Amphibians and Reptiles of the Mediterranean Basin

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Abstract

The Mediterranean basin is one of the most geologically, biologically, and culturally complex region and the only case of a large sea surrounded by three continents. The chapter is focused on a diversity of Mediterranean amphibians and reptiles, discussing major threats to the species and its conservation status. There are 117 amphibians, of which 80 (68%) are endemic and 398 reptiles, of which 216 (54%) are endemic distributed throughout the Basin. While the species diversity increases in the north and west for amphibians, the reptile diversity increases from north to south and from west to east direction. Amphibians are almost twice as threatened (29%) as reptiles (14%). Habitat loss and degradation, pollution, invasive/alien species, unsustainable use, and persecution are major threats to the species. The important conservation actions should be directed to sustainable management measures and legal protection of endangered species and their habitats, all for the future of Mediterranean biodiversity.

Keywords: amphibians, conservation, Mediterranean basin, reptiles, threatened species

1. Introduction

The Mediterranean basin is one of the most geologically, biologically, and culturally complex region and the only case of a large sea surrounded by Europe, Asia and Africa. The Basin was shaped by the collision of the northward-moving African-Arabian continental plate with the Eurasian continental plate which occurred on a wide range of scales and time in the course of the past 250 mya [1].

The Basin stretches approx. 3800 km east to west from the tip of Portugal to the shores of Lebanon and 1000 km north to south from Italy to Morocco and Libya (Figure 1) [1, 2]. It covers the area surrounding the Mediterranean Sea, and includes partly or entirely 30 countries which are spread across 3 continents. It also includes 11,879 islands and islets [3].
The Mediterranean region is considered to be 1 of 34 biodiversity hotspots due to its high level of floristic endemism [4] as well as the largest of the world’s 5 Mediterranean-climate regions. The region flora includes more than 25,000 vascular plants while half of them are endemic [1, 2]—in other words, they are found nowhere else in the world.

The geographic structure of the Basin is an important factor in understanding its biodiversity. While coastal areas are extensive due to the presence of numerous archipelagos and islands, much of the area consists of mountainous terrain with many areas above 2000 m elevation and peaks as high as 4500 m [2, 3, 5]. The Mediterranean region consists of various landscapes such as high mountains, rocky shores, impenetrable scrub, semi-arid steppes, coastal wetlands, sandy beaches, and myriad islands of various shapes and sizes [1, 2].

The status and distribution of Mediterranean herptiles has been evaluated by Cox et al. [5] 9 years ago. The purpose of this chapter is to re-evaluate amphibian and reptile diversity and to discuss the major threats and conservation status of Mediterranean herptiles. The Amphibia Web [6] and The Reptile Database [7] were used for determining Mediterranean herptile list. Major threats and conservation status of species for the IUCN Red List of threatened species [8] are also addressed.

2. Amphibian and reptiles diversity

Amphibians (Amphibia) and reptiles (Reptilia) are two fascinating but poorly understood group of vertebrates, distributed around the world. For the time being, there are 7655 amphibian [6] and 10,450 reptilian [7] species recorded. Unfortunately, many amphibian and reptile
species are threatened and declining all-around the world. Habitat loss and degradation, introduced invasive species, environmental pollution, disease and parasitism, unsustainable use, and global climate change are major threats on species [6, 7]. There are 117 amphibian species and 398 reptile species, and most of them are endemic distributed throughout the Basin (Table 1).

| Order                | Family                  | No. of species | No. of endemic species |
|----------------------|-------------------------|----------------|------------------------|
| **Amphibians**       |                         |                |                        |
| Caudata (newts and salamanders) | Plethodontidae          | 8              | 8 (100%)               |
| Caudata              | Proteidae               | 1              | 1 (100%)               |
| Caudata              | Salamandridae           | 40             | 23 (58%)               |
| **Total—Newts and salamanders** |                    | 49             | 32 (65%)               |
| Anura (frogs and toads) | Alytidae                | 12             | 11 (92%)               |
| Anura                | Bombinatoridae         | 3              | 1 (33%)                |
| Anura                | Bufonidae              | 12             | 7 (59%)                |
| Anura                | Dicroglossidae         | 1              | 0 (0%)                 |
| Anura                | Hylidae                | 8              | 5 (63%)                |
| Anura                | Pelobatidae            | 3              | 2 (50%)                |
| Anura                | Pelodytidae            | 2              | 2 (100%)               |
| Anura                | Ranidae                | 27             | 20 (74%)               |
| **Total—Frogs and Toads** |                    | 68             | 48 (70%)               |
| **Total—Amphibians** |                         | 117            | 80 (68%)               |
| **Reptiles**         |                         |                |                        |
| Testudines (turtles and tortoises) | Cheloniidae        | 3              | 0 (0%)                 |
| Testudines           | Dermochelyidae         | 1              | 0 (0%)                 |
| Testudines           | Emydidae               | 3              | 0 (0%)                 |
| Testudines           | Geoemydidae            | 3              | 2 (66%)                |
| Testudines           | Testudinidae           | 4              | 3 (75%)                |
| Testudines           | Trionychidae           | 2              | 0 (0%)                 |
| **Total—Turtles and Tortoises** |                    | 16             | 5 (31%)                |
| Sauria (lizards)     | Agamidae               | 23             | 10 (43%)               |
| Sauria               | Anguidae               | 5              | 4 (80%)                |
| Sauria               | Blanidae               | 3              | 2 (66%)                |
| Sauria               | Chamaeleonidae         | 2              | 0 (0%)                 |
| Sauria               | Eublepharidae          | 1              | 0 (0%)                 |
| Sauria               | Gekkonidae             | 51             | 26 (51%)               |
| Sauria               | Lacertidae             | 132            | 86 (65%)               |
2.1. Amphibian diversity

The amphibian fauna of the Mediterranean basin represents two orders: salamanders (Caudata) and anurans (Anura). A total of 117 amphibian species are found and 80 (68%) of them are endemic in the Basin (Table 2, Figure 1).

A total of 49 salamander species are present in this Region and 65% of them are endemic. The Salamandridae is the most diverse family. A total of 18 species with 7 genera (Calotriton, Chioglossa, Euproctus, Ichthyosaura, Lyciasalamandra, Pleurodeles and Salamandra) are endemic to the Basin (Table 2). The only single member of Proteidae, Proteus anguinus, is present in the Balkan Peninsula and is endemic to the Basin. The other six members of the family are found in eastern North America.

The anurans have 68 species and 70% of them are endemic to the Region. The families Alytidae, Bufonidae and Ranidae consist of 75% of the group. A fascinating species of midwife

| Order               | Family                  | No. of species | No. of endemic species |
|---------------------|-------------------------|----------------|------------------------|
| Sauria              | Phyllodactylidae        | 7              | 3 (42%)                |
| Sauria              | Scincidae               | 36             | 25 (70%)               |
| Sauria              | Varanidae               | 2              | 0 (0%)                 |
| **Total—Lizards**   |                         | 262            | 160 (60%)              |
| Ophidia (snakes)    | Atractaspididae         | 3              | 2 (66%)                |
| Ophidia             | Boidae                  | 2              | 0 (0%)                 |
| Ophidia             | Colubridae              | 65             | 27 (42%)               |
| Ophidia             | Elapidae                | 5              | 0 (0%)                 |
| Ophidia             | Lamprophiidae           | 1              | 0 (0%)                 |
| Ophidia             | Leptotyphlopidae        | 3              | 0 (0%)                 |
| Ophidia             | Natricidae              | 3              | 1 (33%)                |
| Ophidia             | Typhlopidae             | 3              | 2 (66%)                |
| Ophidia             | Viperidae               | 29             | 15 (52%)               |
| **Total—Snakes**    |                         | 114            | 47 (41%)               |
| Amphibia (amphibia) | Amphibiaenidae          | 4              | 3 (75%)                |
| Amphibia            | Trogonophiidae          | 1              | 1 (100%)               |
| **Total—Amphibia**  |                         | 5              | 4 (80%)                |
| Crocodylia (crocodi) | Crocodylidae           | 1              | 0 (0%)                 |
| **Total—Crocodylia**|                         | 1              | 0 (0%)                 |
| **Total—Reptiles**  |                         | 398            | 216 (54%)              |

Table 1. The amphibian and reptile diversity and endemism of Mediterranean basin.

2.1. Amphibian diversity

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|                | Number of amphibians | Number of reptiles |
|----------------|----------------------|--------------------|
|                | Urodela | Anura | Total | Endemics | Amphisbaenia | Crocodilia | Testudines | Sauria | Serpentes | Total | Endemics |
| **Albania**    | 5       | 10    | 15    | 5        | 0            | 0           | 6          | 13     | 17        | 36    | 11        |
| **Algeria**    | 9       | 4     | 13    | 12       | 1            | 0           | 4          | 70     | 32        | 107   | 50        |
| **Andorra**    | 2       | 2     | 4     | 3        | 0            | 0           | 0          | 8      | 0         | 8     | 4         |
| **Bosnia and Herzegovina** | 8     | 8     | 16    | 2        | 0            | 0           | 3          | 6      | 8         | 17    | 5         |
| **Bulgaria**   | 6       | 12    | 17    | 1        | 0            | 0           | 5          | 11     | 19        | 35    | 7         |
| **Canary Islands** | 0    | 2     | 2     | 2        | 0            | 0           | 0          | 16     | 1         | 17    | 15        |
| **Croatia**    | 7       | 9     | 16    | 3        | 0            | 0           | 6          | 15     | 17        | 38    | 11        |
| **Cyprus**     | 0       | 3     | 3     | 1        | 0            | 0           | 5          | 12     | 12        | 29    | 7         |
| **Egypt**      | 0       | 8     | 8     | 1        | 0            | 1           | 7          | 65     | 37        | 110   | 23        |
| **France**     | 13      | 26    | 39    | 20       | 0            | 0           | 9          | 19     | 14        | 42    | 22        |
| **Greece**     | 7       | 17    | 24    | 8        | 1            | 0           | 9          | 33     | 24        | 67    | 29        |
| **Israel/Palestine** | 2   | 8     | 10    | 5        | 1            | 0           | 9          | 43     | 46        | 99    | 29        |
| **Italy**      | 15      | 28    | 43    | 27       | 0            | 0           | 9          | 26     | 23        | 58    | 29        |
| **Jordan**     | 1       | 3     | 4     | 2        | 0            | 0           | 7          | 61     | 44        | 112   | 27        |
| **Lebanon**    | 2       | 4     | 6     | 2        | 2            | 0           | 5          | 26     | 26        | 59    | 19        |
| **Libyan Arab Jamahiriya** | 0  | 2     | 2     | 2        | 0            | 0           | 4          | 47     | 25        | 76    | 19        |
| **Macedonia**  | 4       | 6     | 10    | 1        | 0            | 0           | 5          | 12     | 16        | 33    | 7         |
| **Malta**      | 0       | 2     | 2     | 2        | 0            | 0           | 1          | 5      | 4         | 10    | 5         |
| **Monaco**     | 1       | 1     | 2     | 2        | 0            | 0           | 2          | 1      | 0         | 3     | 0         |
| **Montenegro** | 4       | 11    | 15    | 3        | 0            | 0           | 4          | 10     | 6         | 20    | 8         |
| **Morocco**    | 2       | 11    | 13    | 12       | 0            | 0           | 4          | 70     | 30        | 108   | 58        |
| **Portugal**   | 7       | 13    | 20    | 14       | 2            | 0           | 7          | 17     | 12        | 38    | 26        |
| Country                          | Urodela | Anura | Total | Endemics | Amphisbaenia | Crocodilia | Testudines | Sauria | Serpentes | Total | Endemics |
|---------------------------------|---------|-------|-------|----------|--------------|------------|------------|--------|-----------|--------|----------|
| Serbia                          | 7       | 12    | 19    | 1        | 0            | 0          | 4          | 6      | 8         | 18     | 4        |
| Slovenia                        | 4       | 12    | 16    | 2        | 0            | 0          | 3          | 4      | 14        | 21     | 5        |
| Spain                           | 8       | 28    | 36    | 23       | 2            | 0          | 6          | 45     | 14        | 67     | 45       |
| Switzerland                     | 5       | 12    | 17    | 1        | 0            | 0          | 2          | 6      | 8         | 16     | 4        |
| Syrian Arab Republic            | 2       | 3     | 5     | 2        | 2            | 0          | 7          | 46     | 40        | 95     | 22       |
| Tunisia                         | 1       | 4     | 5     | 4        | 1            | 0          | 4          | 44     | 24        | 73     | 34       |
| Turkey (except for NE Anatolia) | 15      | 13    | 28    | 12       | 3            | 0          | 11         | 56     | 49        | 119    | 39       |
| Western Sahara                  | 0       | 2     | 2     | 1        | 0            | 0          | 4          | 39     | 20        | 63     | 16       |

Table 2. The number of amphibians and reptiles in the Mediterranean countries.
toads (*Alytes*) have five species which are found across western Europe, northern Africa and Majorca.

The amphibian diversity is highest in Europe, especially in areas of higher rainfall, notably in northern Italy, France, western and northern Spain, Portugal, Slovenia and Croatia (Figure 1, Table 3) [5]. On the contrary, the diversity is much lower in the eastern and southern parts of the Basin where there are large arid and semiarid habitats. The higher amphibian diversity is observed in European countries of the western Mediterranean, especially in Italy, France and Spain [5]. The amphibian richness increases from south to north and from east to west of the Basin [1]. The reason lies in larger areas of humid habitats in the north and west of the Basin, which are an ideal habitat for amphibians.

| Country                        | EX | CR | EN | VU | NT | LC | DD | NE |
|--------------------------------|----|----|----|----|----|----|----|----|
| Albania                        | 0  | 0  | 1  | 1  | 0  | 12 | 0  | 1  |
| Algeria                        | 0  | 0  | 1  | 2  | 2  | 9  | 0  | 0  |
| Andorra                        | 0  | 0  | 0  | 0  | 1  | 3  | 0  | 0  |
| Bosnia and Herzegovina         | 0  | 0  | 0  | 1  | 1  | 14 | 0  | 0  |
| Bulgaria                       | 0  | 0  | 0  | 0  | 1  | 16 | 0  | 1  |
| Canary Islands                 | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  |
| Croatia                        | 0  | 0  | 0  | 2  | 1  | 13 | 0  | 0  |
| Cyprus                         | 0  | 0  | 0  | 0  | 0  | 3  | 0  | 0  |
| Egypt                          | 0  | 0  | 0  | 0  | 0  | 8  | 0  | 1  |
| France                         | 0  | 0  | 1  | 2  | 4  | 32 | 0  | 3  |
| Greece                         | 0  | 1  | 1  | 3  | 0  | 18 | 1  | 0  |
| Israel/Palestine               | 0  | 3  | 0  | 0  | 1  | 5  | 1  | 1  |
| Italy                          | 0  | 0  | 3  | 6  | 4  | 30 | 0  | 5  |
| Jordan                         | 0  | 0  | 0  | 0  | 0  | 2  | 1  | 2  |
| Lebanon                        | 0  | 0  | 0  | 0  | 1  | 4  | 1  | 1  |
| Libyan Arab Jamahiriya         | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 1  |
| Macedonia                      | 0  | 0  | 0  | 0  | 0  | 10 | 0  | 1  |
| Malta                          | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  |
| Monaco                         | 0  | 0  | 0  | 0  | 1  | 1  | 0  | 0  |
| Montenegro                     | 0  | 0  | 0  | 0  | 0  | 14 | 0  | 2  |
| Morocco                        | 0  | 0  | 1  | 1  | 3  | 8  | 0  | 1  |
| Portugal                       | 0  | 0  | 0  | 1  | 5  | 13 | 0  | 2  |
| Serbia                         | 0  | 0  | 0  | 0  | 0  | 17 | 0  | 3  |
| Slovenia                       | 0  | 0  | 0  | 2  | 0  | 14 | 0  | 1  |
2.2. Reptile diversity

The reptiles of the region represent five orders: Crocodylia (crocodilians), Testudines (turtles and tortoises), Amphisbaenia (amphisbaenians), Sauria (lizards) and Ophidia (snakes). The great majority of the species are lizards (262 species, 66%) and snakes (114 species, 29%) (Figure 2, Table 4). About 54% of the reptiles are endemic to the Basin. The most diverse families are Lacertidae (132 species), Gekkonidae (51 species) and Scincidae (36 species) for lizards; and Colubridae (65 species) and Viperidae (29 species) for snakes.

The reptile diversity is the highest in the eastern part of the Basin, particularly in southern Turkey, Lebanon, south-western Syria, Israel/Palestine, Jordan and parts of northern Egypt [5].

Table 3. The conservation status of amphibians in Mediterranean countries.

| Country                          | EX | CR | EN | VU | NT | LC | DD | NE |
|----------------------------------|----|----|----|----|----|----|----|----|
| Spain                            | 0  | 1  | 1  | 3  | 7  | 22 | 0  | 4  |
| Switzerland                      | 0  | 0  | 0  | 0  | 17 | 0  | 3  |    |
| Syrian Arab Republic             | 0  | 0  | 0  | 1  | 4  | 0  | 2  |    |
| Tunisia                          | 0  | 0  | 0  | 1  | 4  | 0  | 0  |    |
| Turkey (except for NE Anatolia)  | 0  | 2  | 5  | 2  | 2  | 12 | 1  | 5  |
| Western Sahara                   | 0  | 0  | 0  | 0  | 1  | 1  | 0  | 0  |

Figure 2. The reptile richness in Mediterranean basin.
| Country                          | EX  | CR | EN | VU | NT | LC | DD | NE |
|---------------------------------|-----|----|----|----|----|----|----|----|
| Albania                         | 0   | 0  | 0  | 3  | 3  | 27 | 0  | 4  |
| Algeria                         | 0   | 1  | 4  | 2  | 11 | 75 | 6  | 9  |
| Andorra                         | 0   | 0  | 1  | 0  | 1  | 5  | 0  | 1  |
| Bosnia and Herzegovina          | 0   | 0  | 0  | 1  | 2  | 13 | 0  | 2  |
| Bulgaria                        | 0   | 0  | 0  | 1  | 4  | 28 | 0  | 5  |
| Canary Islands                  | 0   | 3  | 0  | 0  | 0  | 14 | 0  | 1  |
| Croatia                         | 0   | 0  | 1  | 3  | 4  | 29 | 0  | 2  |
| Cyprus                          | 0   | 0  | 3  | 1  | 1  | 22 | 0  | 2  |
| Egypt                           | 0   | 2  | 2  | 3  | 4  | 80 | 3  | 16 |
| France                          | 0   | 1  | 1  | 4  | 6  | 26 | 0  | 5  |
| Greece                          | 0   | 0  | 2  | 4  | 8  | 48 | 0  | 8  |
| Israel/Palestine                | 0   | 4  | 5  | 4  | 2  | 76 | 1  | 7  |
| Italy                           | 0   | 1  | 1  | 4  | 6  | 40 | 2  | 5  |
| Jordan                          | 0   | 1  | 4  | 4  | 1  | 88 | 1  | 13 |
| Lebanon                         | 0   | 0  | 4  | 2  | 0  | 42 | 1  | 10 |
| Libyan Arab Jamahiriya          | 0   | 1  | 1  | 2  | 4  | 39 | 1  | 28 |
| Macedonia                       | 0   | 0  | 0  | 1  | 3  | 27 | 0  | 3  |
| Malta                           | 0   | 0  | 0  | 1  | 0  | 9  | 0  | 0  |
| Monaco                          | 0   | 0  | 0  | 0  | 1  | 2  | 0  | 0  |
| Montenegro                      | 0   | 0  | 3  | 2  | 13 | 0  | 2  |    |
| Morocco                         | 0   | 1  | 3  | 4  | 13 | 74 | 4  | 9  |
| Portugal                        | 0   | 1  | 2  | 3  | 6  | 21 | 0  | 7  |
| Serbia                          | 0   | 0  | 0  | 1  | 4  | 13 | 0  | 2  |
| Slovenia                        | 0   | 0  | 0  | 2  | 2  | 17 | 0  | 1  |
| Spain                           | 0   | 2  | 5  | 2  | 10 | 40 | 0  | 8  |
| Switzerland                     | 0   | 0  | 0  | 0  | 1  | 14 | 0  | 1  |
| Syrian Arab Republic            | 0   | 0  | 3  | 2  | 3  | 78 | 1  | 11 |
| Tunisia                         | 0   | 0  | 1  | 1  | 8  | 75 | 2  | 14 |
| Turkey (except for NE Anatolia) | 0   | 1  | 5  | 2  | 5  | 91 | 3  | 38 |
| Western Sahara                  | 0   | 1  | 1  | 3  | 49 | 4  | 4  |    |

Table 4. The conservation status of reptiles in Mediterranean countries.
The species diversity is much higher in North Africa than in western Europe. The reptile diversity of North Africa is the highest in the mountainous area, in semi-arid regions along the northern margins of the Sahara and in the Nile Valley. The Balkans has much higher reptile diversity than elsewhere in Europe. At the other hand, the diversity is very low in northern Europe [5]. In contrast to amphibians, the species diversity of the reptiles increases from north to south and from west to east, along with gradients of the extent to which arid and semi-arid habitats are present [1, 5].

3. Conservation status

3.1. Conservation status of Mediterranean amphibians

About 29% of Mediterranean amphibians are globally threatened, while 5% are critically endangered, 11% endangered and 13% vulnerable (Figures 3–5). Rest of the species are evaluated as near threatened (15%), least concerned (49%), data deficient (<1%) and 7% is not evaluated. The salamanders and newts have higher share of threatened species (20 species, 17%). Among frogs and toads, 13 species (11%) are globally threatened. One of the endangered species is the Hula painted frog, *Latonia nigriventer*, from Israel/Palestine that is listed as extinct up to 2004. The species is restricted to an area under 2 km² due to heavy predation pressure by the waterbird populations [13]. The newts and salamanders have higher number of threatened species than frogs and toads (Table 5) [5].

Figure 3. Summary of conservation status for Mediterranean amphibians (left) and reptiles (right). EX: extinct, EW: extinct in the wild, CR: critically endangered, EN: endangered, VU: vulnerable, NT: near threatened, LC: least concern, DD: data deficient, NE: not evaluated.
3.2. Conservation status of Mediterranean reptiles

About 13% of Mediterranean reptiles are globally threatened (51 species), out of which 3% is critically endangered, 6% endangered and 4% vulnerable. A total of 347 species are assessed

Figure 4. The species richness of endemic amphibians in the Mediterranean basin.

Figure 5. The species richness of threatened amphibians in the Mediterranean basin.

3.2. Conservation status of Mediterranean reptiles

About 13% of Mediterranean reptiles are globally threatened (51 species), out of which 3% is critically endangered, 6% endangered and 4% vulnerable. A total of 347 species are assessed
as near threatened (10%), least concerned (60%), data deficient (4%) and 13% is not evaluated (Figures 3, 6 and 7).

Amphisbaenians and crocodilians are not considered threatened species in the Region. At the other side, the chelonians have six threatened species. Among the lizards, there are
38 species considered threatened. Snakes have only seven threatened species (2%). The endemic lizard genus *Gallotia* occurs only on the Canary Islands and consists of eight species. The genus has evolved there almost 20 mya, ever since the first islands emerged from the sea [11, 12]. They are adapted to eating significant quantities of plants. The overall share of threatened amphibians in the Mediterranean basin is twice higher (29%) than that for reptiles (14%).

4. Major threats

The Mediterranean basin is the second largest biodiversity hotspot in the world. It covers more than 2 million km². The Basin stretches west to east from Portugal to Lebanon and north to south from Italy to Morocco and Libya [2]. The Region is home to approx. 455 million people, from a wide variety of countries and cultures for some 8000 years [2, 10]. The Gross National Income per capita in the Mediterranean EU countries being 10 times that of the north African ones [10]. The poor countries mostly depend on natural resources and this threatens natural resources at high levels. Besides, economic development increases the pressures on natural resources, the conservation challenges and options of the Basin are driven by these economic inequalities [10]. Species provide us with essential services as not only food, fuel, clothes and medicine, but also purification of water and air, prevention of soil erosion, regulation of climate, pollination of crops by insects and much more [10]. Many threats come up thanks to these entries. The human-induced factors threaten the Mediterranean biodiversity and nature more than any other biological ‘hotspot’ [10].
Fifty-three percent of amphibians and 20% of reptiles are suffering from “residential & commercial developments” (Figure 8). Urbanization, industrial areas, tourism and recreation areas negatively affected the herp species. Another important factor is “agriculture and aquaculture” activities and almost half of the species (59% for amphibians and 25% for reptiles) are affected by such activities. Along with the increase of human population, the food needs are also increasing day by day. The expansion of agricultural areas, livestock farming, overgrazing, aquaculture and mariculture activities are causing habitat loss and degradation and intervening in the food webs.

One of the biggest contemporary concerns is the growing need for energy as well as the need for nutrients and technological developments. The most basic resource used to meet the growing energy needs is still natural resource. Among natural resources, fossil fuels and mines are used most commonly. Use of renewable energy sources as alternative energy sources are not reached desired level. The “energy production and mining” activities have low effect on Mediterranean herptiles (6% for amphibians and 5% for reptiles).

Another problem brought by urbanization and population increase is in the construction of roads, especially narrow transport corridors cause wildlife mortality. Besides, these corridors create specific stress to biodiversity by fragmentation of the habitats and lead to other threats including farms, invasive species and poachers. The “transportation and service corridors” activities have low effect on amphibians (9%) and reptiles (6%).

Unsustainable harvesting, hunting and fishing activities are directly or indirectly affecting the amphibians and reptiles. Some species are used in traditional medicine, food and pet trade.
The threats are driven by destroying or declining natural populations [10]. The amphibians (37%) and reptiles (22%) are densely used as “biological resource use” for many purposes. Almost half of salamanders and snakes are suffering from commercial purpose and persecution. The Mediterranean marine turtle species are severely affected by accidental capture in fishing gear, also called as “bycatch” [10].

Besides, “human intrusions and disturbance” have low pressure on amphibians (4%) and reptiles (4%). While “natural system modifications” severely affect the amphibians (32%), it has low pressure on reptiles (9%). The dam construction, for water management or use, and other ecosystem modifications make significant pressure on natural herptile populations. Forest fires are deliberately excluded to open such areas, especially in the Mediterranean region in Turkey, it is observed that these activities have been carried out in the summer. The endemic *Lyciasalamandra* species living in this Region are highly affected by forest fires. In addition to the destruction of the area for the construction of the dams, the alteration of the water flow direction of the rivers disturbs the natural habitat areas, especially amphibians are highly affected due to degradation and reducing habitat quality.

Non-indigenous animal species, pathogens and genes are appearing as major threatening factors to biodiversity being the process that is expected to continue in the future. Mediterranean amphibians (34%) are more affected by “invasive and/or problematic species, pathogens, and genes” than reptiles (4%). The American bullfrog (*Lithobates catesbeianus* or *Rana catesbeiana*) is one of the invasive species in western Europe. Another invasive species, *Trachemys scripta*, is popular in the pet trade and has been introduced into the Mediterranean region by people releasing it to the wild.

The amphibians (59%) are more sensitive to “pollution” than reptiles (4%). Many chemical pollutants are increasing sensitivity to illness and mortality rates and reducing the reproductive success [10]. Domestic/industrial waste carries pollution to the sea and rural areas through rivers and sewage systems, in particular. Pollutants that cause water pollution from agricultural, silvicultural and aquaculture systems containing foodstuffs, toxic chemicals and sediments also pollute natural habitats as well as agricultural areas. Apart from these pollutants, trash and soil pollutants and even atmospheric pollutants are serious threat to species.

Today, global “climate change” emerges as a factor that affects the changing nature of natural habitats. Temperature fluctuations (changing in temperature extremes, increasing average summer temperatures and reducing winter/spring temperatures) cause the alteration of habitats, breeding phenology and host-parasite relationship of herptile species. Mediterranean amphibians (18%) are more affected by global climate change than reptiles (3%).

Mediterranean amphibians and reptiles are affected by these major threats (habitat loss and degradation, invasive alien species, harvesting, pollution natural disasters, disease, human disturbance, vehicle collusion and persecution) (Figures 8 and 9) [5]. While the most common threats for amphibians are habitat loss and degradation, pollution and invasive alien species,
the most common ones for Mediterranean reptiles are habitat loss and degradation, harvesting and persecution [5]. On the other hand, there is no major threat for about 10% amphibians and 21% reptiles in the Mediterranean.

5. Conservation

The major threats to amphibians and reptiles in the Mediterranean are quite different from each other [5]. Therefore, each group needs specific conservation activities. Island species particularly need urgent conservation studies. Although amphibians (especially salamanders) have a high tendency to be threatened, and reptiles much less so, there are many more reptile species on the edge of extinction in the Region than amphibians [5, 9]. Several methods can be applied by scientists in order to protect species. Land/water protection and management, species management, education and raising awareness, and monitoring and research are major actions for Mediterranean herptiles [10, 14].

5.1. Land/water protection and management

The Mediterranean region is densely populated and more than 30% of all international tourists visit its coastal areas [15], thus direct disturbance by humans is an important threat to natural resources [10]. The Region is also considered as the cradle of Europe’s civilization and one of the most important centers of crop plants origin [2]. However, the traditional farming
practices have been abandoned in recent years in favor of intensive and industrial-scale farming methods [2].

The area conservation and management are important for endemic and threatened species with high risk status. “Land/water management” include many different types of actions such as conserving or restoring habitats and controlling invasive/problematic species. The tourism, urbanization, deforestation, intensive farming, overgrazing and fires are causing habitat loss for many threatened species. Therefore, site protection and management has crucial importance for sustainability of the threatened amphibians and reptiles.

5.2. Species protection and management

Improvement and enforcement of legal protection for threatened species and their habitats is the most urgent conservation action to be taken at both regional and national levels [5]. Species Action Plans can be an effective means for determining the specific conservation actions that are needed and for promoting coordinated activities. The primary goal of species conservation is the preservation of viable populations of wild species in their original native range [10]. Another solution could be captive breeding studies for endangered species close to extinction as part of intensive management activities. Besides, measures to be taken in conjunction with legal regulations are essential for the sustainability of protected areas. All countries should have endangered species red list database along with IUCN Red List to determine conservation priorities.

5.3. Education and awareness raising activities

There is no way of protecting a species or effective conservation without support of local people. The education and raising awareness have important role for an effective conservation activity. Collaboration between regional actors such as locals, farmers, landowners, NGOs and policy-makers should enhance conservation efforts to prevent biodiversity loss [10].

An official undergraduate program could enhance the knowledge and skills of students for environmental conservation. Additionally, creating a high school environmental course could be useful in terms of raising awareness. Increasing the exchange of knowledge, skills and knowledge in structured settings outside their undergraduate programs could be an effective way to reach outside of normal learning for practitioners, stakeholders and other interested people.

5.4. Monitoring and researches

Monitoring and inventory surveys on the endangered amphibians and reptiles will be helpful for identifying threats and create key activities for protection of the species. The main topics could be determining population/community trends, habitat quality, modeling climate change impacts and attitudes of local populations.
6. Conclusion

The Mediterranean basin’s biodiversity are facing many pressures and urgent action is required to preserve its future. Fortunately, many stakeholders such as regional and governmental organizations, NGOs, scientists and conservation practitioners are cooperating to preserve Mediterranean natural resources. The key conservation actions should be focused on sustainable management and legal protection of endangered species and their habitats [10]. Besides, it is not possible to deny importance of education, awareness-raising activities and monitoring studies for sustainability of Mediterranean amphibians and reptiles.

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Appendix 1.

Amphibians and reptiles of the Mediterranean basin

| Class    | Order | Family         | Species                | IUCN Red List category | Endemic (Yes/No) |
|----------|-------|----------------|------------------------|------------------------|------------------|
| Amphibia | Caudata | Plethodontidae | Hydromantes ambrosii   | NT                     | Y                |
| Amphibia | Caudata | Plethodontidae | Hydromantes flavus     | VU                     | Y                |
| Amphibia | Caudata | Plethodontidae | Hydromantes genei      | VU                     | Y                |
| Amphibia | Caudata | Plethodontidae | Hydromantes imperialis | NT                     | Y                |
| Amphibia | Caudata | Plethodontidae | Hydromantes italicus   | NT                     | Y                |
| Amphibia | Caudata | Plethodontidae | Hydromantes sarrabusensis | VU                     | Y                |
| Amphibia | Caudata | Plethodontidae | Hydromantes strinatii  | NT                     | Y                |
| Amphibia | Caudata | Plethodontidae | Hydromantes supramontis | EN                  | Y                |
| Amphibia | Caudata | Proteidae      | Proteus anguinus       | VU                     | Y                |
| Amphibia | Caudata | Salamandridae  | Calotriton arnoldi     | CR                     | Y                |
| Amphibia | Caudata | Salamandridae  | Calotriton asper       | NT                     | Y                |
| Amphibia | Caudata | Salamandridae  | Chioglossa lusitanica  | VU                     | Y                |
| Amphibia | Caudata | Salamandridae  | Euproctus montanus     | LC                     | Y                |
| Amphibia | Caudata | Salamandridae  | Euproctus platycephalus| EN                    | Y                |
| Class      | Order | Family       | Species                               | IUCN Red List category | Endemic (Yes/No) |
|------------|-------|--------------|---------------------------------------|------------------------|------------------|
| Amphibia   | Caudata | Salamandridae | *Ichthyosaura alpestris*              | LC                     | N                |
| Amphibia   | Caudata | Salamandridae | *Lissotriton boscai*                  | LC                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Lissotriton helveticus*              | LC                     | N                |
| Amphibia   | Caudata | Salamandridae | *Lissotriton italicus*               | LC                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Lissotriton kosswigi*               | NE                     | N                |
| Amphibia   | Caudata | Salamandridae | *Lissotriton vulgaris*                | LC                     | N                |
| Amphibia   | Caudata | Salamandridae | *Lyciasalamandra antalyana*           | EN                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Lyciasalamandra atifi*              | EN                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Lyciasalamandra billae*             | CR                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Lyciasalamandra fazilae*            | EN                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Lyciasalamandra flavimembris*        | EN                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Lyciasalamandra helverseni*          | VU                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Lyciasalamandra luschani*           | VU                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Neurergus strauchii*                 | VU                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Ommatotriton vittatus*               | LC                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Pleurodeles nebulosus*              | VU                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Pleurodeles poireti*                 | EN                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Pleurodeles waltl*                  | NT                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Salamandra algira*                  | VU                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Salamandra atra*                    | LC                     | N                |
| Amphibia   | Caudata | Salamandridae | *Salamandra corsica*                 | LC                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Salamandra infraimmaculata*          | NT                     | N                |
| Amphibia   | Caudata | Salamandridae | *Salamandra lanzai*                   | VU                     | Y                |
| Amphibia   | Caudata | Salamandridae | *Salamandra salamandra*               | LC                     | N                |
| Amphibia   | Caudata | Salamandridae | *Salamandrina perspicillata*          | LC                     | Y                |
| Class      | Order     | Family       | Species                  | IUCN Red List category | Endemic (Yes/No) |
|------------|-----------|--------------|--------------------------|------------------------|------------------|
| Amphibia   | Caudata   | Salamandridae| Salamandrina terdigitata | LC                     | Y                |
| Amphibia   | Caudata   | Salamandridae| Triturus anatolicus      | NE                     | Y                |
| Amphibia   | Caudata   | Salamandridae| Triturus carnifex        | LC                     | N                |
| Amphibia   | Caudata   | Salamandridae| Triturus cristatus       | LC                     | N                |
| Amphibia   | Caudata   | Salamandridae| Triturus dobroicus       | NT                     | N                |
| Amphibia   | Caudata   | Salamandridae| Triturus ivanburenschi   | NE                     | Y                |
| Amphibia   | Caudata   | Salamandridae| Triturus karelinii       | LC                     | N                |
| Amphibia   | Caudata   | Salamandridae| Triturus macedonicus     | NE                     | Y                |
| Amphibia   | Caudata   | Salamandridae| Triturus marmoratus      | LC                     | Y                |
| Amphibia   | Caudata   | Salamandridae| Triturus pygmaeus        | NT                     | Y                |
| Amphibia   | Anura     | Alytidae    | Alytes cisternasii       | NT                     | Y                |
| Amphibia   | Anura     | Alytidae    | Alytes dickhilleni       | VU                     | Y                |
| Amphibia   | Anura     | Alytidae    | Alytes maurus           | NT                     | Y                |
| Amphibia   | Anura     | Alytidae    | Alytes muletensis       | VU                     | Y                |
| Amphibia   | Anura     | Alytidae    | Alytes obstetricans     | LC                     | N                |
| Amphibia   | Anura     | Alytidae    | Discoglossus jeanneae    | NT                     | Y                |
| Amphibia   | Anura     | Alytidae    | Discoglossus galganoi   | LC                     | Y                |
| Amphibia   | Anura     | Alytidae    | Discoglossus montalentii| NT                     | Y                |
| Amphibia   | Anura     | Alytidae    | Discoglossus pictus     | LC                     | Y                |
| Amphibia   | Anura     | Alytidae    | Discoglossus sardus      | LC                     | Y                |
| Amphibia   | Anura     | Alytidae    | Discoglossus scovazzi   | LC                     | Y                |
| Amphibia   | Anura     | Alytidae    | Latonia nigriventer     | CR                     | Y                |
| Amphibia   | Anura     | Bombinatoridae | Bombina bombina      | LC                     | N                |
| Amphibia   | Anura     | Bombinatoridae | Bombina pachypus   | EN                     | Y                |
| Amphibia   | Anura     | Bombinatoridae | Bombina variegata   | LC                     | N                |
| Amphibia   | Anura     | Bufonidae    | Barbarophryn e brongersmai | NT                     | Y                |
| Amphibia   | Anura     | Bufonidae    | Bufo bufo              | LC                     | N                |
| Amphibia   | Anura     | Bufonidae    | Bufo spinosus           | NE                     | Y                |
| Amphibia   | Anura     | Bufonidae    | Bufotes balearicus     | LC                     | Y                |
| Amphibia   | Anura     | Bufonidae    | Bufotes boulengeri     | LC                     | Y                |
| Amphibia   | Anura     | Bufonidae    | Bufotes siculus        | LC                     | Y                |
| Amphibia   | Anura     | Bufonidae    | Bufotes variabilis     | DD                     | N                |
| Amphibia   | Anura     | Bufonidae    | Bufotes viridis        | LC                     | N                |
| Class       | Order  | Family      | Species                      | IUCN Red List category | Endemic (Yes/No) |
|------------|--------|-------------|------------------------------|------------------------|------------------|
| Amphibia   | Anura  | Bufonidae   | Epidalea calamita            | LC                     | N                |
| Amphibia   | Anura  | Bufonidae   | Sclerophrys kassasi          | LC                     | Y                |
| Amphibia   | Anura  | Bufonidae   | Sclerophrys mauritanica      | LC                     | Y                |
| Amphibia   | Anura  | Bufonidae   | Sclerophrys regularis        | LC                     | N                |
| Amphibia   | Anura  | Dicroglossidae | Hoplobatrachus occipitalis  | LC                     | N                |
| Amphibia   | Anura  | Hylidae     | Hyla arborea                 | LC                     | N                |
| Amphibia   | Anura  | Hylidae     | Hyla heinzsteinitzi          | CR                     | Y                |
| Amphibia   | Anura  | Hylidae     | Hyla intermedia              | LC                     | Y                |
| Amphibia   | Anura  | Hylidae     | Hyla meridionalis            | LC                     | Y                |
| Amphibia   | Anura  | Hylidae     | Hyla molleri                 | NE                     | Y                |
| Amphibia   | Anura  | Hylidae     | Hyla orientalis              | NE                     | N                |
| Amphibia   | Anura  | Hylidae     | Hyla sarda                   | LC                     | Y                |
| Amphibia   | Anura  | Hylidae     | Hyla savignyi                | LC                     | N                |
| Amphibia   | Anura  | Pelobatidae | Pelobates cultripes          | NT                     | Y                |
| Amphibia   | Anura  | Pelobatidae | Pelobates syriacus           | LC                     | N                |
| Amphibia   | Anura  | Pelobatidae | Pelobates varallii           | EN                     | Y                |
| Amphibia   | Anura  | Pelodytidae | Pelodytes ibericus           | LC                     | Y                |
| Amphibia   | Anura  | Pelodytidae | Pelodytes punctatus          | LC                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax bedriagae         | LC                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax bergeri           | LC                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax caralitanus       | NT                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax cerigensis        | CR                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax cretensis         | EN                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax cypriensis        | NE                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax epeiroticus       | VU                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax esculentus        | LC                     | N                |
| Amphibia   | Anura  | Ranidae     | Pelophylax hispanicus        | LC                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax kartmuelleri      | LC                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax lessonae          | LC                     | N                |
| Amphibia   | Anura  | Ranidae     | Pelophylax perezi            | LC                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax ridibundus        | LC                     | N                |
| Amphibia   | Anura  | Ranidae     | Pelophylax saharicus         | LC                     | Y                |
| Amphibia   | Anura  | Ranidae     | Pelophylax shapicerus        | EN                     | Y                |
| Class      | Order      | Family   | Species            | IUCN Red List category | Endemic (Yes/No) |
|------------|------------|----------|--------------------|------------------------|------------------|
| Amphibia   | Anura      | Ranidae  | *Rana catesbeiana* | LC                     | N                |
| Amphibia   | Anura      | Ranidae  | *Rana dalmatina*   | LC                     | N                |
| Amphibia   | Anura      | Ranidae  | *Rana graeca*      | LC                     | Y                |
| Amphibia   | Anura      | Ranidae  | *Rana holzii*      | CR                     | Y                |
| Amphibia   | Anura      | Ranidae  | *Rana iberica*     | NT                     | Y                |
| Amphibia   | Anura      | Ranidae  | *Rana italica*     | LC                     | Y                |
| Amphibia   | Anura      | Ranidae  | *Rana lactastei*   | VU                     | Y                |
| Amphibia   | Anura      | Ranidae  | *Rana macrocnemis* | LC                     | N                |
| Amphibia   | Anura      | Ranidae  | *Rana perezi*      | LC                     | Y                |
| Amphibia   | Anura      | Ranidae  | *Rana pyrenaica*   | EN                     | Y                |
| Amphibia   | Anura      | Ranidae  | *Rana taxaensis*   | EN                     | Y                |
| Amphibia   | Anura      | Ranidae  | *Rana temporaria*  | LC                     | N                |
| Reptilia   | Testudines | Cheloniidae | *Caretta caretta*  | VU                     | N                |
| Reptilia   | Testudines | Cheloniidae | *Chelonia mydas*  | EN                     | N                |
| Reptilia   | Testudines | Cheloniidae | *Eretmochelys imbricata* | CR | N |
| Reptilia   | Testudines | Dermochelyidae | *Dermochelys coriacea* | VU | N |
| Reptilia   | Testudines | Emydidae | *Emys orbicularis* | NT                     | N                |
| Reptilia   | Testudines | Emydidae | *Emys trinacris*   | DD                     | N                |
| Reptilia   | Testudines | Emydidae | *Trachemys scripta* | LC | N |
| Reptilia   | Testudines | Geoemydidae | *Mauremys caspica* | LC | N |
| Reptilia   | Testudines | Geoemydidae | *Mauremys leprosa* | LC | Y |
| Reptilia   | Testudines | Geoemydidae | *Mauremys rivulata* | LC | Y |
| Reptilia   | Testudines | Testudinidae | *Testudo graeca*  | LC                     | N                |
| Reptilia   | Testudines | Testudinidae | *Testudo hermanni* | NT | Y |
| Reptilia   | Testudines | Testudinidae | *Testudo kleinmanni* | CR | Y |
| Reptilia   | Testudines | Testudinidae | *Testudo marginata* | LC | Y |
| Reptilia   | Testudines | Trionychidae | *Rafetus euphraticus* | EN | N |
| Reptilia   | Testudines | Trionychidae | *Trionyx triangulus* | LC | N |
| Reptilia   | Amphisbaenia | Amphisbaenidae | *Blanus cinereus* | LC | Y |
| Reptilia   | Amphisbaenia | Amphisbaenidae | *B. miettali* | LC | Y |
| Reptilia   | Amphisbaenia | Amphisbaenidae | *B. strauchi* | LC | N |
| Reptilia   | Amphisbaenia | Amphisbaenidae | *B. tingitanus* | LC | Y |
| Reptilia   | Amphisbaenia | Trogonophiidae | *Trogonophis wiegmanni* | LC | Y |
| Class     | Order     | Family     | Species                   | IUCN Red List category | Endemic (Yes/No) |
|-----------|-----------|------------|---------------------------|------------------------|------------------|
| Reptilia  | Sauria    | Agamidae   | Agama impalearis          | LC                     | Y                |
| Reptilia  | Sauria    | Agamidae   | Agama spinosa             | LC                     | N                |
| Reptilia  | Sauria    | Agamidae   | Phrynocephalus arabicus   | LC                     | Y                |
| Reptilia  | Sauria    | Agamidae   | Phrynocephalus maculatus  | LC                     | N                |
| Reptilia  | Sauria    | Agamidae   | Pseudotrapelus aqabensis  | NE                     | Y                |
| Reptilia  | Sauria    | Agamidae   | Pseudotrapelus sinaitus   | LC                     | N                |
| Reptilia  | Sauria    | Agamidae   | Stellagama stelio         | LC                     | N                |
| Reptilia  | Sauria    | Agamidae   | Trapelus agnetae          | LC                     | N                |
| Reptilia  | Sauria    | Agamidae   | Trapelus boehmei          | LC                     | Y                |
| Reptilia  | Sauria    | Agamidae   | Trapelus lessonae         | LC                     | N                |
| Reptilia  | Sauria    | Agamidae   | Trapelus mutabilis        | LC                     | N                |
| Reptilia  | Sauria    | Agamidae   | Trapelus ruderatus        | LC                     | N                |
| Reptilia  | Sauria    | Agamidae   | Trapelus savignii         | VU                     | Y                |
| Reptilia  | Sauria    | Agamidae   | Trapelus schmizci         | DD                     | N                |
| Reptilia  | Sauria    | Agamidae   | Trapelus tournevillei     | LC                     | Y                |
| Reptilia  | Sauria    | Agamidae   | Uromastyx acanthinura     | NT                     | N                |
| Reptilia  | Sauria    | Agamidae   | Uromastyx aegyptia        | NT                     | N                |
| Reptilia  | Sauria    | Agamidae   | Uromastyx alfredschmidtii | NT                     | Y                |
| Reptilia  | Sauria    | Agamidae   | Uromastyx dispar          | NT                     | Y                |
| Reptilia  | Sauria    | Agamidae   | Uromastyx geyri           | NT                     | Y                |
| Reptilia  | Sauria    | Agamidae   | Uromastyx nigriventris    | NE                     | Y                |
| Reptilia  | Sauria    | Agamidae   | Uromastyx ocellata        | NT                     | N                |
| Reptilia  | Sauria    | Agamidae   | Uromastyx ornata          | NT                     | N                |
| Reptilia  | Sauria    | Anguidae   | Anguis cephallonica      | NT                     | Y                |
| Reptilia  | Sauria    | Anguidae   | Anguis graeca             | NE                     | Y                |
| Reptilia  | Sauria    | Anguidae   | Anguis veronensis        | NE                     | Y                |
| Reptilia  | Sauria    | Anguidae   | Hyalosaurus koellikeri    | LC                     | Y                |
| Reptilia  | Sauria    | Anguidae   | Pseudopus apodus          | LC                     | N                |
| Reptilia  | Sauria    | Blanidae   | Blanus alexandri         | NE                     | Y                |
| Reptilia  | Sauria    | Blanidae   | Blanus aporus             | NE                     | Y                |
| Reptilia  | Sauria    | Blanidae   | Blanus mariae             | NE                     | Y                |
| Reptilia  | Sauria    | Chamaeleonidae | Chamaeleo africanus | LC         | N                |
| Reptilia  | Sauria    | Chamaeleonidae | Chamaeleo chamaeleon | LC         | N                |
| Class     | Order   | Family         | Species                              | IUCN Red List category | Endemic (Yes/No) |
|-----------|---------|----------------|--------------------------------------|------------------------|------------------|
| Reptilia  | Sauria  | Eublepharidae  | *Eublepharis angramainyu*            | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Asaccus elisa*                      | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Bunopus blanfordii*                 | NE                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Bunopus tuberculatus*               | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Cyrtopodion scabrum*               | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Euleptes europaea*                  | NT                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Hemidactylus davudazaqri*          | NE                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Hemidactylus flaviviridis*         | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Hemidactylus foudaii*              | LC                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Hemidactylus granosus*             | NE                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Hemidactylus lavadeserticus*       | NE                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Hemidactylus mindae*               | LC                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Hemidactylus robustus*             | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Hemidactylus sinaitus*             | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Hemidactylus turcicus*             | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Mediodactylus amictopholis*        | EN                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Mediodactylus heterocercus*        | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Mediodactylus kotschyi*            | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Pristurus flavipunctatus*          | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Pristurus rapestris*               | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Quedенfeldtia moerens*             | LC                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Quedенfeldtia trachyblepharus*     | NT                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Saurodactylus broseti*             | LC                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Saurodactylus fasciatus*           | VU                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Saurodactylus mauritanicus*        | LC                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Stenodactylus doriae*              | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Stenodactylus grandiceps*          | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Stenodactylus mauritanicus*        | NE                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Stenodactylus petrii*              | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Stenodactylus slevini*             | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Stenodactylus stenurus*            | NE                     | Y                |
| Reptilia  | Sauria  | Gekkonidae     | *Stenodactylus sthenodactylus*      | LC                     | N                |
| Reptilia  | Sauria  | Gekkonidae     | *Tarentola angustimentalis*         | LC                     | Y                |
| Class    | Order    | Family      | Species             | IUCN Red List category | Endemic (Yes/No) |
|----------|----------|-------------|---------------------|------------------------|-----------------|
| Reptilia | Sauria   | Gekkonidae  | Tarentola annularis | LC                     | N               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola bischoffi | NE                     | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola boehmei  | LC                     | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola boettgeri | LC                     | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola chazaliae | LC                     | N               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola delalandii | LC                    | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola deserti  | LC                     | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola ephippiata | LC                    | N               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola fascicularis | NE                   | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola gomerensis | LC                    | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola mauritanica | LC                  | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola mindiae  | LC                     | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tarentola neglecta | LC                     | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tropiocolotes algericus | LC                | N               |
| Reptilia | Sauria   | Gekkonidae  | Tropiocolotes bisharicus | LC              | N               |
| Reptilia | Sauria   | Gekkonidae  | Tropiocolotes nattereri | LC           | Y               |
| Reptilia | Sauria   | Gekkonidae  | Tropiocolotes nubicus | DD                   | N               |
| Reptilia | Sauria   | Gekkonidae  | Tropiocolotes steudneri | LC           | N               |
| Reptilia | Sauria   | Gekkonidae  | Tropiocolotes tripolitanus | LC        | Y               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus aegyptius | NE             | Y               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus blanci | EN           | Y               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus boskianus | LC         | N               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus busacki | LC         | N               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus dumerili | LC        | N               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus erythraurus | LC       | Y               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus granidis | LC       | N               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus hardyi | NE       | N               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus harranensis | CR   | Y               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus longipes | LC       | N               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus maculatus | LC       | Y               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus opheodurus | LC       | N               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus orientalis | LC  | N               |
| Reptilia | Sauria   | Lacertidae  | Acanthodactylus pardalis | VU   | Y               |
| Class  | Order  | Family     | Species                                      | IUCN Red List category | Endemic (Yes/No) |
|--------|--------|------------|----------------------------------------------|------------------------|------------------|
| Reptilia | Sauria | Lacertidae | Acanthodactylus robustus                     | LC                     | N                |
| Reptilia | Sauria | Lacertidae | Acanthodactylus savignyi                     | NT                     | Y                |
| Reptilia | Sauria | Lacertidae | Acanthodactylus schmidtii                    | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Acanthodactylus schreiberi                   | EN                     | Y                |
| Reptilia | Sauria | Lacertidae | Acanthodactylus scutellatus                  | LC                     | N                |
| Reptilia | Sauria | Lacertidae | Acanthodactylus spinicauda                   | CR                     | Y                |
| Reptilia | Sauria | Lacertidae | Acanthodactylus taghitensis                  | DD                     | Y                |
| Reptilia | Sauria | Lacertidae | Acanthodactylus tilburyi                     | NE                     | N                |
| Reptilia | Sauria | Lacertidae | Acanthodactylus tristrani                    | LC                     | N                |
| Reptilia | Sauria | Lacertidae | Algyroides fitzingeri                        | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Algyroides marchi                            | EN                     | Y                |
| Reptilia | Sauria | Lacertidae | Algyroides moreoticus                        | NT                     | Y                |
| Reptilia | Sauria | Lacertidae | Algyroides nigropunctatus                    | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Anatololacerta anatolica                     | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Anatololacerta budaki                         | NE                     | Y                |
| Reptilia | Sauria | Lacertidae | Anatololacerta danfordi                      | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Anatololacerta pelagiana                     | NE                     | Y                |
| Reptilia | Sauria | Lacertidae | Apathya cappadocica                          | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Archaeolacerta bedriagae                     | VU                     | Y                |
| Reptilia | Sauria | Lacertidae | Atlantolacerta andreanskyi                   | NT                     | Y                |
| Reptilia | Sauria | Lacertidae | Dalmatolacerta oxycephala                    | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Darevskia pratica                            | NT                     | N                |
| Reptilia | Sauria | Lacertidae | Darevskia rudis                              | LC                     | N                |
| Reptilia | Sauria | Lacertidae | Darevskia valentini                          | LC                     | N                |
| Reptilia | Sauria | Lacertidae | Dinarolacerta mosorensis                     | VU                     | Y                |
| Reptilia | Sauria | Lacertidae | Dinarolacerta montenegrina                   | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Gallotia atlantica                           | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Gallotia auaritae                            | CR                     | Y                |
| Reptilia | Sauria | Lacertidae | Gallotia bravoana                            | CR                     | Y                |
| Reptilia | Sauria | Lacertidae | Gallotia caesaris                            | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Gallotia galloti                             | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | Gallotia intermedia                          | CR                     | Y                |
| Reptilia | Sauria | Lacertidae | Gallotia simonyi                             | CR                     | Y                |
| Class       | Order | Family     | Species                  | IUCN Red List category | Endemic (Yes/No) |
|-------------|-------|------------|-------------------------|------------------------|------------------|
| Reptilia    | Sauria| Lacertidae | Gallotia stehlini       | LC                     | Y                |
| Reptilia    | Sauria| Lacertidae | Hellenolacerta graeca   | NT                     | Y                |
| Reptilia    | Sauria| Lacertidae | Iberolacerta aranica    | CR                     | Y                |
| Reptilia    | Sauria| Lacertidae | Iberolacerta aureloio   | EN                     | Y                |
| Reptilia    | Sauria| Lacertidae | Iberolacerta bonnali    | NT                     | Y                |
| Reptilia    | Sauria| Lacertidae | Iberolacerta cyreni     | EN                     | Y                |
| Reptilia    | Sauria| Lacertidae | Iberolacerta galani     | NT                     | Y                |
| Reptilia    | Sauria| Lacertidae | Iberolacerta korvathi   | NT                     | N                |
| Reptilia    | Sauria| Lacertidae | Iberolacerta martinezricai | CR                   | Y                |
| Reptilia    | Sauria| Lacertidae | Iberolacerta monticola  | VU                     | Y                |
| Reptilia    | Sauria| Lacertidae | Lacerta agilis          | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Lacerta bilineata       | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Lacerta media           | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Lacerta pumphylica      | LC                     | Y                |
| Reptilia    | Sauria| Lacertidae | Lacerta schreiberi      | NT                     | Y                |
| Reptilia    | Sauria| Lacertidae | Lacerta trilineata      | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Lacerta viridis         | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Latastia longicaudata   | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Mesalina bahaeldini     | LC                     | Y                |
| Reptilia    | Sauria| Lacertidae | Mesalina brevirostris   | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Mesalina guttulata      | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Mesalina martini        | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Mesalina olivieri       | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Mesalina pasteuri       | DD                     | N                |
| Reptilia    | Sauria| Lacertidae | Mesalina rubropunctata  | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Mesalina simoni         | LC                     | Y                |
| Reptilia    | Sauria| Lacertidae | Ophisops elbaensis      | DD                     | N                |
| Reptilia    | Sauria| Lacertidae | Ophisops elegans        | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Ophisops occidentalis   | LC                     | Y                |
| Reptilia    | Sauria| Lacertidae | Parvilacerta fraasii    | EN                     | Y                |
| Reptilia    | Sauria| Lacertidae | Parvilacerta parva      | LC                     | N                |
| Reptilia    | Sauria| Lacertidae | Philochortus zolii      | EN                     | N                |
| Reptilia    | Sauria| Lacertidae | Phoenicolacerta cyanisparsa | LC                   | Y                |
| Class  | Order | Family   | Species                | IUCN Red List category | Endemic (Yes/No) |
|-------|-------|----------|------------------------|------------------------|------------------|
| Reptilia | Sauria | Lacertidae | *Phoenicolacerta kulzeri* | EN                     | Y                |
| Reptilia | Sauria | Lacertidae | *Phoenicolacerta laevis* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Phoenicolacerta troodica* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis bocagei* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis carbonelli* | EN                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis cretensis* | EN                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis erhardii* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis filfolensis* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis gaigeae* | VU                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis guadarranensis* | NE                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis hispanicus* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis levendis* | VU                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis lilfordi* | EN                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis liolepis* | NE                     | N                |
| Reptilia | Sauria | Lacertidae | *Podarcis melsellensis* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis milensis* | NT                     | T                |
| Reptilia | Sauria | Lacertidae | *Podarcis muralis* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis peloponnesiacus* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis pityusensis* | NT                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis raffonei* | CR                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis siculus* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis tauricus* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis tiliguerta* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis vaucheri* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis virescens* | NE                     | Y                |
| Reptilia | Sauria | Lacertidae | *Podarcis waglerianus* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Psammophis algirus* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Psammophis blanci* | NT                     | Y                |
| Reptilia | Sauria | Lacertidae | *Psammophis edwardsianus* | NE                     | N                |
| Reptilia | Sauria | Lacertidae | *Psammophis hispanicus* | LC                     | Y                |
| Reptilia | Sauria | Lacertidae | *Psammophis microdactylus* | EN                     | Y                |
| Reptilia | Sauria | Lacertidae | *Psammophis occidentalis* | NE                     | Y                |
| Reptilia | Sauria | Lacertidae | *Psammophis aegyptius* | LC                     | N                |
| Class       | Order  | Family       | Species                                | IUCN Red List category | Endemic (Yes/No) |
|------------|--------|--------------|----------------------------------------|------------------------|-----------------|
| Reptilia   | Sauria | Lacertidae   | *Psammophis biseriatus*                | NE                     | N               |
| Reptilia   | Sauria | Lacertidae   | *Psammophis rukwae*                   | LC                     | N               |
| Reptilia   | Sauria | Lacertidae   | *Psammophis schokari*                 | LC                     | N               |
| Reptilia   | Sauria | Lacertidae   | *Psammophis sibilans*                 | LC                     | N               |
| Reptilia   | Sauria | Lacertidae   | *Psammophis tanganicus*               | NE                     | N               |
| Reptilia   | Sauria | Lacertidae   | *Psudelemias macronata*               | DD                     | N               |
| Reptilia   | Sauria | Lacertidae   | *Scearcis perspicillata*              | LC                     | Y               |
| Reptilia   | Sauria | Lacertidae   | *Teira dugesi*                        | LC                     | Y               |
| Reptilia   | Sauria | Lacertidae   | *Timon kurdistanicus*                | LC                     | N               |
| Reptilia   | Sauria | Lacertidae   | *Timon lepidus*                      | NT                     | Y               |
| Reptilia   | Sauria | Lacertidae   | *Timon nezadensis*                   | NE                     | Y               |
| Reptilia   | Sauria | Lacertidae   | *Timon pater*                        | LC                     | Y               |
| Reptilia   | Sauria | Lacertidae   | *Timon princeps*                     | LC                     | Y               |
| Reptilia   | Sauria | Lacertidae   | *Timon tangitanus*                   | LC                     | Y               |
| Reptilia   | Sauria | Lacertidae   | *Zootoca vivipara*                   | LC                     | N               |
| Reptilia   | Sauria | Lacertidae   | *Acanthodactylus ahmaddisii*         | EN                     | N               |
| Reptilia   | Sauria | Lacertidae   | *Acanthodactylus aureus*             | LC                     | N               |
| Reptilia   | Sauria | Lacertidae   | *Acanthodactylus bedriagai*          | NT                     | Y               |
| Reptilia   | Sauria | Lacertidae   | *Acanthodactylus beershebensis*      | CR                     | Y               |
| Reptilia   | Sauria | Phyllodactylidae | *Asaccus barani*               | NE                     | Y               |
| Reptilia   | Sauria | Phyllodactylidae | *Ptyodactylus ananjevae*           | NE                     | Y               |
| Reptilia   | Sauria | Phyllodactylidae | *Ptyodactylus guttatus*            | LC                     | N               |
| Reptilia   | Sauria | Phyllodactylidae | *Ptyodactylus hasselquistii*        | LC                     | N               |
| Reptilia   | Sauria | Phyllodactylidae | *Ptyodactylus oudrii*              | LC                     | Y               |
| Reptilia   | Sauria | Phyllodactylidae | *Ptyodactylus puiseuxi*            | LC                     | N               |
| Reptilia   | Sauria | Phyllodactylidae | *Ptyodactylus ragazii*             | LC                     | N               |
| Reptilia   | Sauria | Scincidae    | *Chalcides bedriagai*                | NT                     | Y               |
| Reptilia   | Sauria | Scincidae    | *Chalcides boulengeri*              | NE                     | N               |
| Reptilia   | Sauria | Scincidae    | *Chalcides chalcides*               | LC                     | Y               |
| Reptilia   | Sauria | Scincidae    | *Chalcides colosii*                 | LC                     | Y               |
| Reptilia   | Sauria | Scincidae    | *Chalcides chalcides*              | CR                     | Y               |
| Reptilia   | Sauria | Scincidae    | *Chalcides guentheri*              | VU                     | Y               |
| Reptilia   | Sauria | Scincidae    | *Chalcides lancai*                  | NT                     | Y               |
| Class       | Order     | Family    | Species              | IUCN Red List category | Endemic (Yes/No) |
|-------------|-----------|-----------|----------------------|------------------------|------------------|
| Reptilia    | Sauria    | Scincidae | Chalcides manueli    | VU                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides mauritanicus | EN                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides mertensi   | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides minutus    | VU                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides mionecton  | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides montanus   | NT                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides ocellatus  | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides paralleus  | EN                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides polyplepis | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides pseudostriatus | NT                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides sepoide    | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides sexlineatus | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides sphenopsiformis | LC                     | N                |
| Reptilia    | Sauria    | Scincidae | Chalcides striatus   | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Chalcides viridanus  | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Eumeces algeriensis  | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Eumeces schneideri   | LC                     | N                |
| Reptilia    | Sauria    | Scincidae | Eurylepis taeniolata | NE                     | N                |
| Reptilia    | Sauria    | Scincidae | Heremites auratus    | NE                     | N                |
| Reptilia    | Sauria    | Scincidae | Ophiomorus latestii  | DD                     | Y                |
| Reptilia    | Sauria    | Scincidae | Ophiomorus punctatissimus | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Scincopus fasciatus  | DD                     | N                |
| Reptilia    | Sauria    | Scincidae | Scincus albifasciatus | LC                     | N                |
| Reptilia    | Sauria    | Scincidae | Scincus scincus      | LC                     | N                |
| Reptilia    | Sauria    | Scincidae | Trachylepis quinquetaeniata | LC                     | N                |
| Reptilia    | Sauria    | Scincidae | Ablepharus budaki    | LC                     | Y                |
| Reptilia    | Sauria    | Scincidae | Ablepharus chernovi  | LC                     | N                |
| Reptilia    | Sauria    | Scincidae | Ablepharus kitaibeli  | LC                     | N                |
| Reptilia    | Sauria    | Scincidae | Ablepharus rueppellii | LC                     | Y                |
| Reptilia    | Sauria    | Varanidae | Varanus griseus      | LC                     | N                |
| Reptilia    | Sauria    | Varanidae | Varanus niloticus    | LC                     | N                |
| Reptilia    | Ophidia   | Atractaspidae | Atractaspis engaddensis | LC                     | N                |
| Reptilia    | Ophidia   | Atractaspidae | Micrelaps muelleri   | LC                     | Y                |
| Class     | Order | Family           | Species                      | IUCN Red List category | Endemic (Yes/No) |
|-----------|-------|------------------|------------------------------|------------------------|------------------|
| Reptilia  | Ophidia | Atractaspididae  | Micrelaps tchernovi         | NE                     | Y                |
| Reptilia  | Ophidia | Boidae           | Eryx colubrinus             | NE                     | N                |
| Reptilia  | Ophidia | Boidae           | Eryx jaculus                | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Coronella austriaca         | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Coronella girondica          | LC                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Dasypeltis scabra           | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Dolichophis aspius          | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Dolichophis cypriensis      | EN                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Dolichophis jugularis       | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Dolichophis schmidtii       | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Eirenis aurolineatus        | LC                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Eirenis barani              | LC                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Eirenis collaris            | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Eirenis coronella           | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Eirenis coronelloides       | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Eirenis decemlineatus       | LC                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Eirenis eiselti             | LC                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Eirenis hakkariensis        | DD                     | N                |
| Reptilia  | Ophidia | Colubridae       | Eirenis levantinus          | LC                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Eirenis lineomaculatus      | LC                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Eirenis modestus            | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Eirenis occidentalis        | NE                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Eirenis persicus            | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Eirenis punctatolineatus    | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Eirenis rothii              | LC                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Eirenis thospitis           | DD                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Elaphe quatuorlineata       | NT                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Elaphe sauronates           | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Hemorrhois algirus          | LC                     | Y                |
| Reptilia  | Ophidia | Colubridae       | Hemorrhois hippocrepis      | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Hemorrhois nummifer         | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Hemorrhois raurgieri        | LC                     | N                |
| Reptilia  | Ophidia | Colubridae       | Hierophis gemonensis        | LC                     | Y                |
| Class      | Order   | Family      | Species                          | IUCN Red List category | Endemic (Yes/No) |
|------------|---------|-------------|----------------------------------|------------------------|------------------|
| Reptilia   | Ophidia | Colubridae  | Hierophis viridiflavus           | LC                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Lycoptodon capense               | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Lytorychnus diadema             | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Macroprotodon abubakeri          | DD                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Macroprotodon brevis             | NT                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Macroprotodon cecallatus         | LC                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Macroprotodon mauritanicus       | NE                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Malpolon insignitus              | NE                     | N                |
| Reptilia   | Ophidia | Colubridae  | Malpolon monspessulanus          | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Mehturopis barani                | NE                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Platyceps collaris               | LC                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Platyceps elegantissimus         | DD                     | N                |
| Reptilia   | Ophidia | Colubridae  | Platyceps florulentus            | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Platyceps najadum                | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Platyceps rhodorachis            | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Platyceps rogersi                | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Platyceps safin                  | DD                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Platyceps tessellata             | NE                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Platyceps ventromaculatus         | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Rhagerhis moilensis              | NE                     | N                |
| Reptilia   | Ophidia | Colubridae  | Rhynerocalamus melanocephalus     | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Rhynerocalamus satunini           | NE                     | N                |
| Reptilia   | Ophidia | Colubridae  | Spalerosophis diadema            | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Spalerosophis dolichospilus       | DD                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Telescopus dhara                  | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Telescopus fallax                 | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Telescopus hoogstraali            | EN                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Telescopus nigriceps              | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Telescopus obtusus                | NE                     | N                |
| Reptilia   | Ophidia | Colubridae  | Telescopus tripolitanus           | NE                     | N                |
| Reptilia   | Ophidia | Colubridae  | Zamenis hohenackeri              | LC                     | N                |
| Reptilia   | Ophidia | Colubridae  | Zamenis lineatus                  | DD                     | Y                |
| Reptilia   | Ophidia | Colubridae  | Zamenis longissimus               | LC                     | N                |
| Class       | Order     | Family      | Species                                | IUCN Red List category | Endemic (Yes/No) |
|-------------|-----------|-------------|----------------------------------------|------------------------|-----------------|
| Reptilia    | Ophidia   | Colubridae  | *Zamenis scalaris*                     | NE                     | Y               |
| Reptilia    | Ophidia   | Colubridae  | *Zamenis situla*                       | LC                     | N               |
| Reptilia    | Ophidia   | Elapidae    | *Naja haje*                            | LC                     | N               |
| Reptilia    | Ophidia   | Elapidae    | *Naja nubia*                          | LC                     | N               |
| Reptilia    | Ophidia   | Elapidae    | *Naja pallida*                         | NE                     | N               |
| Reptilia    | Ophidia   | Elapidae    | *Walterinnesia aegyptia*               | LC                     | N               |
| Reptilia    | Ophidia   | Elapidae    | *Walterinnesia morgani*                | NE                     | N               |
| Reptilia    | Ophidia   | Lampropfiidae| *Boaedon fuliginosus*                  | NE                     | N               |
| Reptilia    | Ophidia   | Leptotyphlopidae | *Myriopholis algeriensis* | LC                     | N               |
| Reptilia    | Ophidia   | Leptotyphlopidae | *Myriopholis cairi*           | NE                     | N               |
| Reptilia    | Ophidia   | Leptotyphlopidae | *Myriopholis macrorhyncha* | NE                     | N               |
| Reptilia    | Ophidia   | Natricidae  | *Natrix maura*                         | LC                     | Y               |
| Reptilia    | Ophidia   | Natricidae  | *Natrix natrix*                       | LC                     | N               |
| Reptilia    | Ophidia   | Natricidae  | *Natrix tessellata*                   | LC                     | N               |
| Reptilia    | Ophidia   | Typhlopidae | *Letheobia episcopus*                 | DD                     | Y               |
| Reptilia    | Ophidia   | Typhlopidae | *Letheobia simontii*                  | LC                     | Y               |
| Reptilia    | Ophidia   | Typhlopidae | *Xerotypholps vermicularis*            | NE                     | N               |
| Reptilia    | Ophidia   | Viperidae   | *Bitis arietans*                      | LC                     | N               |
| Reptilia    | Ophidia   | Viperidae   | *Cerastes bohmei*                     | NE                     | Y               |
| Reptilia    | Ophidia   | Viperidae   | *Cerastes cerastes*                   | LC                     | N               |
| Reptilia    | Ophidia   | Viperidae   | *Cerastes gasperetti*                 | LC                     | N               |
| Reptilia    | Ophidia   | Viperidae   | *Cerastes viper*                      | LC                     | N               |
| Reptilia    | Ophidia   | Viperidae   | *Daboia deserti*                      | NT                     | Y               |
| Reptilia    | Ophidia   | Viperidae   | *Daboia mauritanica*                  | NT                     | Y               |
| Reptilia    | Ophidia   | Viperidae   | *Daboia palaestinae*                  | LC                     | Y               |
| Reptilia    | Ophidia   | Viperidae   | *Echis coloratus*                     | LC                     | N               |
| Reptilia    | Ophidia   | Viperidae   | *Echis leucogaster*                   | LC                     | N               |
| Reptilia    | Ophidia   | Viperidae   | *Echis pyramidum*                     | LC                     | N               |
| Reptilia    | Ophidia   | Viperidae   | *Macrovipera lebetina*                | LC                     | N               |
| Reptilia    | Ophidia   | Viperidae   | *Macrovipera schweizeri*              | EN                     | Y               |
| Reptilia    | Ophidia   | Viperidae   | *Montiovipera albizona*               | EN                     | Y               |
| Reptilia    | Ophidia   | Viperidae   | *Montiovipera bornmuelleri*            | EN                     | Y               |
| Reptilia    | Ophidia   | Viperidae   | *Montiovipera bulguragamica*          | LC                     | Y               |
| Class  | Order  | Family | Species                | IUCN Red List category | Endemic (Yes/No) |
|--------|--------|--------|------------------------|------------------------|------------------|
| Reptilia | Ophidia | Viperidae | Montivipera raddei     | NT                     | N                |
| Reptilia | Ophidia | Viperidae | Montivipera xanthina   | LC                     | Y                |
| Reptilia | Ophidia | Viperidae | Pseudocerastes fieldi  | LC                     | N                |
| Reptilia | Ophidia | Viperidae | Vipera ammodytes       | LC                     | N                |
| Reptilia | Ophidia | Viperidae | Vipera anatolica       | EN                     | Y                |
| Reptilia | Ophidia | Viperidae | Vipera aspis           | LC                     | N                |
| Reptilia | Ophidia | Viperidae | Vipera barani          | NT                     | Y                |
| Reptilia | Ophidia | Viperidae | Vipera berus           | LC                     | N                |
| Reptilia | Ophidia | Viperidae | Vipera latastei        | NT                     | Y                |
| Reptilia | Ophidia | Viperidae | Vipera monticola       | NT                     | Y                |
| Reptilia | Ophidia | Viperidae | Vipera seoanei         | LC                     | Y                |
| Reptilia | Ophidia | Viperidae | Vipera ursinii         | VU                     | N                |
| Reptilia | Ophidia | Viperidae | Vipera walser          | NE                     | Y                |
| Crocodilia | Crocodilia | Crocodylidae | Crocodylus niloticus   | LC                     | N                |

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