
| 9 | -43.68123947 | -17.25135507 | 4.755 |
| 10 | -43.18123947 | -16.38532966 | 5.357 |
| 11 | -42.68123947 | -15.51930426 | 5.243 |
| 13 | -42.18123947 | -14.65327885 | 5.51 |
| 14 | -42.68123947 | -13.78725345 | 5.435 |
| 15 | -41.68123947 | -13.78725345 | 4.808 |
| 19 | -41.18123947 | -12.92122805 | 5.588 |
| 20 | -42.68123947 | -12.05520264 | 4.976 |
| 23 | -43.18123947 | -11.18917724 | 5.661 |
| 24 | -42.18123947 | -11.18917724 | 5.061 |
| 25 | -41.18123947 | -11.18917724 | 5.504 |

Appendix 3. Table of species and their contributions to a delimitation of each area of endemism (with three classes).

| ,"sp", "ID_area", "class" |
|---|
| 1,"Calyptommatus_nicterus",1,"class_1" |
| 2,"Calyptommatus_sinebrachiatus",1,"class_1" |
| 3,"Eurolophosaurus_amathites ",1,"class_1" |
| 4,"Psilops_mucugenses",1,"class_1" |
| 5,"Eurolophosaurus_amathites",1,"class_1" |
| 6,"Procellosaurinus_tetradactylus",1,"class_1" |
| 7,"Acratosaura_spinosa",2,"class_1" |
| 8,"Enyalius_erythroceus",2,"class_1" |
| 9,"Heterodactylus_septentrionalis",2,"class_1" |
| 10,"Gymnodactylus_vanzolinii",2,"class_1" |
| 11,"Tropidurus_mucugensis",2,"class_1" |
| 12,"Calyptommatus_nicterus",1,"class_1" |
| 13,"Calyptommatus_sinebrachiatus",1,"class_1" |
| 14,"Eurolophosaurus_amathites ",1,"class_1" |
| 15,"Psilops_mucugenses",1,"class_1" |
| 16,"Eurolophosaurus_amathites",1,"class_1" |
| 17,"Procellosaurinus_tetradactylus",1,"class_1" |
| 18,"Acratosaura_spinosa",2,"class_1" |
| 19,"Enyalius_erythroceus",2,"class_1" |
| 20,"Heterodactylus_septentrionalis",2,"class_1" |
| 21,"Gymnodactylus_vanzolinii",2,"class_1" |
| 22,"Tropidurus_mucugensis",2,"class_1" |
| 23,"Glaucmastix_cyanura ",1,"class_2" |
| 24,"Psilops_mucugensis",1,"class_2" |
| 25,"Tropidurus_erythrocephalus",1,"class_2" |
| 26,"Tropidurus_sertanejo",1,"class_2" |
| 27,"Ameivula_cipoensis",2,"class_2" |
| 28,"Placosoma_cipoense",2,"class_2" |
| 29,"Eurolophosaurus_nanuzae",1,"class_3" |
| 30,"Eurolophosaurus_nanuzae ",1,"class_3" |
| 31,"Gymnodactylus_guttulatus",1,"class_3" |
| 32,"Tropidurus_montanus",1,"class_3" |
| 33,"Tropidurus_pinima",1,"class_3" |

Appendix 4. Table of species and their contributions to a delimitation of each area of endemism with 5 classes.

| ,"sp", "ID_area", "class" |
|---|
| 1,"Calyptommatus_nicterus",1,"class_1" |
| 2,"Eurolophosaurus_amathites ",1,"class_1" |
| 3,"Procellosaurinus_tetradactylus",1,"class_1" |
| 4,"Gymnodactylus_vanzolinii",2,"class_1" |
| 5,"Heterodactylus_septentrionalis",2,"class_1" |
| 6,"Tropidurus_mucugensis",2,"class_1" |
| 7,"Calyptommatus_nicterus",1,"class_1" |
| 8,"Eurolophosaurus_amathites ",1,"class_1" |
| 9,"Procellosaurinus_tetradactylus",1,"class_1" |
| 10,"Gymnodactylus_vanzolinii",2,"class_1" |
| 11,"Heterodactylus_septentrionalis",2,"class_1" |
| 12,"Tropidurus_mucugensis",2,"class_1" |
| 13,"Ameivula_cipoensis",1,"class_3" |
| 14,"Placosoma_cipoense",1,"class_3" |
| 15,"Psilops_mucugensis",1,"class_4" |
| 16,"Tropidurus_sertanejo",1,"class_4" |
| 17,"Eurolophosaurus_nanuzae",1,"class_5" |
| 18,"Eurolophosaurus_nanuzae ",1,"class_5" |
| 19,"Gymnodactylus_guttulatus",1,"class_5" |
| 20,"Tropidurus_montanus",1,"class_5" |
| 21,"Tropidurus_pinima",1,"class_5" |

Conclusões gerais

- Assim como a flora e outros elementos da biodiversidade da Serra do Espinhaço, a fauna de lagartos se mostrou extremamente rica e diversa. A maioria dos lagartos são terrestres, diurnos, ovíparos e vivem em áreas abertas.
- Muitos lagartos encontrados na Serra do Espinhaço possuem distribuição geográfica ampla, ocorrendo inclusive em domínios morfoclimáticos distantes como a Amazônia. Entretanto a Serra do Espinhaço também abriga uma considerável fauna de lagartos particular e exclusiva, restritas apenas a algumas regiões montanhas e solos arenosos.
- Vários elementos da fauna de lagartos da Serra do Espinhaço são compartilhados entre os diferentes domínios morfoclimáticos, inclusive a Amazônia. Entretanto a Caatinga é o domínio com maior representatividade, abrigando um número maior de espécies exclusivas.
- A amostragem espacial de lagartos na Serra do Espinhaço é bastante desigual. Logo, acreditamos que com o investimento em trabalhos de inventários em áreas pouco ou nunca amostrados deve proporcionar um aumento no número de espécies e ampliação de distribuição geográfica para outras.
- Por apresentar uma distribuição geográfica restrita, alguns lagartos da Serra do Espinhaço constam em listas estaduais, nacional e internacional de espécies

ameaçadas. Entretanto esta medida de conservação deveria ser estendida a outras espécies. Boa parte da fauna endêmica de lagartos apresenta enormes lacunas de conhecimento sobre história natural, ecologia e apresentam também uma distribuição geográfica restrita.

- Os museus de História Natural são os mais importantes centros de informações sobre a fauna de lagartos da Serra do Espinhaço. Políticas voltadas para a preservação e ampliação dos acervos são necessárias. Sem dados depositados em museus seria impossível traçar um cenário sobre os padrões de distribuição geográfica, áreas de maior riqueza de espécies, áreas de endemismo e de esforço de amostragem para a Serra do Espinhaço.
- Nossos resultados confirmam a importância do uso dos lagartos como modelos de detecção de padrões de distribuição espacial da biodiversidade, e sublinha a importância de ações voltadas para preservação de ambientes e áreas abertas. Assim como áreas de florestas, essas áreas podem abrigar uma fauna extremamente diversificada, incluindo uma grande concentração espécies únicas.