A Global-Scale Evaluation of Mammalian Exposure and Vulnerability to Anthropogenic Climate Change

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Abstract

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There is considerable evidence demonstrating that anthropogenic climate change is impacting species living in the wild. The vulnerability of a given species to such change may be understood as a combination of the magnitude of climate change to which the species is exposed, the sensitivity of the species to changes in climate, and the capacity of the species to adapt to climatic change. I used species distributions and estimates of expected changes in local temperatures per teratonne of carbon emissions to assess the exposure of terrestrial mammal species to human-induced climate change. I evaluated species vulnerability to climate change by combining expected local temperature changes with species conservation status, using the latter as a proxy for species sensitivity and adaptive capacity to climate change. I also performed a global-scale analysis to identify hotspots of mammalian vulnerability to climate change using expected temperature changes, species richness and average species threat level for each km^2 across the globe. The average expected change in local annual average temperature for terrestrial mammal species is 1.85 ^{o}C/TtC. Highest temperature changes are expected for species living in high northern latitudes, while smaller changes are expected for species living in tropical locations. Hotspots of terrestrial mammalian vulnerability to climate change include northern Eurasia and Canada, central China, and the Amazon basin. This study is intended to provide a guide for conservation research and planning in the identification of individual mammal species as well as regions of mammalian habitat that may become increasingly vulnerable with continued climate change.

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Chapter 3 - Data Description

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Introduction

There is considerable evidence demonstrating that current, human-induced climate change is impacting natural systems and species living in the wild (Parmesan & Yohe 2003; Root et al. 2003; Parmesan 2006; Chen et al. 2011). As Earth's mean temperature rises, existing climatic regimes are shifting in space and/or changing in size, while novel climates are appearing (Ackerly et al. 2010). Shifts in species distributions, disruptions of species interactions (both spatial and temporal), changes in the species compositions of communities, and even species extinctions have all been occurring in parallel with these climatic shifts (Parmesan 2006; Moritz et al. 2008). Climate-related alterations of key life-history traits have also been observed in numerous species (e.g. Post et al. 1997; Réale et al. 2003; Weladji & Holand 2003; Isaac 2009). As the global human population continues to increase, and global temperatures continue to rise in response to ever-increasing anthropogenic greenhouse gas emissions, it is expected that species will continue to be impacted by changes in climate (Thomas et al. 2004; Levinsky et al. 2007).

Amid significant uncertainties in the prediction of future climate change impacts on species and ecosystems, numerous concerns exist (Schwartz et al. 2006; Dormann 2007; Dawson et al. 2011). For example, there are concerns that certain species will not be able to disperse quickly enough to keep pace with rapidly shifting climatic regimes (Loarie et al. 2009; Schloss et al. 2012; Santini et al. 2016). The effects of interactions between human-induced climate change and other human activities (particularly land-use change leading to habitat degradation, fragmentation and/or destruction) are also an important cause for concern (Sala 2000; Root et al. 2003; Thomas et al. 2004; Thuiller et al. 2006; Mantyka-Pringle et al. 2015). The impacts of sea-ice decline, increases in the frequency and/or intensity of extreme weather events, and changes in disease transmission associated with climate change are also worrisome (Harvell et al. 2002; Ameca y Juárez et al. 2013; Post et al. 2013; Forbes et al. 2016). Of greatest concern, however, is the potential for widespread species extinctions associated with the loss of areas of suitable climatic conditions and/or the inability of species to adapt to rapid changes in climate (Thomas et al. 2004; Schwartz et al. 2006; Levinsky et al. 2007; Visser 2008; Maclean & Wilson 2011; Urban 2015).

Terrestrial mammals are of particular importance in the discussion of climate change impacts on biodiversity due to their essential roles in the functioning of ecosystems: they act as predators, grazers, and/or seed dispersers, and any loss or decline of these species may lead to cascading ecosystemic effects that could impact many other living organisms (Sinclair 2003; Stoner et al. 2007; Schipper et al. 2008; Roemer et al. 2009; Sandom et al. 2013; Ripple et al. 2014). Many terrestrial mammals are also important as umbrella species for conservation initiatives, as well as indicator species for assessments of

ecosystem health (Sinclair 2003; Roberge & Angelstam 2004). From an anthropocentric perspective, numerous terrestrial mammal species are an essential source of food and income for human populations in many regions of the world (Schipper et al. 2008).

Unfortunately, it is estimated that approximately 25 % (and as many as 36 %) of terrestrial mammal species are already threatened with extinction, largely as a consequence of non-climate-related human activities (Schipper et al. 2008). Terrestrial mammals are primarily threatened by habitat loss and degradation, as well as over-hunting and/or harvesting (Schipper et al. 2008). Recently, however, there has been increasing concern that forthcoming climate change may act as an additional and, potentially, even greater threat to the persistence of mammal species across the globe (Thomas et al. 2004; Thuiller et al. 2006). Numerous studies have demonstrated a strong connection between climate and mammalian life history traits, from reproduction, survivorship and growth, to activity budgets, hunting behaviours and mortality (Singer et al. 1989; Post et al. 1997, 1999; Wright et al. 1999; Réale et al. 2003; Weladji & Holand 2003; King et al. 2005; Beehner 2006; González-Zamora et al. 2011). It is therefore essential to develop a greater understanding of the vulnerability of terrestrial mammal species to future climate change.

It has been argued that the vulnerability of a given species to forthcoming climate change may be understood as a combination of three elements: (1) the magnitude of climate change to which the species will be exposed; (2) the sensitivity of the species to changes in climate; and (3) the capacity of the species to adapt to climate change (Dawson et al. 2011). In the case of terrestrial mammal species, many studies have already attempted to assess a particular facet of the sensitivity and/or adaptive capacity of a given species to climate change by examining the response (often in terms of a specific life-history trait) of that species to variations in climatic conditions and/or climatic extremes (e.g. Post et al. 1997; Réale et al. 2003; Weladji & Holand 2003; Pavelka et al. 2007; Waite et al. 2007b). Other studies have sought to predict the response of a sample or geographic grouping of mammal species to various scenarios of future climate change (e.g. Thomas et al. 2004; Thuiller et al. 2006) or have identified locations of species vulnerability to extinction without considering climate change as a factor (Jenkins et al. 2013). To date, however, a comprehensive assessment of the vulnerability of all terrestrial mammals to future climate change (including exposure, sensitivity and adaptive capacity) has not yet been performed.

This study aims to fill that knowledge gap by providing a global survey of the vulnerability of terrestrial mammal species to climate change, both at the individual species level as well as for regional

groupings of species. Such an assessment will accomplish several goals. First, the results of this study will serve as a guide to researchers and conservation planners in the identification of particular terrestrial mammal species as well as regions inhabited by terrestrial mammals that may become increasingly vulnerable with continued climate change; these species and regions may therefore require greater consideration in terms of future research and conservation measures as climate change continues. Second, this study will draw attention to the direct impacts of human activities on species living in the wild, namely, the impacts of rising temperatures resulting from anthropogenic carbon emissions. Finally, this study will contribute to the pool of knowledge regarding climate change impacts on biodiversity as a whole, and provide a methodological framework for future climate-impact studies of other living organisms.

Chapter 1 - Literature Review

I. Overview

Earth's climate is currently undergoing rapid change, change which has been attributed primarily to the effects of anthropogenic activities (IPCC 2013). The existence and distribution of living organisms are closely linked to climate due to the impacts of climatic variability on key life history traits, food supply and habitat, among numerous other biological characteristics (Singer et al. 1989; Wright et al. 1999; Isaac 2009). Changes in phenology and species distributions have already been observed among many species in association with recent climate change (Parmesan & Yohe 2003; Root et al. 2003; Parmesan 2006). Numerous concerns exist regarding the impacts of continued climate change on species living in the wild, including the disruption of species interactions (Lavergne et al. 2010), changes in community composition and structure (Burns et al. 2003), and the inability of certain species to disperse at a pace that is quick enough to track rapid spatial shifts in climatic conditions (Loarie et al. 2009; Schloss et al. 2012). Predicting species extinctions resulting from future climate change is a complex task due to the uncertainty involved in predicting the magnitude of forthcoming climate change as well as in determining the responses of species to future climate changes (Dawson et al. 2011).

II. Climate Change

i. The Greenhouse Effect

It is clear from numerous observations that Earth's climate is undergoing significant change (Karl & Trenberth 2003). Climate-related changes have been observed in Earth's atmosphere, hydrosphere, cryosphere, and biosphere (IPCC 2013). While it is known that Earth's climate naturally cycles between glacial and interglacial periods, there is overwhelming scientific consensus that current changes in global temperature are primarily the result of human activities which create an enhancement of the natural greenhouse effect (Petit et al. 1999; Karl & Trenberth 2003; Cook et al. 2013).

The natural greenhouse effect allows Earth's temperature to remain at a suitable level for the sustenance of life on the planet (Karl & Trenberth 2003). Without it, Earth's temperature would drop below freezing to approximately -18 ^{o}C (Zhong & Haigh 2013). When shortwave solar radiation reaches the planet's surface, a portion of that radiation is emitted back into the atmosphere in the form of

longwave radiation (Zhong & Haigh 2013). Clouds and greenhouse gases in Earth's atmosphere, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), absorb a portion of this longwave radiation, reducing the amount of energy that is lost to space (Zhong & Haigh 2013). Moderate atmospheric concentrations of greenhouse gases are therefore necessary to maintain the planet's temperature at a suitable level. However, human activities, particularly those occurring since the industrial revolution (e.g. fossil fuel combustion, cement production, and large-scale land use changes) have led to increasing atmospheric concentrations of greenhouse gases (Tans 2009; Syakila & Kroeze 2011; Dlugokencky et al. 2011). Atmospheric concentrations of carbon dioxide have now exceeded 400 ppm (a more than 40 % increase above the pre-industrial level of 280 ppm) (National Oceanic and Atmospheric Administration Earth System Research Laboratory Global Monitoring Division 2018); methane concentrations are currently at approximately 1800 ppb (a 150 % increase over the pre-industrial level of 700 ppb) (Dlugokencky et al. 2011); and nitrous oxide concentrations are currently close to 320 ppb (a 30 % increase from the 275 ppb pre-industrial level) (Syakila & Kroeze 2011). These increases in greenhouse gas concentrations have resulted in an enhancement of the natural greenhouse effect, with increased energy retention in Earth's atmosphere leading to an overall warming of the planet (Karl & Trenberth 2003).

ii. Observed Climate Changes

As greenhouse gas concentrations have increased, changes in temperature and precipitation have been observed. Land surface temperatures have increased by an estimated 0.9^{o}C since the 1950s (Rohde et al. 2013), while sea surface temperatures have risen by approximately 0.4^{o}C since the 1940s (Kennedy et al. 2011). The combined land-ocean global average surface temperature has increased by approximately 0.8^{o}C over the last century, with warming occurring in nearly all locations on the planet (Vose et al. 2012). Changes in precipitation patterns have also occurred over the last century, with certain regions become wetter and other regions becoming drier (Becker et al. 2013).

Changes in weather extremes have also been observed in recent decades. From the 1950s to the present, there have been decreases in the number of cold days and cold nights (-3.9 % and -2.5 % per decade, respectively) and increases in the number of warm days and warm nights (+4.5 % and +2.9 % per decade, respectively) (Donat et al. 2013). Additionally, the intensity, duration and frequency of heat waves appear to be increasing (Ganguly et al. 2009; Perkins et al. 2012; Mera et al. 2015). Significant

increases in the abundance of extreme precipitation have also been reported for many areas of the globe (Donat et al. 2013), while in other areas (such as West Africa), there has been a trend towards increased frequency and intensity of drought conditions (Dai 2013). While there is considerable uncertainty associated with trends in extreme storm events, it is clear that tropical cyclones have been increasing in intensity in the Atlantic Basin (Kossin et al. 2007).

Climate-related changes in oceans have also been observed in recent decades (Church & White 2006; Doney et al. 2009; Levitus et al. 2009; Durack & Wijffels 2010). For example, heat content in the upper 700 m of the ocean has been increasing at an average rate of 0.4×10^{22} J/year since the mid-1950s (Levitus et al. 2009). Salinity of ocean surface waters has changed, with areas of higher salinity becoming increasingly saline and areas of lower salinity becoming fresher (Durack & Wijffels 2010). Changes in ocean biogeochemistry have also been observed with increases in carbon concentrations and the acidification of surface waters (Doney et al. 2009). Sea-level rise over the 20th century has been estimated at 195 mm (from 1870 to 2004) (Church & White 2006), an increase which is likely due to a combination of thermal expansion of ocean water and melting of glacial ice (Meier & Wahr 2002).

Glaciers, sea-ice, ice sheets, seasonal snow, permafrost, lake and river ice all comprise Earth's cryosphere. Cryospheric changes associated with global warming have been pronounced: ice sheets and glaciers, such as the east Greenland Helheim Glacier, have thinned and retreated dramatically in recent years (Howat et al. 2005). Active permafrost layers have increased in thickness, and permafrost has completely disappeared from many locations (Åkerman & Johansson 2008). Spring snow cover in the Northern Hemisphere has decreased significantly in areal extent (Brown & Robinson 2011), while later dates of lake-ice freezing and earlier dates of lake-ice breakup have resulted in decreases in the duration of lake-ice cover over the last century (Benson et al. 2011).

iii. Predicting Future Climate Changes

It is evident from observed changes in Earth's atmosphere, hydrosphere and cryosphere that Earth's climate is already responding and will continue to respond irreversibly to the effects of anthropogenic greenhouse gas emissions (Solomon et al. 2009). Future changes in Earth's climate can be simulated by running climate models under various emissions scenarios (Taylor et al. 2012). Though uncertainty is inherent in the climate modelling process (due to the vast number of variables and feedbacks within Earth's climate system (Allen et al. 2000)), it has been shown with a high degree of certainty that Earth's

average temperature increases approximately linearly with cumulative carbon dioxide emissions (Matthews et al. 2009). Changes in local/regional temperatures have also been shown to scale linearly with cumulative carbon dioxide emissions (Leduc et al. 2016). Thus, as emissions from human activities continue, changes in local climatic conditions will also continue to occur, impacting both natural and human systems at the local level (Arnell et al. 2016). The magnitude of these changes and impacts will therefore depend greatly upon the decisions and actions taken by governments and individuals, whether to pursue on our current pathway of emissions, or to reduce and even eliminate our dependence on fossil fuels.

III. Climate Change and Earth's Biota

i. The Importance of Climate for Terrestrial Mammal Species

Numerous studies have demonstrated the links between climate and the distribution of terrestrial mammal species (e.g. Post et al. 1997, 1999; Réale et al. 2003; Weladji & Holand 2003; González-Zamora et al. 2011; Mumby et al. 2013). A study of 23 mammal species showed that their distributions have consistently tracked spatial climate regimes from the Last Glacial Maximum to the present (Martinez-Meyer et al. 2004). In other words, for approximately the past 20,000 years, these species have consistently shifted their distributions in space in order to follow spatial shifts in climate and to remain within zones of consistent climatic conditions.

Field studies of numerous mammal species have demonstrated links between climate variability and key life history traits (Isaac 2009). These include reproductive timing (Réale et al. 2003), reproductive success (Beehner 2006), litter sizes (Tafani et al. 2013), offspring sex ratios (Wiederholt & Post 2011), body size, mass and growth rates (Weladji & Holand 2003; Mason et al. 2014), as well as overall survival rates (Mumby et al. 2013; Forbes et al. 2016). Thermoregulation (Mitchell et al. 2009), activity budgets (González-Zamora et al. 2011), and hunting behaviour (Post et al. 1999) have also been shown to be closely linked to climate.

Changing climatic conditions can also have indirect effects on mammals, resulting from climate controls over food supply. For example, 49 years of observations in a Panamanian tropical forest showed that mild dry seasons following El Niño events consistently resulted in famine due to a decline of fruit production (Wright et al. 1999). This, in turn, led to record mortality rates among mammals living in the area (Wright et al. 1999). Another study demonstrated how decreased rainfall can indirectly affect infant mortality rates (King et al. 2005). When periods of low rainfall coincided with the lactation season, infant survival was low (King et al. 2005). The low rainfall led to a decline in the quality of the local food supply. Older individuals, whose teeth were worn, had difficulty chewing the lower-quality food, leading to malnutrition, a decrease in the quality of milk given to their offspring and, consequently, an increase in infant mortality (King et al. 2005).

Extreme climatic events may have both direct and indirect effects on mammals living in the wild. Hurricanes or tropical cyclones, for example, typically result in the widespread destruction of forests, a phenomenon which may have severe consequences for local species (Levy 2005; Pavelka et al. 2007). During Hurricane Katrina in 2005, it is estimated that 320 million large trees were severely damaged, leveled and/or destroyed throughout the forests of the U.S. Gulf Coast (Chambers et al. 2007). Such devastation often results not only in immediate and direct effects (e.g. widespread animal injuries and/or death at the time of the storm itself), but also in longer-term, indirect impacts such as increases in mortality rates due to habitat destruction and fragmentation, as well as the long-term loss of food supply (Behie & Pavelka 2005; Levy 2005; Pavelka et al. 2007).

Drought may have similarly devastating consequences for species, impacting food supply, habitat and mortality rates (both immediate and long term). A prime example is the 1988 drought that occurred in the region of Yellowstone National Park, one which had severe consequences for large mammals in the area (Singer et al. 1989). The drought was brought on by extremely low summer precipitation and above normal summer temperatures (Singer et al. 1989). Plant productivity was severely reduced, leading to a decrease in the quantity and quality of food supply for local mammalian herbivores (Singer et al. 1989). Drought-related wildfires destroyed large swaths of habitat, killed a total of 261 large mammals and injured numerous others (Singer et al. 1989). During the following winter, mortality rates among elk were much higher than usual (Singer et al. 1989). In addition, elk calves born the following year were much smaller in size and the mortality rates of the calves doubled (Singer et al. 1989).

ii. Observed Biological Responses to Recent Climate Change

The effects of recent, human-induced climate change on natural systems and biota have already been observed across the globe, and have been both temporal and spatial in nature (Pounds et al. 1999; Walther et al. 2002; Parmesan & Yohe 2003; Root et al. 2003; Parmesan 2006; Chen et al. 2011). Temporal changes have consisted primarily of shifts in phenology (the timing of seasonal events or activities of living organisms) (Walther et al. 2002; Parmesan & Yohe 2003). For example, the increasingly earlier onset of spring has resulted in correspondingly earlier returns of migrant birds, earlier spawning dates in amphibians, earlier flowering of plants, and earlier breeding dates in small mammals (Walther et al. 2002; Réale et al. 2003).

Spatial responses to changes in climate have also been widely observed. Species distributions have been shifting in space, tracking spatial shifts in climatic conditions (Parmesan & Yohe 2003; Root et al. 2003; Moritz et al. 2008; Chen et al. 2011). Overall these shifts have been estimated to be occurring at a rate of 6.1 km/decade in increasing latitude and 6.1 m/decade in elevation (for montane species) (Parmesan & Yohe 2003). A more recent study estimated much faster rates of range shifting with a latitudinal average of 16.9 km/decade and an altitudinal average of 11.0 m/decade among various types of organisms (Chen et al. 2011).

Spatial and temporal responses to climate change are, in many cases, occurring at different rates for different species (Root et al. 2003). This has the potential to lead to a disruption of the synchrony of species interactions, as well as changes in community structure and/or composition, phenomena which have already been observed amongst certain species (Inouye et al. 2000; Parmesan 2006; Moritz et al. 2008).

iii. Anticipated Biological Impacts of Continued Climate Change

There are numerous concerns among conservation biologists regarding the impacts of continued climate change on species living in the wild. The rapid pace of current climate change is raising questions as to whether or not species will be able to shift their ranges quickly enough in order to remain within areas of suitable climatic conditions (Loarie et al. 2009; Sandel et al. 2011; Schloss et al. 2012; Santini et al. 2016). In the case of mammals, it is estimated that some 30 % of all species may be incapable of keeping pace

with the rate of climate shifts (Santini et al. 2016). For a given location, between 9.2 % and 39 % of mammal species may be unable to disperse quickly enough to remain within suitable climatic regimes (Schloss et al. 2012). Species with small ranges and limited dispersal abilities are of important concern, particularly in areas where climate velocities are expected to be high (Sandel et al. 2011).

In some cases, species may have the capacity to disperse at the rate of spatial climate shifts, but their movements may be impeded by natural and/or anthropogenic landscape barriers (Opdam & Wascher 2004; Thuiller et al. 2006; Schloss et al. 2012). The potential for synergistic effects between climate change and habitat fragmentation and/or destruction (related to human land-use change activities) are of particular concern in this context (Opdam & Wascher 2004; Thuiller et al. 2006; Schloss et al. 2012). Loss of protection for already-vulnerable species that disperse beyond the static boundaries of conservation areas is also a serious concern (Burns et al. 2003; Thuiller et al. 2006; Araújo et al. 2011).

Even if species are able to disperse unimpeded and at a pace sufficient to track spatial climate shifts, several studies show expected contractions, fragmentation and/or complete loss of the areal extent of climatic conditions to which certain species are presently adapted, while novel climates are expected to appear in many locations (Thomas et al. 2004; Levinsky et al. 2007; Ackerly et al. 2010; Schloss et al. 2012; Warren et al. 2013). Up to 41 % of animals could see a reduction of 50 % or more in their climate ranges by 2080 (Warren et al. 2013). For mammals in particular, up to 87 % of species could see reductions in their range sizes by 2100 (Schloss et al. 2012). Species whose ranges are already limited by geographic barriers (e.g. montane species, island endemic species, polar species) are likely to be most affected by these changes (Thomas et al. 2004; Parmesan 2006; Levinsky et al. 2007).

Continued changes in community structure and composition are also expected with continued climate change, as species have varying degrees of responsiveness to climate change and are not expected to respond as a collective unit (Lavergne et al. 2010). Burns et al. (2003) assessed potential changes in mammalian species compositions for eight U.S. national parks with forthcoming climate change. They projected that, if concentrations of atmospheric carbon dioxide were to double, as many as 20 % of species ranges would shift beyond the static barriers of the parks, while many more new species (48.1 %) would move into the protected areas (Burns et al. 2003). A similar study in Africa predicted that climate change will lead to a 37.9 % change in mammalian species compositions of West African protected areas by the year 2100 (Baker et al. 2015). The response of species to such rapid changes in community composition is currently poorly understood (Lavergne et al. 2010). New

competitors moving into an area may outcompete native species, or vice versa (Lavergne et al. 2010). Changes in predator or prey species (due to the arrival of new species and/or departure of native species) may have cascading effects throughout community food webs (a phenomenon which has already been observed in other contexts, such as the extirpation and reintroduction of wolves to Yellowstone National Park) (Lavergne et al. 2010; Ripple et al. 2014).

Other concerns regarding future impacts of climate change include the ecological effects of changes in extreme weather events (Ameca y Juárez et al. 2013), sea-ice decline (Post et al. 2013; Forbes et al. 2016), increased disease risks (Harvell et al. 2002), and the potential for synergistic interactions between climate change and other threats to species persistence (Sala 2000; Opdam & Wascher 2004). In the case of large European mammals, losses of as much as a quarter of suitable habitat are expected by 2050 due to a combination of land-use change and global warming (Rondinini & Visconti 2015).

iv. Adaptation or Extinction? Assessing the Response of Species to Continued Climate Change

Species vary in their susceptibility to extinction (Cardillo et al. 2008; Davidson et al. 2009). Factors contributing to extinction risk include both intrinsic, biological factors (i.e. life history and ecological traits) as well as external, environmental factors (e.g. threats resulting from human activities and/or environmental stochasticity) (Cardillo et al. 2008). For example, species of small-bodied animals with large litter sizes and short generation times (intrinsic factors) tend to be more resilient than species of large-bodied animals with longer generation times and smaller litter sizes (Cardillo 2003; Cardillo et al. 2005). When human populations and activities (external factors) encroach upon the habitats of species that are already biologically vulnerable, the risk of extinction is likely to increase (Cardillo et al. 2004, 2006).

The situation is similar with climate change. Certain species are more inherently sensitive to changes in climate than others due to differences in intrinsic, biological characteristics (Isaac 2009). This may lead to differential responses among species to similar amounts of climate change (Tafani et al. 2013; Butt et al. 2016). Species that are capable of rapid and universal dispersal (and therefore able to track rapidly shifting climatic regimes), phenotypic plasticity (e.g. modifying the timing of reproduction, dormancy or migration) and rapid microevolution (via large litter sizes and short generation times) are more likely to adapt to continued climate change than others (Réale et al. 2003; Bradshaw & Holzapfel

2006; Visser 2008; Dawson et al. 2011). Endemic species and those with small ranges are considered to be at a higher risk of extinction from climate change than non-endemic species and those with large range sizes (Urban 2015). Among mammals in particular, species with large body sizes, obligate diurnal/nocturnal behaviours, and those living in high latitude/altitudinal habitats are more likely to be impacted by climate change than species with small body sizes, greater behavioural flexibility (including strategies such as hibernation, heterothermy, burrowing, and nesting) and lower latitude/altitudinal habitats (McCain & King 2014).

Numerous attempts have been made to forecast future species extinctions due to climate change using various modeling techniques. Species distribution modelling (a.k.a. empirical niche modelling or climate-envelope modelling) generally involves a comparison of the current climatic conditions occurring across the areal distribution of a given species with local or regional climate change projections, and often incorporate a range of dispersal possibilities (Thomas et al. 2004; Levinsky et al. 2007; Araújo et al. 2011; Willis et al. 2015). In cases where the areal extent of suitable climate conditions is projected to be dramatically reduced or fully lost, it is generally assumed that the species will become extinct (Thomas et al. 2004; Levinsky et al. 2007).

Species distribution modelling studies often yield fairly elevated numbers of species extinctions with forthcoming climate change (e.g. Thomas et al. 2004). However, these results have been heavily criticized as over-simplifications because they assume that all species must track spatial shifts in climatic conditions in order to persist (Dawson et al. 2011). In addition, they often consider only a single external factor (i.e. climate change) but do not consider other external pressures (e.g. habitat loss, invasive species, pollution, etc.) nor the intrinsic biological factors that may allow species to persist *in situ* despite external changes (Thuiller et al. 2004; Botkin et al. 2007; Dormann 2007; Dawson et al. 2011; Willis et al. 2015).

Trait-based vulnerability modelling, on the other hand, seeks to resolve these issues by assessing not only the exposure of species to climate change but also the intrinsic characteristics that would cause a species to be more or less sensitive and capable of adapting to climate change (Willis et al. 2015). Unfortunately, the data available for trait-based vulnerability modelling is very limited, the methods of assessing climate exposure are simplified, and the results of such studies are often presented in relative terms rather than absolutes (Willis et al. 2015). It is therefore clear that much work remains to be done in understanding the full scope of the impacts that climate change will have on species living in the wild.

Chapter 2 - Research Objectives

The purpose of this study is to provide a global survey of the vulnerability of terrestrial mammal species to future climate changes resulting from anthropogenic carbon emissions. According to Dawson et al. (2011), the vulnerability of a given species to climate change may be understood as a combination of three elements: first, the magnitude of climate change to which a species will be exposed (an external, environmental factor); second, the sensitivity of the species to climatic changes (relating to intrinsic, biological factors); and, third, the capacity of the species to adapt to changes in climate (also relating to intrinsic, biological factors, but potentially compounded by additional external stressors) (Cardillo et al. 2008; Dawson et al. 2011).

I will first assess the magnitude of human-induced climate change to which each terrestrial mammal species will be exposed. I will do this by quantifying the expected change in local annual average temperature per teratonne of carbon emissions spatially-averaged across the range of each terrestrial mammal species. I will use annual average temperature change as an indicator of the overall intensity of climatic changes to which a species may be exposed.

I will use IUCN Red List™ status as a proxy for species sensitivity and adaptive capacity to climate change. The IUCN rankings provide a valuable indicator of the overall sensitivity and adaptive capacity of species to external stressors. A recent study has shown that many of the intrinsic predictors of extinction risk due to climate change are the same as those relating to extinction risk from other factors (Pearson et al. 2013). In addition, species which are already threatened with extinction are likely to be more vulnerable to the effects of climate change than non-threatened species due to the synergistic effects between intrinsic, biological vulnerabilities, existing external pressures (such as habitat loss or over-hunting) and climate change impacts (Root et al. 2003; Felton et al. 2009).

I will then assess the vulnerability of terrestrial mammal species to climate change by combining the elements of exposure, sensitivity and adaptive capacity (Dawson et al. 2011). I will do this by first identifying which species will be exposed to the greatest magnitude of climate change. Of these, I will identify species that are currently considered to be at risk of extinction (and, therefore, may be more sensitive and less capable of adapting to climate change). Finally, I will identify hotspots or regions wherein terrestrial mammal species on the whole may be more vulnerable to climate change due to a high combination of species richness, average extinction risk and overall exposure to climate change.

The goal of this assessment is to provide a guide to conservation planners in the identification of terrestrial mammal species as well as regions inhabited by terrestrial mammals that may become

vulnerable to the effects of continued climate change. These species and regions should become the subjects of further study and, potentially, of conservation action in mitigating the effects of climate change on terrestrial mammals. In addition, by using a metric of temperature change which is normalized by a quantity of carbon emissions, I aim to call attention to the direct link between human activities and their impacts on species living in the wild (i.e. for every quantity of CO_2 emitted as a result of human activities, there is a given quantity of temperature increase across the range of each species). Finally, I aim to establish a simple methodology that can be easily replicated so that such assessments may be repeated for studies of other types of species and/or other types of climate variables, and that results may be easily updated as new climate and/or species distribution data become available.

Chapter 3 - Data Description

I. IUCN Spatial Data

i. IUCN Overview

The International Union for Conservation of Nature (IUCN) is a global organization that was established in 1948. The IUCN brings together the expertise of some 1300 governmental and non-governmental groups, as well as that of 10 000 individual volunteer specialists, all with the common goal of protecting Earth's ecosystems and biodiversity (International Union for Conservation of Nature 2018a). The IUCN website provides free, downloadable spatial data of species distributions for several taxonomic groups, including mammals (both terrestrial and marine), amphibians (tailless, tailed and caecilian), birds, reptiles, fish (both freshwater and marine), as well as various marine groups (including lobster, corals and sea cucumbers) among others (International Union for Conservation of Nature 2014a, 2018b). The datasets consist of vector shapefiles in the geographic coordinate system (with units of decimal degrees latitude and longitude, based on the World Geodetic System 1984 (WGS84) datum) (International Union for Conservation of Nature 2014b). These files are easily imported into any geographic information systems (GIS) software.

ii. The IUCN Mapping Project

The terrestrial mammals species shapefile contains 42 220 polygons which are used to map the distributions of some 5292 terrestrial mammal species. The attribute table associated with the shapefile shows that the mapping of these species distributions was carried out between the years 1979 and 2014, with the vast majority (42 058 polygons or 99.6 %) having been mapped quite recently (between the years 2008 and 2014). The attribute table also shows that the mapping work was primarily carried out by the IUCN itself (in the case of 38 544 polygons or 91.3 %); however, numerous other individuals and agencies also participated in the project: Biodiversitas Brazil, Colby Loucks of the World Wildlife Fund, Francesco Rovero of the Rufford Foundation, the International Snow Leopard Trust, the IUCN Species Survival Commission (SSC) African Elephant Specialist Group, Madagasikara Voakajy (a Malagasy conservation organization), NatureServe, Rafael Reyna of the Wildlife Conservation Society, the United Nations Environment Programme World Conservation Monitoring Center (UNEP-WCMC), the Wildlife Conservation Society and the Wildlife Conservation Society (WCS) of Tanzania. The number and

percentage of polygons mapped by each individual, organization or group of organizations is shown in Table 3-1.

Individual and/or Organization(s)	**# of Polygons Mapped**	**% of Polygons Mapped**
IUCN (International Union for Conservation of Nature)	38 544	91.29
Wildlife Conservation Society	1568	3.71
NatureServe	644	1.53
Madagasikara Voakajy	562	1.33
Wildlife Conservation Society and IUCN	367	0.87
UNEP-WCMC and IUCN	256	0.61
IUCN/SSC African Elephant Specialist Group	164	0.39
Rafael Reyna, Wildlife Conservation Society	81	0.19
Colby Loucks, World Wildlife Fund	20	0.05
Biodiversitas Brazil	7	0.02
International Snow Leopard Trust & Wildlife Conservation Society	3	0.01
Francesco Rovero, Rufford Foundation	2	0.01
Wildlife Conservation Society of Tanzania	2	0.01

Table 3-1. Number and percentage of polygons mapped per individual and/or organization in the IUCN terrestrial mammals spatial dataset

iii. Number of Polygons per Species Range

The range of each species is mapped using either a single polygon or multiple polygons. The polygons vary in size from less than 0.00001 km^2 to 46 604 737.52 km^2. A single polygon is used to map the distributions of nearly half of the terrestrial mammal species in the dataset (2393 species or 45.2 %). Where a single polygon of small area is used to map the range of a given species, it is likely that only a single population of the species is known to exist. However, a single polygon of larger area used to map

the range of single species may indicate a lack of detailed information on the precise spatial locations of subpopulations of the species. Where multiple polygons are used to map a single species range, the number varies from two to as many as 1990 polygons (the latter in the case of *Rattus rattus,* a species of rodent that is found in numerous locations across Asia and southern Europe, as well as in coastal regions of Africa). A higher number of polygons per species may indicate the availability of more detailed information on the precise locations of subpopulations of the species.

The average number of polygons per species distribution is 7.98, likely meaning that, in general, the number of subpopulations per species is relatively low and/or the precise locations of subpopulations are not well-known. The majority of species distributions (4756 or 89.87 % of species) are mapped using between 1 and 10 polygons; 495 species distributions (or 9.35 %) are mapped using 11 to 100 polygons; 37 species distributions (or 0.7 %) are mapped with 101 to 1000 polygons; and 4 species distributions (0.08 %) are mapped with more than 1000 polygons (Table 3-2). Figure 3-1 shows an inverse relationship between the two variables (both shown on a logarithmic scale).

Number of Polygons Used to Map Species Distribution	**Number of Species**	**Percentage of Species (%)**
1 to 10	4756	89.87
11 to 100	495	9.35
101 to 1000	37	0.70
> 1000	4	0.08

Table 3-2. Number and percentage of species per range of number of polygons used to map species distributions

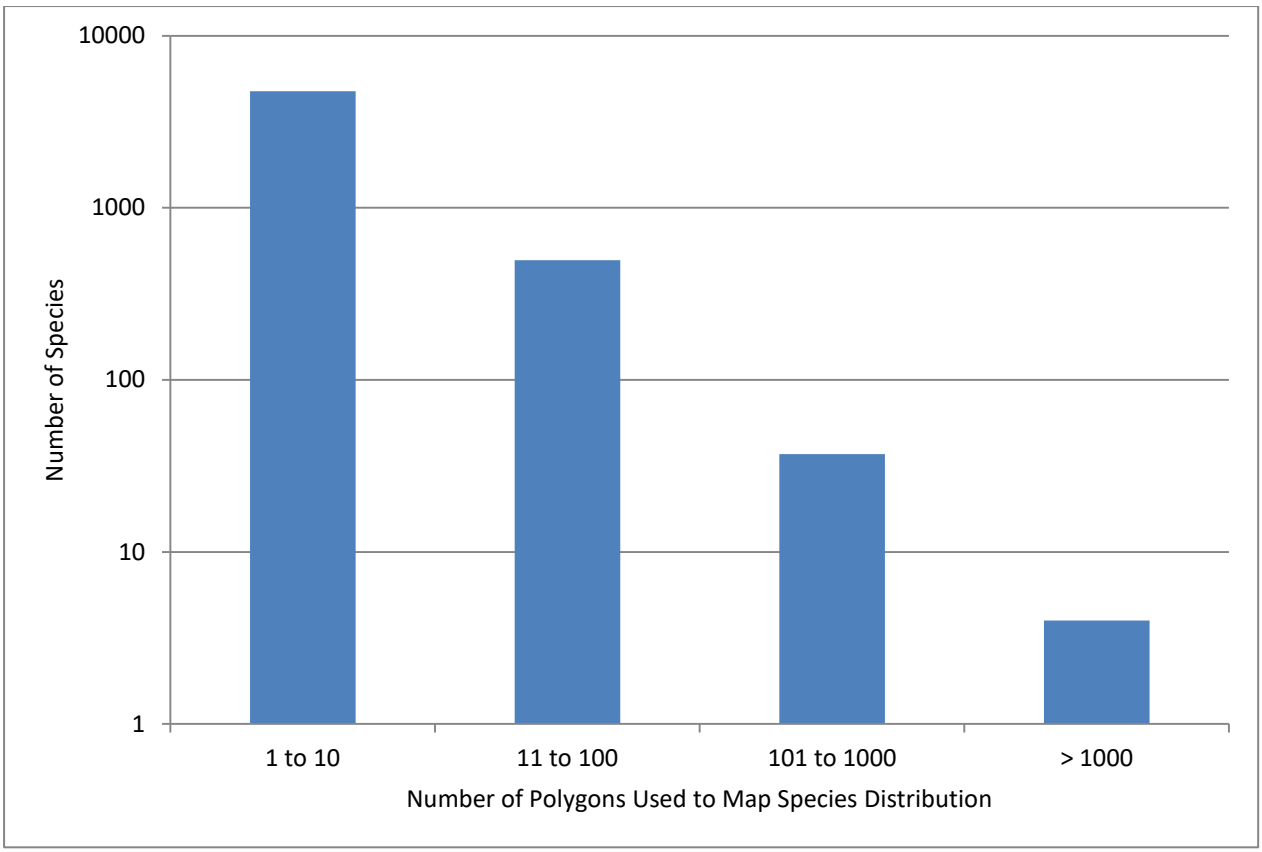


Figure 3-1. Inverse logarithmic relationship between the number of species and the number of polygons used to map their distributions

iv. Polygon Coding – Presence, Origin & Seasonality

Each polygon in the dataset is assigned a Presence Code indicating a qualitative probability of occurrence of the species within the area represented by the polygon (International Union for Conservation of Nature 2014b). Polygons coded as 1 are described as "Extant", meaning that the species is known to definitely exist within the area represented by the polygon. This is the case for 38 061 polygons or 90.15 % of the total number of polygons in the terrestrial mammals spatial dataset (Table 3-3, Fig. 3-2). Polygons coded as 2 are labeled "Probably Extant", meaning that the species is most likely found in the location represented by the polygon. Of the 42 220 polygons in the dataset, 3237 polygons (or 7.67 %) are described as "Probably Extant" (note that this coding is currently being phased out by the IUCN due

to issues of ambiguity) (Table 3-3, Fig. 3-2). Polygons coded as 3 indicate locations where species are "Possibly Extant", meaning that there is a possibility that the species exists in that location. This is the case for 63 polygons or 0.15 % of the total number of polygons in the dataset (Table 3-3, Fig. 3-2). Polygons coded as 4 represent locations where species are "Possibly Extinct", or where the species was once known to exist but may exist there no longer. Less than 1 % of the polygons in the dataset represent locations wherein species are considered to be possibly extinct (165 polygons or 0.39 %) (Table 3-3, Fig. 3-2). Polygons coded as 5 represent locations in which species are known for certain to be extinct (whether populations of the species have moved away from the location or they no longer exist in any location). This is the case for 614 polygons or 1.45 % of the dataset (Table 3-3, Fig. 3-2). The final category (Presence Code 6) is described as "Presence Uncertain". Polygons with this coding represent locations in which there is a possibility that a given species is found there, but the species' presence has not been confirmed. Less than 0.2 % of the polygons in the dataset (80 polygons or 0.19 %) fall into this category (Table 3-3, Fig. 3-2).

Presence Code	Description	Number of Polygons	Percentage of Polygons (%)
1	Extant	38 061	90.15
2	Probably Extant	3237	7.67
3	Possibly Extant	63	0.15
4	Possibly Extinct	165	0.39
5	Extinct	614	1.45
6	Presence Uncertain	80	0.19

Table 3-3. Number and percentage of polygons for each category of species presence coding in the IUCN terrestrial mammals spatial dataset

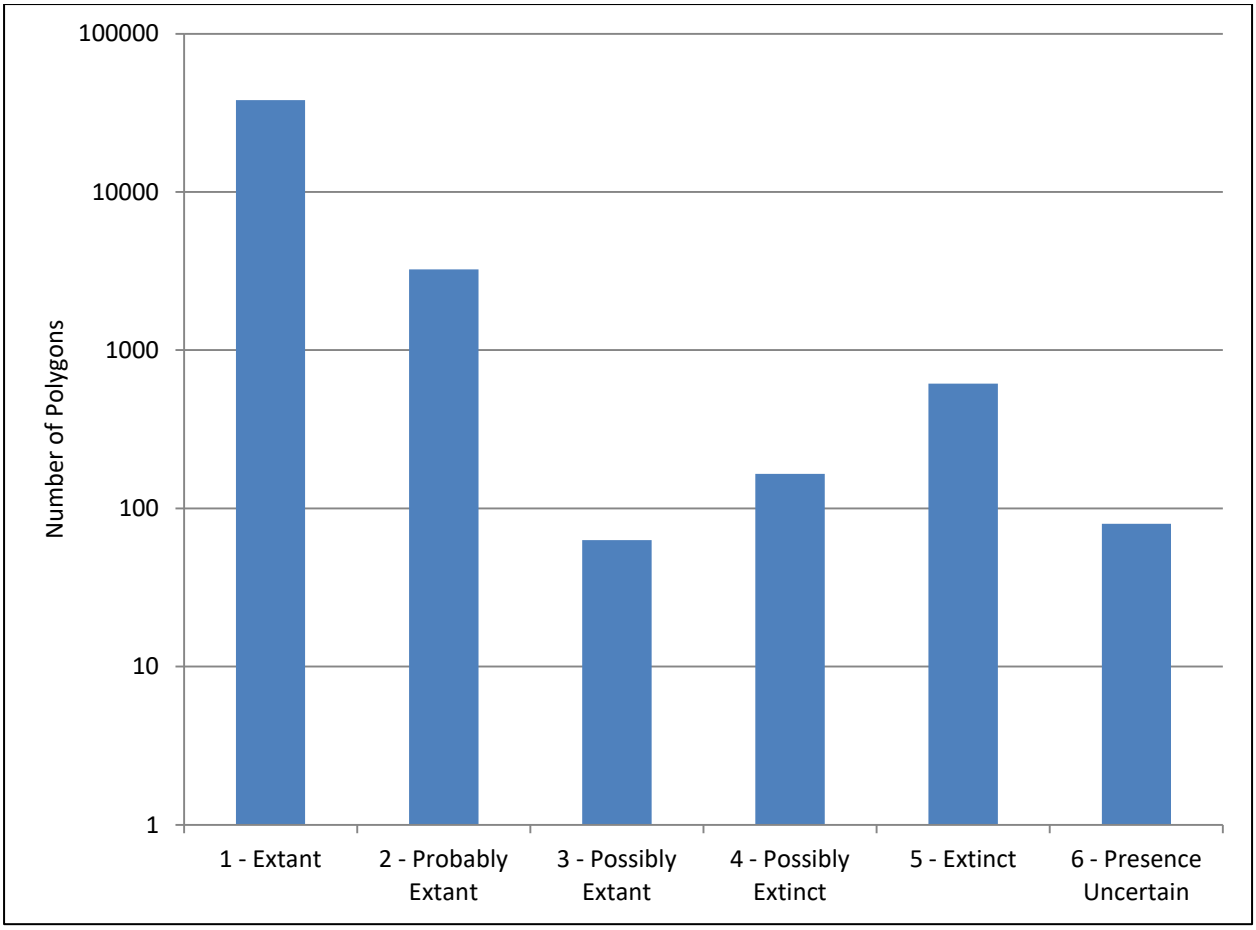


Figure 3-2. Number of polygons per category of species presence coding

Each polygon in the dataset is also coded according to the origin of the species found in the area represented by that polygon (International Union for Conservation of Nature 2014b). Polygons assigned an Origin Code of 1 (described as “Native”) indicate locations in which a species currently exists and is known to have originated within that same area. Such is the case for the majority of the polygons in the dataset (37 798 polygons or 89.53 %) (Table 3-4, Fig. 3-3). Polygons assigned an Origin Code of 2 (labeled as “Reintroduced”) represent locations wherein the species was originally native to the area, went extinct from that area, and was then reintroduced to the area by human activities (whether intentionally or unintentionally). Less than 1 % of the polygons in the dataset (300 or 0.71 %) represent locations to which a species has been reintroduced (Table 3-4, Fig. 3-3). Polygons assigned an Origin Code of 3 represent locations to which a species was introduced, meaning that the species did not originate within that area, but was brought to the area by human activities (again, whether intentionally or

unintentionally). Such is the case for 3978 polygons or 9.42 % of the dataset (Table 3-4, Fig. 3-3). Polygons assigned an Origin Code of 4 (described as “Vagrant”) represent locations in which the species is non-native, but it has been sighted there at least one time or on occasion. Such is the case for only 26 polygons (or 0.06 % of the polygons in the dataset) (Table 3-4, Fig. 3-3). The final category, Origin Code number 5 (“Origin Uncertain”) is assigned to polygons representing locations in which it is uncertain whether the species is native to the area, or whether it has been introduced or reintroduced to the area, intentionally or unintentionally, by human activities. The “Origin Uncertain” description is applied to 118 polygons in the dataset (or 0.28 %) (Table 3-4, Fig. 3-3).

Origin Code	Description	Number of Polygons	Percentage of Polygons (%)
1	Native	37 798	89.53
2	Reintroduced	300	0.71
3	Introduced	3978	9.42
4	Vagrant	26	0.06
5	Origin Uncertain	118	0.28

Table 3-4. Number and percentage of polygons for each category of species origin coding in the IUCN terrestrial mammals spatial dataset

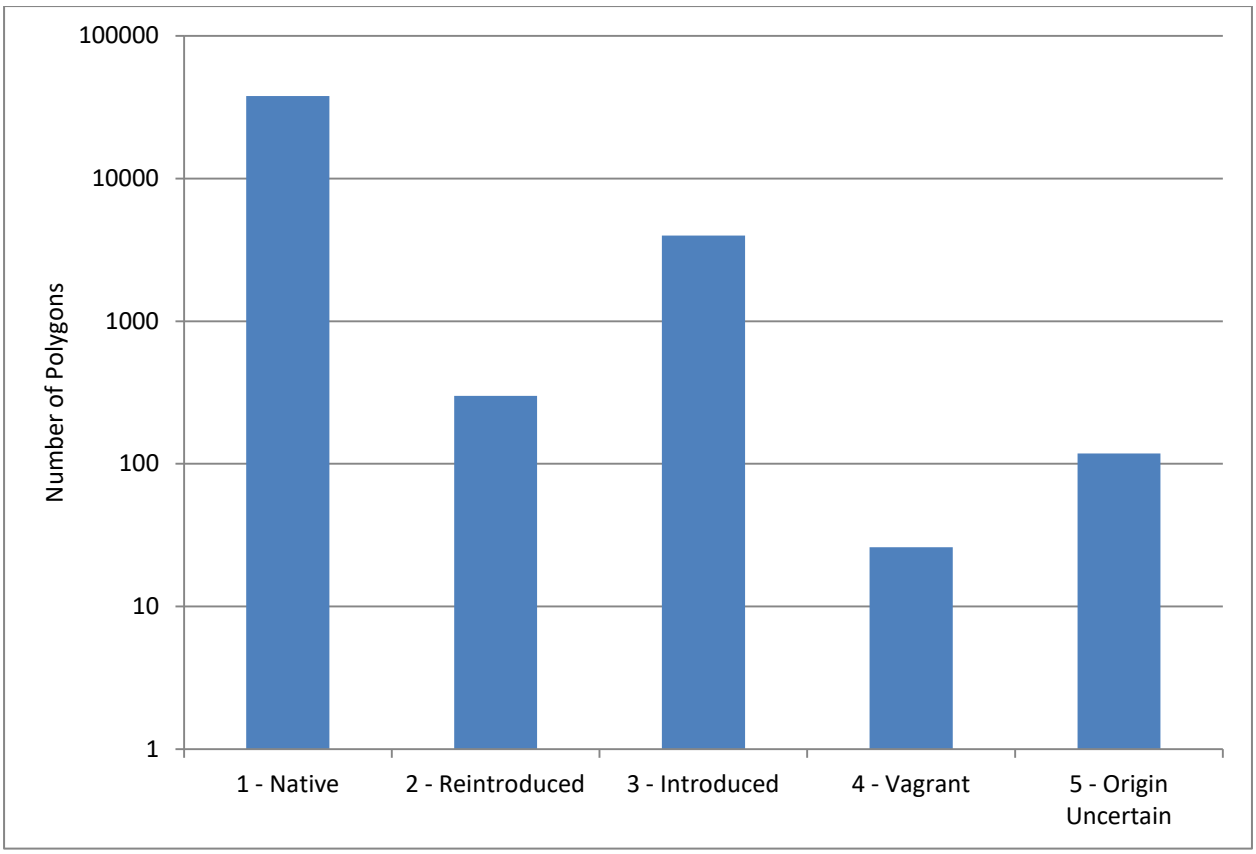


Figure 3-3. Number of polygons per category of species origin coding

A third code is assigned to each polygon in order to describe the seasonal presence of a species in a given location (International Union for Conservation of Nature 2014b). A Seasonality Code of 1 (described as "Resident") indicates that a species is found throughout the year in the area represented by the polygon. Such is the case for 42 193 polygons or 99.98 % of the dataset (Table 3-5, Fig. 3-4). A Seasonality Code of 2 (described as "Breeding Season") indicates that the species is found in the area only during the breeding season (though none are specified as such in this dataset). A Seasonality Code of 3 (described as "Non-Breeding Season") indicates that the species is found in the area during the non-breeding season (again, none are specified in this dataset). A Seasonality Code of 4 (described as "Passage") indicates that individuals or groups of the species are sometimes found in the area on their way to or from breeding grounds (yet again, none are specified in this dataset). Finally, a Seasonality Code of 5 (described as "Seasonal Occurrence Uncertain") indicates that it is unknown whether the species is resident in the location throughout the year or is only there at certain times of the year. Such is the case for 27 polygons in the dataset or 0.06 % (Table 3-5, Fig. 3-4).

Seasonality Code	Description	Number of Polygons	Percentage of Polygons (%)
1	Resident	42 193	99.98
2	Breeding Season	0	0.00
3	Non-Breeding Season	0	0.00
4	Passage	0	0.00
5	Seasonal Occurrence Uncertain	27	0.06

Table 3-5. Number and percentage of polygons for each category of species seasonality coding in the IUCN terrestrial mammals spatial dataset

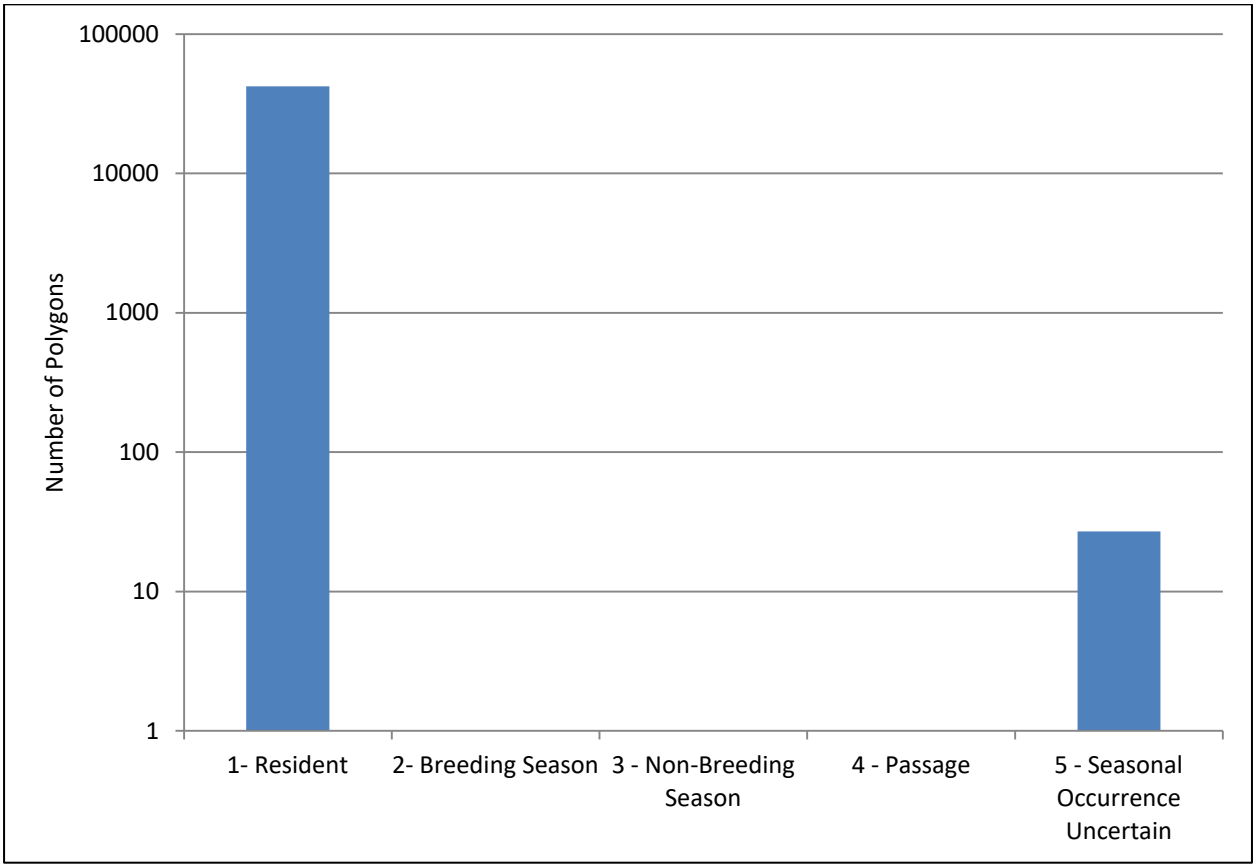


Figure 3-4. Number of polygons per category of species seasonality coding

II. IUCN Red List™ Status and Higher Taxonomy

One of the primary goals of the IUCN is to assess the risk of extinction of every known species on Earth (International Union for Conservation of Nature 2018c). Assessments are based primarily upon the number of existing individuals of a given species, trends in population numbers over time, the size of each species' range, as well as the degree of fragmentation and/or reduction in size of the species' range over time (IUCN Species Survival Commission 2012). The IUCN Red List™ of Threatened Species contains the results of these assessments, which have been made for more than 76 000 species of various taxonomic groups (note that, currently, spatial data of species distributions is available for only approximately two-thirds of the species on the Red List™) (International Union for Conservation of Nature 2018b). Species on the Red List™ are broadly grouped into Non-Threatened, Threatened and Extinct categories (Table 3-6). Non-Threatened species are further subdivided into Least Concern (LC) or Near Threatened (NT) groups, while Threatened species are ranked as Vulnerable (VU), Endangered (EN) or Critically Endangered (CR), in order of increasing threat of extinction (Table 3-6). Extinct species are categorized as either Extinct in the Wild (EW) (but still existing in captivity), or fully extinct (EX) (no longer existing in any location) (Table 3-6). Species for whom insufficient information is available to make an assessment of extinction risk are identified as Data Deficient (DD) (Table 3-6). I obtained detailed taxonomy and Red List™ status for each terrestrial mammal species from the IUCN website in .csv format (International Union for Conservation of Nature 2018b) (note that this information is now integrated into the attribute information of the shapefiles, instead of being supplied in a separate .csv file).

Non-Threatened Species	Least Concern (LC)
	Near Threatened (NT)
Threatened Species	Vulnerable (VU)
	Endangered (EN)
	Critically Endangered (CR)
Extinct Species	Extinct in the Wild (EW)
	Extinct (EX)
Insufficient Information Available	Data Deficient (DD)

Table 3-6. The IUCN Red List™ classification scheme (IUCN Species Survival Commission 2012)

III. Local Temperature Change per Tt of Carbon Emissions (RTCRE)

The World Climate Research Programme (WCRP)'s Working Group on Coupled Modelling (WGCM) aims to promote the development of climate models and to evaluate their performance (World Climate Research Programme 2018). As part of their mandate, the group established the Coupled Model Intercomparison Project (CMIP) in 1995. For each phase of CMIP, the WGCM outlines a specific set of experiments which are subsequently run in parallel on numerous climate models by various climate modeling groups across the world (Meehl et al. 2007; Taylor et al. 2012). The data resulting from these model simulations is then made available online to researchers for comparison and analysis (Department of Energy, Lawrence Livermore National Laboratory 2017).

The experiments designed for the Coupled Model Intercomparison Project Phase 5 (CMIP5) are outlined in Taylor et al. 2012. One such experiment, known as the 1pctC02 experiment, involves prescribing atmospheric carbon dioxide concentrations to increase by 1 % per year from pre-industrial levels until they have quadrupled, a process which occurs over a period of 140 years (Taylor et al. 2012; Leduc et al. 2016). This experiment has been performed with both atmosphere-ocean global climate models and intermediate-complexity Earth system models, and is primarily used to assess climate sensitivity and feedbacks (Taylor et al. 2012).

Dr. Martin Leduc (formerly a postdoctoral researcher in the Department of Geography, Planning and Environment at Concordia University in Montreal, and currently a climate simulation and analysis specialist at the Ouranos Consortium on Regional Climatology and Adaptation to Climate Change) obtained the results of twelve 1pctC02 CMIP5 model experiments, each performed on a different Earth system climate model. He used the average values from the twelve experiments (or the "ensemble mean") to calculate local temperature changes in ^{o}C per teratonne (Tt) of carbon emissions, a metric which he calls the "Regional Transient Climate Response to Cumulative Carbon Emissions" or RTCRE. (Details of Dr. Leduc's methodology are outlined in Leduc et al. 2016).

Dr. Leduc provided his results to me in ASCII file format which I imported into ArcMap. The file contains 8192 points of RTCRE values distributed as a global coverage grid with 64 unique values of latitude and 128 unique values of longitude. The points are separated by an average of 2.7893 degrees latitude and 2.8125 degrees longitude, and range in magnitude from 0.6188 ^{o}C/TtC to 5.9870 ^{o}C/TtC, with an average of 2.024 ^{o}C/TtC. Highest RTCRE values are found in continental interior locations as well as in high northern latitudes, while lower values tend to be found in coastal areas and over oceans (Fig. 3-5).

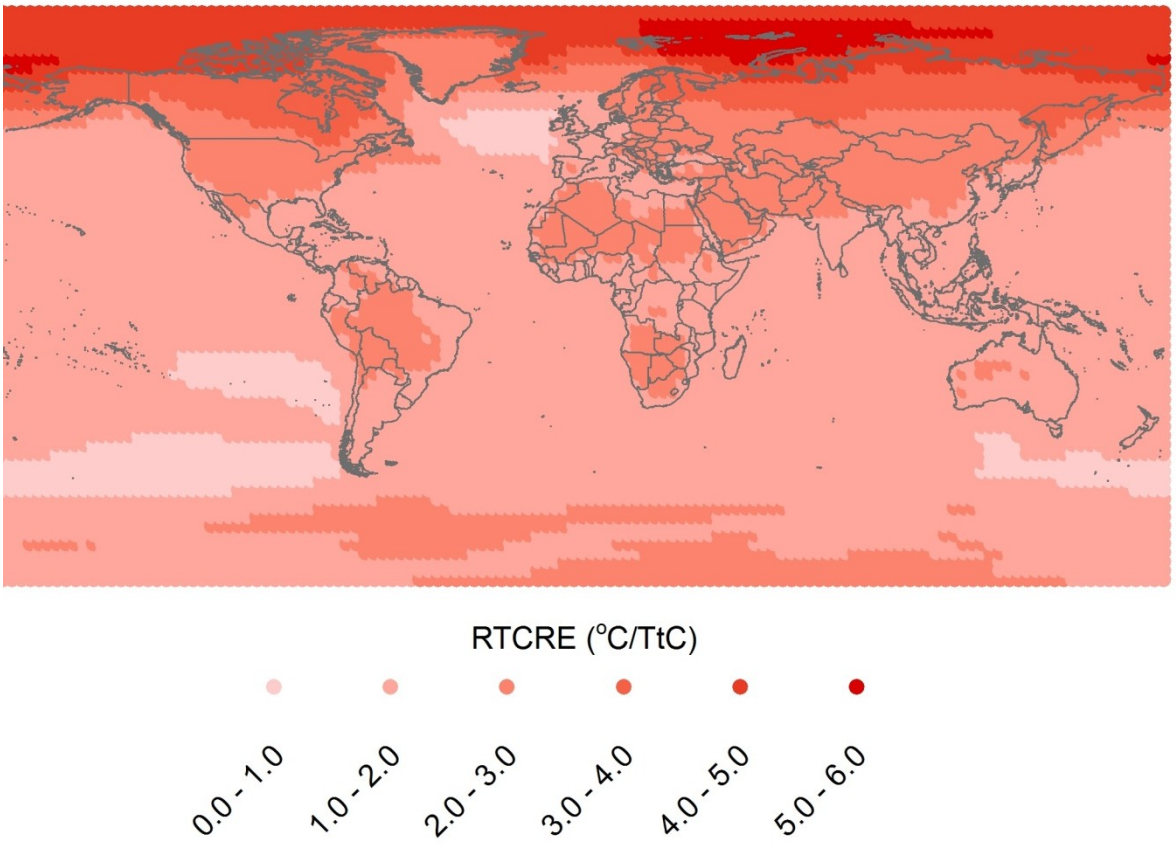


Figure 3-5. Global distribution of local temperature changes in °C per Tt of carbon emissions (RTCRE)

Chapter 4 - Methods

I. Data Preparation

i. IUCN Data Preprocessing

I downloaded the terrestrial mammals shapefile from the IUCN website (International Union for Conservation of Nature 2018b) and imported the file into ArcMap 10.2.2 (Environmental Systems Research Institute Inc. 2014)(Fig. 4-1).

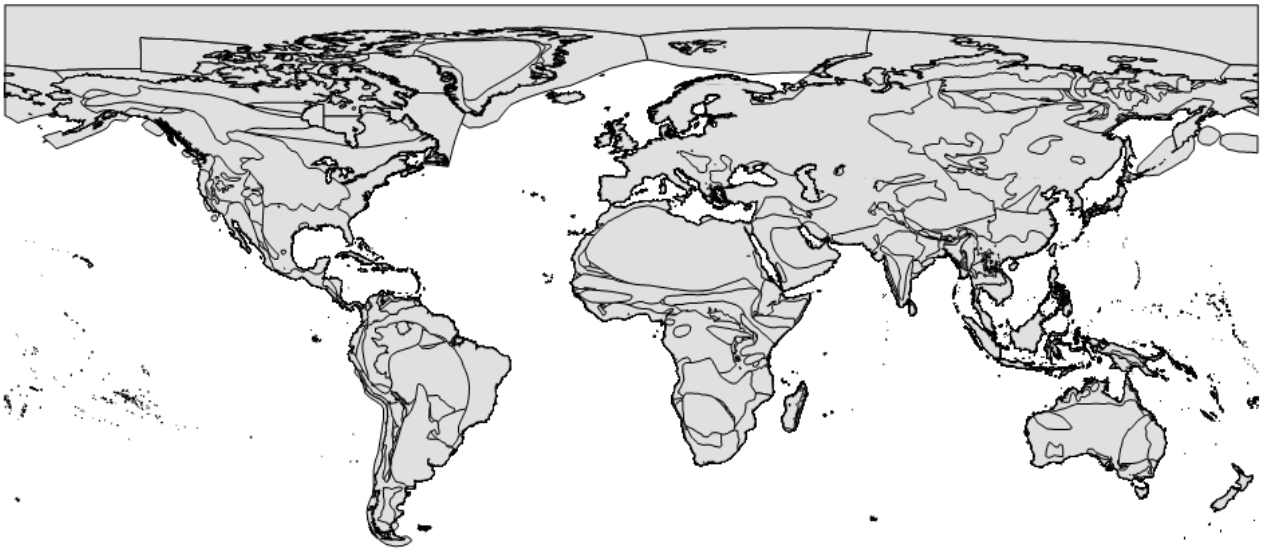


Figure 4-1. The IUCN terrestrial mammals shapefile in the geographic coordinate system

Projection of IUCN Spatial Data

I began by projecting the terrestrial mammals spatial dataset from the geographic coordinate system (with units of decimal degrees latitude and longitude) into the World Goode Homolosine Land projected coordinate system (with linear units in meters) (Fig. 4-2). The World Goode Homolosine Land projection is a pseudocylindrical, equal-area projection which is interrupted for land, so that area is preserved and distortion is minimized over land areas (Snyder 1987). I chose this method of projection because the goal of my analysis is to evaluate climate changes across the distributions of species living on land.

Figure 4-2. The IUCN terrestrial mammals shapefile in the World Goode Homolosine Land projection

Join of IUCN Attribute Information to IUCN Spatial Data

I then joined the spreadsheet of detailed terrestrial mammal taxonomy and Red List™ status to the projected terrestrial mammals shapefile. (Note that there is no common field between the attribute table of the shapefile and the detailed taxonomy spreadsheet because the former contains a species binomial field (with both genus and species listed together in a single column), while the taxonomy spreadsheet has genus and species listed in two separate columns. I was therefore obliged to merge the genus and species columns of the taxonomy spreadsheet into a single species binomial column in order to create a field in common with that of the shapefile, and thus be able to perform the join).

Following the join, both the number of polygons and the number of species in the spatial dataset were reduced by one (from the initial 42 220 polygons and 5292 species, to 42 219 polygons and 5291 species). This occurred because there was no record for the species *Pseudois schaeferi* (the dwarf blue sheep of China) in the mammal taxonomy and Red List™ status table. The software, therefore, had no attribute information to join to the polygon associated with the range of *P. schaeferi*. Consequently, *P. schaeferi* was excluded from the dataset. (Note that, according to the IUCN website, the taxonomy for this animal remains unresolved: some consider the dwarf blue sheep to be a species of its own, while others consider it to be a subspecies of *Pseudois nayaur* (the blue sheep) (Harris 2014), the range of which is not mapped in the spatial dataset. It is interesting to note that, while *P. nayaur* is rated as Least

Concern (LC) on the IUCN Red List™, *P. schaeferi* is listed as Endangered (EN) (Harris 2014; Huffman & Harris 2014).

Selection of IUCN Polygons for Analysis

I then selected the polygons that I wished to include in my analysis based on species presence, origin and seasonality. In order to reduce uncertainty, I selected only the polygons representing areas in which species are known for certain to be found (i.e. those coded as "Extant" or Presence Code = 1). I thereby excluded from my analysis all polygons assigned Presence Codes 2 through 6 ("Probably Extant", "Possibly Extant", "Possibly Extinct", "Extinct" and "Presence Uncertain"). This resulted in the removal of 4159 polygons representing a reduction in the areas of 483 species distributions and a complete elimination of 28 more (Table 4-1), leaving 38 060 polygons and 5263 species for my analysis. (It is interesting to note that 16 of the excluded species (or 57.1 %) fall into the Critically Endangered (CR) category, while an additional 9 species (or 32.1 %) are listed as Data Deficient (DD) on the IUCN Red List™).

Excluded Species	Common Name(s)	Red List™ Status
Bos sauveli	Kouprey, grey ox	CR
Crocidura gracilipes	Peter's musk shrew	DD
Dendrolagus mayri	Wondiwoi tree-kangaroo	CR
Leporillus apicalis	Lesser stick-nest rat, white-tipped stick-nest rat	CR
Mesocapromys sanfelipensis	Little earth hutia, San Felipe hutia	CR
Monodelphis unistriatus	One-striped short-tailed opossum	CR
Myotis australis	Australian myotis, ustrailian myotis	DD
Myotis insularum	Insular myotis	DD
Mysateles garridoi	Garrido's hutia	CR
Mystacina robusta	New Zealand greater short-tailed bat	CR
Nilopegamys plumbeus	Ethiopian amphibious rat, Ethiopian water mouse	CR
Nyctophilus howensis	Lord Howe long-eared bat	CR
Paranyctimene raptor	Unstriped tube-nosed bat, green tube-nosed bat	LC
Paranyctimene tenax	Steadfast tube-nosed bat	LC
Pennatomys nivalis	Nevis rice rat, St. Eustatius rice rat, St. Kitts rice rat	EX
Peromyscus guardia	Angel Island mouse	CR
Pharotis Imogene	Thomas's big-eared bat, New Guinea big-eared bat	CR
Pteralopex pulchra	Montane monkey-faced bat	CR
Pteropus loochoensis	Okinawa flying-fox	DD
Pteropus tuberculatus	Vanikoro flying fox	CR
Saccopteryx gymnura	Amazonian sac-winged bat	DD
Scotophilus borbonicus	Lesser yellow bat	DD
Solomys salamonis	Florida giant rat, Florida naked-tailed rat	DD
Sus bucculentus	Indo-Chinese warty pig, Vietnam warty pig	DD
Tragulus versicolor	Silver-backed chevrotain, Vietnamese mousedeer	DD
Uromys emmae	Emma's giant rat	CR
Uromys imperator	Emperor rat	CR
Uromys porculus	Guadalcanal rat	CR

Table 4-1. Species excluded based on presence uncertainty

Of the remaining polygons, I selected only those in which species are native to the area represented by the polygon (i.e. polygons coded as "Native" or Origin Code = 1), as I am primarily interested in the impacts of climate change on native species. I thus excluded all polygons with Origin Codes 2 through 5 ("Reintroduced", "Introduced", "Vagrant", and "Origin Uncertain") from my analysis. This resulted in the removal of 2895 polygons, reducing the range size of 158 species and completely eliminating the ranges of nine species (Table 4-2).

Latin Name	**Common Name(s)**	**Red List™ Status**
Acomys nesiotes	Cyprus spiny mouse	DD
Bison bonasus	European bison, wisent	VU
Canis rufus	Red wolf	CR
Elaphurus davidianus	Père David's deer,	EW
Equus ferus	Przewalski's horse, Mongolian wild horse	EN
Mus musculus	House mouse	LC
Mustela nigripes	Black-footed ferret	EN
Oryx dammah	Scimitar-horned oryx	EW
Oryx leucoryx	Arabian oryx, white oryx	VU

Table 4-2. Species excluded due to non-native origins

I did not eliminate any polygons on the basis of seasonality as climate change is impacting all seasons. In any case, all of the remaining polygons were coded as "Resident" for seasonality (Seasonality Code = 1). This means that the species are all assumed to be residing within the areas represented by the polygons throughout the year (though this is clearly a simplification within the dataset as many mammal species are known to be migratory).

Of the polygons remaining for my analysis, the number used to map the species ranges for a given order varies from 1 polygon (for the order Tubulidentata - the aardvark) to 12 233 polygons (for the order Rodentia - rodents) (Table 4-3). At the species level, the number varies from a single polygon (for the ranges of 2511 species, or 47.8 % of the species in the dataset) to as many as 1550 polygons (for the species *Apodemus flavicollis* – the yellow-necked field mouse of the order Rodentia). Table 4-3 shows the minimum and maximum numbers of polygons used to map the ranges of species within a given order, as well as the total number of polygons per order.

Mammal Order	Common Name(s)	min. # of polygons per species	max. # of polygons per species	total # of polygons for the order
Afrosoricida	Golden moles and tenrecs	1	10	114
Carnivora	Placental mammals	1	1521	4686
Cetartiodactyla	Even-toed ungulates	1	296	2448
Chiroptera	Bats	1	810	9496
Cingulata	Armadillos	1	1	24
Dasyuromorphia	Australian carnivorous marsupials	1	30	264
Dermoptera	Flying lemurs	10	21	31
Didelphimorphia	Opossums	1	13	237
Diprotodontia	Marsupial mammals	1	40	630
Eulipotyphla	Shrews, hedgehogs, moles, etc.	1	533	2282
Hyracoidea	Hyraxes	3	16	33
Lagomorpha	Hares, rabbits, pikas	1	31	343
Macroscelidea	Elephant-shrews	1	10	38
Microbiotheria	The monito del monte	3	3	3
Monotremata	Echidnas and the platypus	1	14	24
Notoryctemorphia	Marsupial moles	1	2	3
Paucituberculata	Shrew opposums	1	2	9
Peramelemorphia	Bandicoots	1	23	118
Perissodactyla	Rhinos, zebras, tapirs, asses	1	148	317
Pholidota	Pangolins	1	23	45
Pilosa	Sloths, anteaters, tamanduas	1	3	17
Primates	Non-human primates	1	202	1388
Proboscidea	Elephants	116	163	279
Rodentia	Rodents (mice, rats, etc.)	1	1550	12233
Scandentia	Tree shrews	1	23	102
Tubulidentata	The aardvark	1	1	1

Table 4-3. Minimum, maximum and total number of polygons used to map species ranges within a given mammal order

The polygons range in size from less than 0.00001 km^2 for *Rattus rattus* (the black rat of the order Rodentia) to 46 604 737.52 km^2 for *Vulpes vulpes* (the red fox of the order Carnivora), with a mean polygon size of 1 194 190.18 km^2 across all 26 orders. Table 4-4 lists the areas of the largest and smallest polygons (and the species whose ranges they represent) for each mammal order, as well as the mean polygon size for each mammal order.

Mammal Order	**Area of smallest polygon (km^2)**	**Species with the smallest polygon**	**Area of largest polygon (km^2)**	**Species with the largest polygon**	**Mean polygon size per order (km^2)**
Afrosoricida	4.05	*Chrysochloris asiatica*	3 821 734.65	*Potamogale velox*	70 984.48
Carnivora	0.0023	*Pseudalopex culpaeus*	46 604 737.52	*Vulpes vulpes*	306 810.38
Cetartiodactyla	0.43	*Bos gaurus*	26 449 714.51	*Sus scrofa*	198 690.26
Chiroptera	0.0001	*Barbastella barbastellus*	19 141 607	*Lasiurus blossevillii*	260 526.15
Cingulata	313.72	*Dasypus novemcinctus*	18 300 477.57	*Dasypus novemcinctus*	2 985 336.05
Dasyuromorphia	0.01	*Myoictis wallacei*	4 318 329.16	*Sminthopsis macroura*	133 511.37
Dermoptera	6.97	*Cynocephalus variegatus*	610 699.88	*Cynocephalus variegatus*	49 580.98
Didelphimorphia	0.02	*Chironectes minimus*	10 400 927.94	*Metachirus nudicaudatus*	519 187.88
Diprotodontia	0.30	*Cercartetus nanus*	6 376 992.13	*Macropus robustus*	73 947.39
Eulipotyphla	0.11	*Sorex minutes, Sorex araneus*	17 407 677.12	*Sorex caecutiens*	197 429.70
Hyracoidea	17.29	*Dendrohyrax validus*	11 810 113.05	*Procavia capensis*	827 407.92

Lagomorpha	0.05	*Romerolagus diazi*	19 439 562.25	*Lepus timidus*	456 690.52
Macroscelidea	6.91	*Rhynchocyon chrysopygus*	4 136 170.88	*Elephantulus brachyrhynchus*	449 902.92
Microbiotheria	6.07	*Dromiciops gliroides*	130 799.93	*Dromiciops gliroides*	46 448.53
Monotremata	6.92	*Tachyglossus aculeatus*	7 622 845.33	*Tachyglossus aculeatus*	373 695.43
Notoryctemorphia	12 807.91	*Notoryctes typhlops*	912 324.12	*Notoryctes typhlops*	459 577.54
Paucituberculata	79.21	*Caenolestes condorensis*	182 027.03	*Caenolestes fuliginosus*	42 125.73
Peramelemorphia	1.35	*Isoodon obesulus*	1 056 204.66	*Macrotis lagotis*	45 128.53
Perissodactyla	0.00091	*Tapirus terrestris*	4 296 000	*Tapirus terrestris*	61 820.03
Pholidota	8.47	*Manis javanica*	7 065 499.83	*Smutsia temminckii*	660 009.48
Pilosa	3.43	*Bradypus pygmaeus*	12 804 149.8	*Tamandua tetradactyla*	3 010 211.11
Primates	0.00386	*Pongo pygmaeus*	8 441 000	*Galago senegalensis*	161 632.90
Proboscidea	0.01	*Loxodonta africana*	238 689.15	*Loxodonta africana*	9 771.59
Rodentia	<0.00001	*Rattus rattus*	19 060 000	*Sciurus vulgaris*	146 618.04
Scandentia	7.91	*Tupaia glis*	2 960 888.92	*Tupaia belangeri*	106 598.76
Tubulidentata	19 395 301	*Orycteropus afer*	19 395 301.03	*Orycteropus afer*	19 395 301.03

Table 4-4. Minimum, maximum and mean polygon areas per mammal order

Regrouping of IUCN Spatial Data by Mammal Order

In order to simplify my analysis and increase computer processing time, I separated the remaining polygons of the terrestrial mammals shapefile into smaller shapefiles based on mammal order. I first used ArcMap's dissolve tool, dissolving the terrestrial mammals shapefile by mammal order, so as to create one record in the attribute table for all of the polygons of each mammal order. This allowed me to determine the names and number of mammal orders in the dataset.

I then returned to the undissolved terrestrial mammals shapefile and performed a selection by attributes to select all of the species of each mammal order. I exported each selection to a new shapefile, thus creating a new file for each mammal order which contained all of the species of that particular order. In the case of the orders Carnivora and Rodentia, I further subdivided the order shapefiles into even smaller files based on taxonomic families. This was necessary because certain GIS operations would not function using the full-size files for these two orders.

For each new mammal order or family file, I again used the dissolve tool. In this case, I dissolved by the species binomial field, creating one record in the attribute table for all of the polygons associated with a given species. This allowed me to determine the names and number of species within each mammal order.

ii. RTCRE Climate Model Data Preprocessing

Creation of a Point Shapefile of RTCRE Values

I converted Dr. Leduc's CMIP5 RTCRE.asc data file into .xls format. I then opened the file in ArcMap using the "Add XY Data" option. I specified X as the longitude column, Y as the latitude column and Z as the RTCRE value for each X,Y location. I set the layer properties to GCS_WGS_1984 (to specify that the data was in the geographic coordinate system using the World Geodetic System 1984 datum). Initially, there were problems with the import (the data would not display, or there were gaps in the display, etc.). However, after some manipulation of the .xls table (e.g. removal of a blank line, sorting longitude values from smallest to largest, using absolute values in order to eliminate negative values, etc.), I managed to

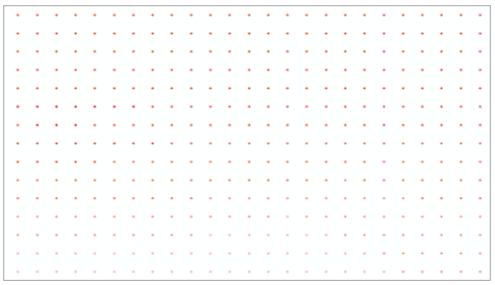
achieve the correct data display. I then exported the layer to create a permanent shapefile of RTCRE point values (Fig. 4-3a).

Transformation of RTCRE Point Data into a Continuous Surface

I used the ArcMap "Create Fishnet" tool in order to generate a grid matching the full extent of the RTCRE point layer (Fig. 4-3a, Fig. 4-3b). I set the extent as 90 (top), -90 (bottom), -180 (left) and 180 (right) (the maximum values of degrees latitude and longitude) in order to obtain a complete global coverage. I used the average spacing of the RTCRE data points for the cell size width and height (2.8125 degrees longitude and 2.7893 degrees latitude, respectively), and set the Fishnet origin coordinate to (-180, -90), representing the lower left-hand corner of the grid.

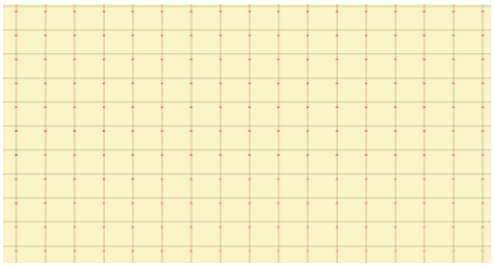
Once the Fishnet grid was created, I performed a spatial join in order to assign the value of each RTCRE data point to the cell in the grid with which it intersects. I used a one-to-one join, keeping all target features, and specified the match option as "Intersect". This resulted in a continuous surface of RTCRE values in vector format with a global extent of coverage (Fig. 4-3c).

I then converted the continuous vector surface into raster format (the format required as input for other tools that I would use later in my analysis) using the ArcMap "Polygon to Raster" tool (Fig. 4-3d). Finally, I projected the data into the World Goode Homolosine Land projection in order to match the projection of the IUCN spatial data (Fig. 4-3e).

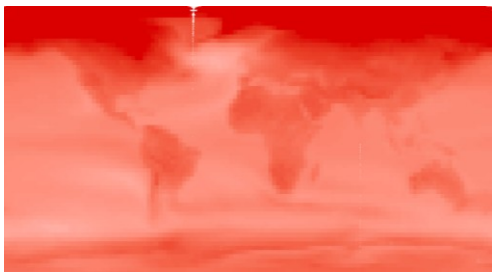


a. Point layer of RTCRE values

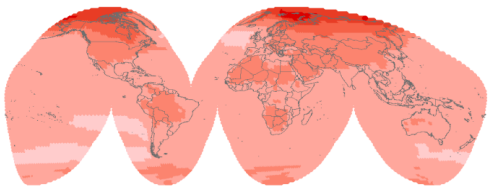
b. Creation of Fishnet



c. Join of RTCRE values to Fishnet (each cell is assigned the value of the intersecting RTCRE point)



d. Conversion from vector to raster format



e. Projection of raster file from Geographic Coordinate System to World Goode Homolosine Land Projection

Figure 4-3. Creating a continuous raster surface of RTCRE values from a vector point layer

II. Determination of Spatially-Averaged RTCRE for Each Mammal Species

I downloaded the National Water-Quality Assessment (NAWQA) Area-Characterization Toolbox from the website of the U.S. Geological Survey (Price et al. 2010) and installed it in ArcMap. This toolbox contains a variety of tools that may be used to assess the properties of a given area. Though designed specifically for the purposes of hydrology (e.g. to assess the spatial properties of wells, aquifers and drainage baisins), these tools may also be employed for numerous other area-characterization purposes.

I used the "Feature Statistics to Table" tool from the "Areal Overlay Statistics" toolset in order to quantify the spatial average of expected temperature change per Tt of carbon emissions (RTCRE) for the range of each terrestrial mammal species. This tool calculates spatial statistics for raster cell values (in this case, values of RTCRE) found within the boundaries of a given vector polygon (in this case, a location(s) inhabited by a given terrestrial mammal species) (Fig. 4-4). Results are output in tabular form. (Note that the "Feature Statistics to Table" tool is superior to ArcMap's "Zonal Statistics" tool in that it provides simultaneous calculations of statistics for overlapping polygons. The "Zonal Statistics" tool, on the other hand, converts vector input features to raster and provides only one output value per location. The "Zonal Statistics" tool is therefore unable to simultaneously process results for overlapping polygons (of which there are many in the case of species ranges)).

I ran the "Feature Statistics to Table" tool using the RTCRE raster file as the input value raster. For the input features, I used the shapefiles of each mammal order dissolved by species binomial (i.e. files in which all of the polygons for a given species are aggregated together into one record in the attribute table). By using the dissolved shapefiles, the "Feature Statistics to Table" tool calculated the spatial average of RTCRE values across all of the polygons representing the range of a given species (whether or not the polygons were spatially contiguous) (Fig. 4-5).

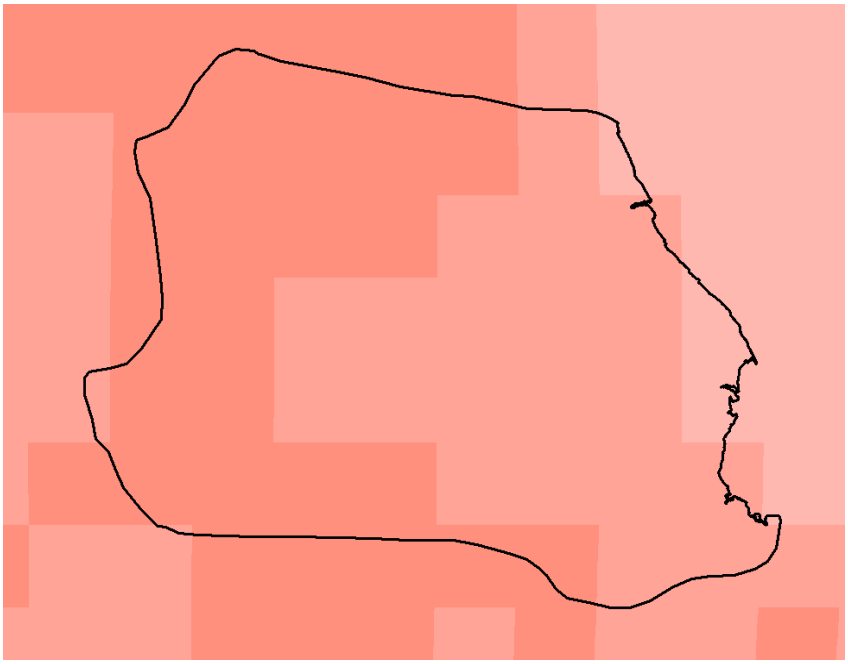


Figure 4-4. Overlap of a species range (represented by a black polygon) and RTCRE values (represented by various shades of red)

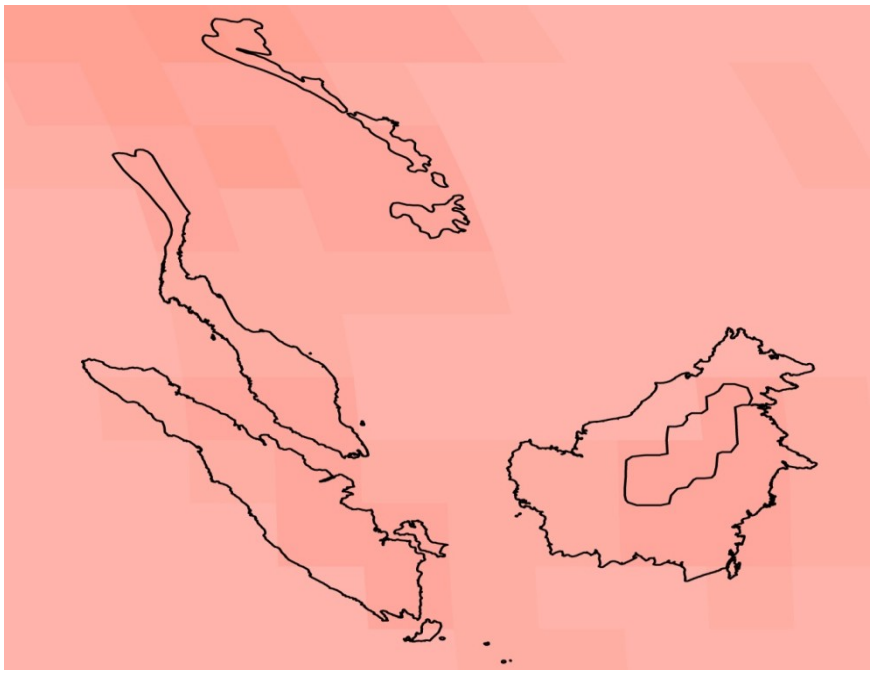


Figure 4-5. Non-spatially contiguous polygons representing portions of the range of a single species

III. Determination of Global Hotspots of Mammalian Vulnerability to CO_2-Induced Warming

i. Calculation of Species Richness per km^2

I ran ArcMap's "Count Overlapping Polygons" tool on the undissolved shapefile of each mammal order (undissolved meaning that the file contains one record in the attribute table for each polygon on the map). Since each polygon represents the range or portion of a range of a given species, the number of overlapping polygons in a given location represents the total number of species that exist and/or coexist in that location. I converted each output file to raster format, using the "Polygon to Raster" tool with a 1000-meter resolution in order to determine the number of species of a given order that exist in each square kilometer.

For the orders Carnivora and Rodentia, I ran the "Count Overlapping Polygons" tool for each of the taxonomic family shapefiles (13 families for the order Carnivora and 33 for the order Rodentia). I then created a raster file with a 1000-meter resolution from each of the outputs (as I had done with the mammal order files). Finally, I used the "Cell Statistics" tool to sum together all of the "family" raster files of each order to create a final output raster showing the total number of species per km^2 for each of the orders.

Once the Carnivora and Rodentia species density files were complete, I created a single raster file to represent the number of all terrestrial mammal species per square kilometer. I did this by using the "Cell Statistics" tool in order to sum together all of the species density files for each mammal order.

ii. Calculation of the Average Species Threat Level per km^2

I returned to the full version of the terrestrial mammal species shapefile (the one which included only those polygons representing areas in which species are both native and extant). From this file, I selected by attribute for each category of species threat level (Least Concern, Near Threatened, Vulnerable, Endangered and Critically Endangered). This resulted in a selection of all of the polygons representing

the ranges of species in each threat category. I exported the data for each selection in order to create separate shapefiles for each threat category.

For each of these new shapefiles, I ran the "Count Overlapping Polygons" tool in order to determine the number of species of each threat level living in a given location. I converted each of the "Count Overlapping Polygon" outputs to raster using the "Polygon to Raster" tool with a 1000-meter resolution in order to create a raster of species richness per km^2 for each threat category. (In the case of Least Concern species, the file was too large to run the ArcMap tools, so I subdivided the file by mammal order, resulting in 26 new shapefiles of Least Concern species by mammal order. For the order Rodentia and Carnivora, I was required to further subdivide the Least Concern species by family in order to run the tools. When the process was complete, I summed the resulting raster files using the "Cell Statistics" tool. This resulted in one larger raster of the density of Least Concern species).

I assigned a numerical weight to each Red List™ category: 0.2 for Least Concern, 0.4 for Near Threatened, 0.6 for Vulnerable, 0.8 for Endangered and 1.0 for Critically Endangered (Table 4-5). (Note that I excluded Data Deficient species here).

Red List™ Category	**Numerical Weight**
Least Concern	0.2
Near Threatened	0.4
Vulnerable	0.6
Endangered	0.8
Critically Endangered	1.0

Table 4-5. Numerical weights assigned to each Red List™ category

I then multiplied the raster layer of density for each threat category by its respective weight using ArcMap's raster calculator. I summed the output layers using cell statistics and the zero raster for all mammals (in order to ensure that the output raster covered the entire mammal range). I divided this

sum by the species density layer in order to obtain a raster representing the average species threat level per km^2. This process is summarized in the following formula:

Average Species Threat Level (TL) =

$$\frac{[(\#\text{ of LC spp})(0.2) + (\#\text{ of NT spp})(0.4) + (\#\text{ of VU spp})(0.6) + (\#\text{ of EN spp})(0.8) + (\#\text{ of CR spp})(1.0)]}{\text{total number of species}}$$

iii. Calculation of a Climate Vulnerability Score per km^2

I standardized the species density raster so that the values of each cell would range between 0 and 1. I used the following formula, as used by Graham et al. (2016):

$$\mathbf{SR} = \ln(\#\text{ of species} + 1)/\ln(\text{maximum }\#\text{ of species} + 1)$$

(Note the use of the logarithm in the formula. This is to minimize the occurrence of overly-large values in areas of very high species richness, so that the final climate vulnerability scores are not biased towards values of species richness (Graham et al. 2016)).

I also normalized the RTCRE raster file (using raster calculator and dividing by the maximum RTCRE value) so that the RTCRE values would range from zero to one, matching the zero-to-one ranges of the average species threat level (TL) and species richness (SR) raster files. I then multiplied the three raster files together in order to create a vulnerability score (VS) for each km^2:

$$VS = RTCRE \times TL \times SR$$

Finally, I identified locations of highest scores as “hotspots”, or locations in which terrestrial mammals may be most vulnerable to climate change due to a high combination of local temperature changes, average species threat level and species richness.

Chapter 5 - Results

I. IUCN Data Statistics

i. Terrestrial Mammal Orders & Number of Species per Order

The post-processed IUCN terrestrial mammals shapefile contains spatial data for 26 mammal orders, with the number of species per order ranging from one to 2206 (Table 5-1): Afrosoricida (golden moles and tenrecs – 54 species), Carnivora (placental mammals – 244 species), Cetartiodactyla (even-toed ungulates e.g. deer, camels, sheep – 225 species), Chiroptera (bats – 1128 species), Cingulata (armadillos – 21 species), Dasyuromorphia (Australian carnivorous marsupials – 73 species), Dermoptera (flying lemurs – 2 species), Didelphimorphia (opossums – 97 species), Diprotodontia (marsupials – 138 species), Eulipotyphla (hedgehogs, gymnures, desmans, moles, shrew moles – 441 species), Hyracoidea (hyraxes or dassies – 5 species), Lagomorpha (hares, rabbits, pikas – 92 species), Macroscelidea (elephant-shrews – 17 species), Microbiotheria (the monito del monte – 1 species), Monotremata (the platypus and spiny anteaters – 5 species), Notoryctemorphia (marsupial moles – 2 species), Paucituberculata (shrew opposums – 6 species), Peramelemorphia (bandicoots – 19 species), Perissodactyla (odd-toed ungulates e.g. rhinos, zebras, tapirs, asses – 15 species), Pholidota (pangolins or scaly anteaters – 8 species), Pilosa (sloths and anteaters – 10 species), Primates (non-human primates – 423 species), Proboscidea (elephants – 2 species), Rodentia (rodents e.g. mice, rats, etc. – 2206 species), Scandentia (tree shrews – 19 species), and Tubulidentata (the aardvark – 1 species) (Table 5-1). Note that the orders Microbiotheria and Tubulidentata consist of the fewest number of species per order (with one species each), while the orders Rodentia and Chiroptera consist of the greatest numbers of species per order (with 2206 and 1128 species, respectively).

Mammal Order	Common Names	# of spp.
Afrosoricida	Golden moles and tenrecs	54
Carnivora	Placental mammals	244
Cetartiodactyla	Even-toed ungulates (e.g. deer, camels, sheep)	225
Chiroptera	Bats	1128
Cingulata	Armadillos	21
Dasyuromorphia	Australian carnivorous marsupials	73
Dermoptera	Flying lemurs	2
Didelphimorphia	Opossums	97
Diprotodontia	Marsupials	138
Eulipotyphla	Hedgehogs, gymnures, desmans, moles, shrew moles	441
Hyracoidea	Hyraxes or dassies	5
Lagomorpha	Hares, rabbits, pikas	92
Macroscelidea	Elephant-shrews	17
Microbiotheria	The monito del monte	1
Monotremata	The platypus and spiny anteaters	5
Notoryctemorphia	Marsupial moles	2
Paucituberculata	Shrew opposums	6
Peramelemorphia	Bandicoots	19
Perissodactyla	Odd-toed ungulates e.g. rhinos, zebras, tapirs, asses	15
Pholidota	Pangolins or scaly anteaters	8
Pilosa	Sloths and anteaters	10
Primates	Non-human primates	423
Proboscidea	Elephants	2
Rodentia	Rodents (e.g. mice, rats, etc.)	2206
Scandentia	Tree shrews	19
Tubulidentata	The aardvark	1
	TOTAL	**5254**

Table 5-1. Mammal orders and the number of species per order

ii. Species per IUCN Red List™ Category (All Mammals)

Of the species included in my analysis, 192 (3.65 % of the total number of species) are listed as Critically Endangered (CR) on the IUCN Red List™ of Threatened Species, 462 species (8.79 %) are listed as Endangered (EN), and 492 species (9.36 %) are listed as Vulnerable (VU), for a total of 1146 Threatened species (21.8 % of all terrestrial mammal species included in the dataset) (Table 5-2, Fig. 5-1). Non-Threatened species constitute 64.4 % of the dataset (3382 species in total) with 58.5 % (3071 species) ranked as Least Concern (LC) and 5.92 % (311 species) ranked as Near Threatened (NT) (Table 5-2, Fig. 5-1). Data Deficient (DD) species (i.e. those not assessed due to a lack of available information) account for 13.8 % of the dataset, or 726 species (Table 5-2, Fig. 5-1).

Red List™ Category	**Number of Species**	**Percentage of Terr. Mammals (%)**
DD	726	13.8
LC	3071	58.5
NT	311	5.92
Total Non-Threatened	*3382*	*64.4*
VU	492	9.36
EN	462	8.79
CR	192	3.65
Total Threatened	*1146*	*21.8*
TOTAL	**5254**	**100**

Table 5-2. Number and percentage of terrestrial mammal species per IUCN Red List™ category

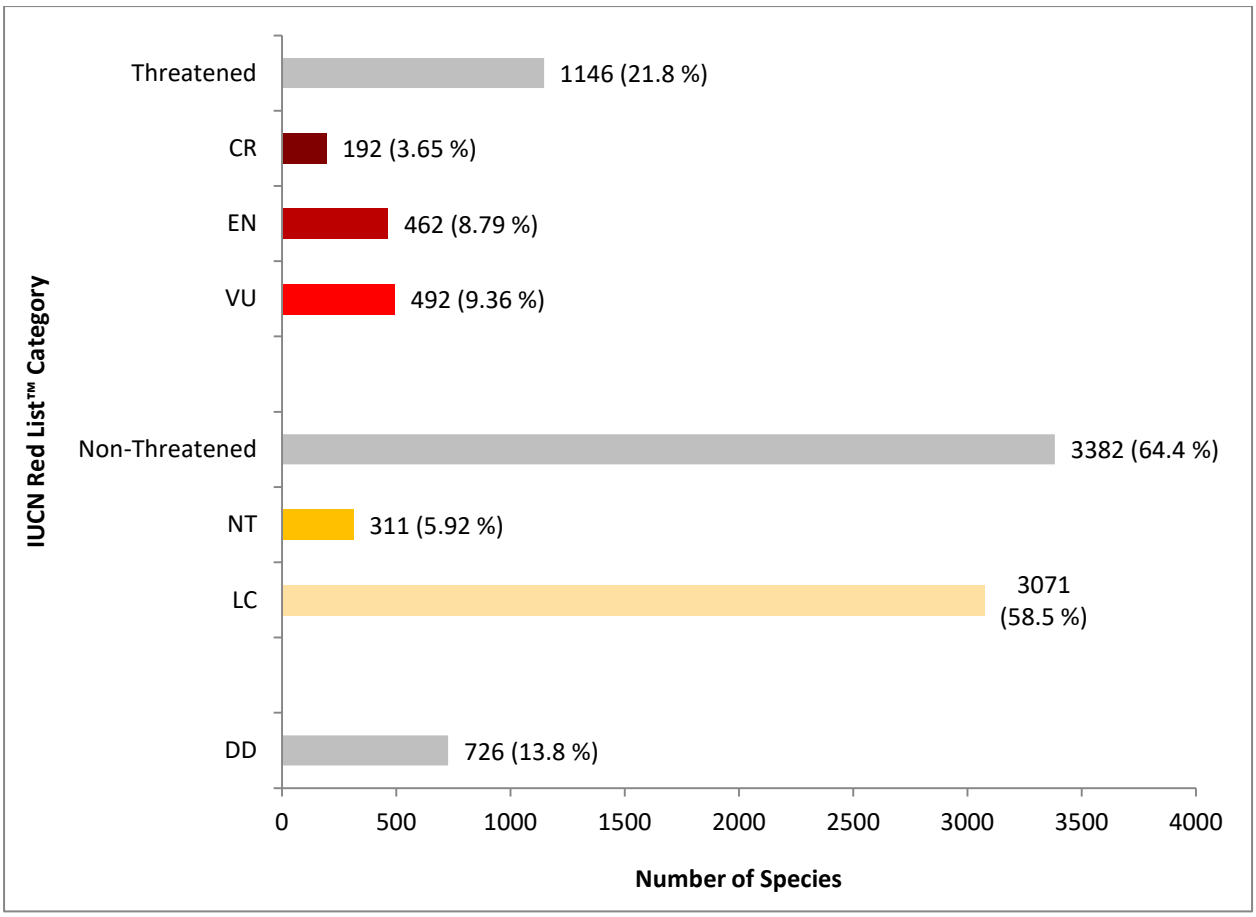


Figure 5-1. Number and percentage of terrestrial mammal species per IUCN Red List™ category

iii. Spatial Distribution of Threat Categories (All Mammals)

The spatial distribution of IUCN Red List™ categories for terrestrial mammal species is shown in Figure 5-2. Threatened terrestrial mammal species (Vulnerable, Endangered or Critically Endangered) are found on every continent across the globe (Fig. 5-2). Critically Endangered (CR) species are found in pockets of Central America, along the northern and eastern coasts of South America, in southern regions of Africa, in western regions of Russia and throughout much of Asia. Endangered (EN) species are found in coastal areas of the United States, throughout Central America, and across most of South America. They are also found in pockets throughout Africa, and in vast areas of Asia. Vulnerable (VU) species are found nearly everywhere, with the exception of southern Canada and much of the United States, the southernmost regions of South America, northern Europe, central Russia and much of Australia. Near Threatened (NT) species are found in vast areas on every continent with the exception of Canada and much of the United States, northern Russia and much of Australia (where the ranges of Near Threatened species are more limited). Least Concern (LC) species are also found nearly everywhere with the exception of portions of the Arctic region. Finally, Data Deficient (DD) species are found across Central and South America, central Africa and in pockets throughout the remaining continents (with the exception of North America which is nearly free of Data Deficient species).

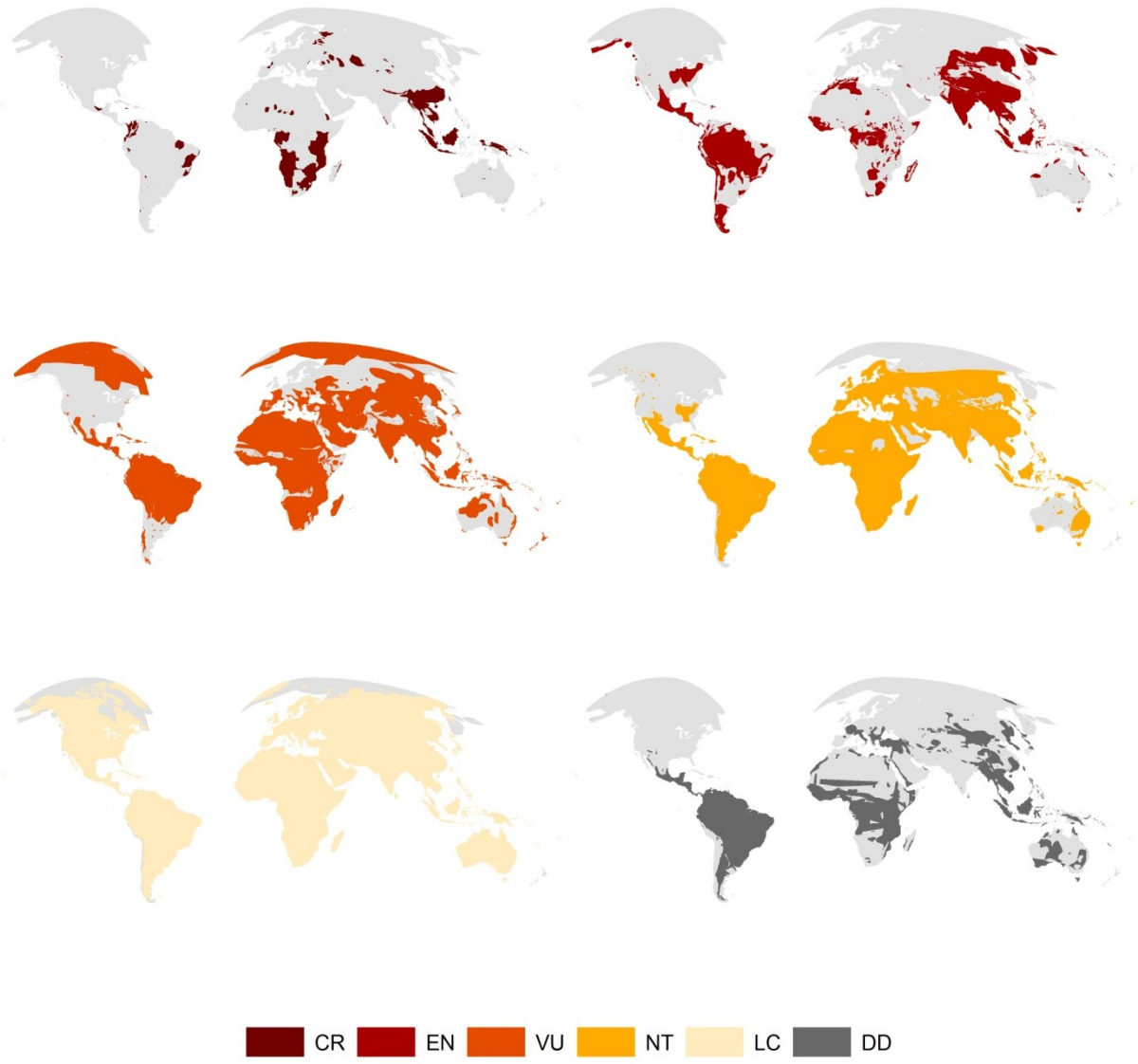


Figure 5-2. The spatial distribution of terrestrial mammal species by IUCN Red List™ category

iv. Species per IUCN Red List™ Category (by Mammal Order)

The highest number of Critically Endangered (CR) species is found within the order of non-human primates (with 58 CR species), while the highest percentage of CR species occurs within the order Monotremata (the platypus and spiny anteaters) with 60 % (or three out of five total species) of the order listed as CR on the IUCN Red List™ (Tables 5-3 & 5-4). The highest number of Endangered species (EN) is found in the order Rodentia (rodents) with 146 EN species, while the highest percentage of EN species occurs within the order Proboscidea (elephants) with 50 % (one out of two species) of the order rated as EN (Tables 5-3 & 5-4). The largest number of Vulnerable (VU) species is found again in the order Rodentia with 141 VU species on the IUCN Red List™ (Table 5-3). The highest percentage per order of VU species again occurs within the order Proboscidea but also within the order Pholidota (pangolins or scaly anteaters) with 50 % of the species of each order (one out of two species of elephants and four out of eight species of pangolins) ranked as VU (Table 5-4).

When threatened species are considered together (i.e. all species ranked Vulnerable, Endangered or Critically Endangered), the orders Proboscidea and Pholidota (elephants and pangolins) top the list with 100 % of the species in each order ranked as threatened (Table 5-5). This is followed closely by the order Perissodactyla (odd-toed ungulates e.g. rhinos, zebras, tapirs, asses) with 80 % of species categorized as threatened on the IUCN Red List™ (Table 5-5). Rodents, primates and bats have the highest absolute numbers of threatened species with 344, 257 and 167 species, respectively (Table 5-5).

The order Rodentia also has the highest absolute numbers of species ranked Least Concern (LC) and Near Threatened (NT) with 1399 and 102 species, respectively, per category (Table 5-3). Three orders, Dermoptera (flying lemurs - two species), Hyracoidea (hyraxes or dassies - five species) and Tubulidentata (the aardvark - one species) have 100 % of their species ranked as Least Concern, while the only species in the order Microbiotheria (the monito del monte – 100 % of the order) is listed as Near Threatened (Table 5-4).

When non-threatened species are taken together (both LC and NT categories), rodents have the highest total number (with 1501 species), while the orders Dermoptera, Hyracoidea, Microbiotheria and Tubulidentata all have the highest percentages of non-threatened species (with 100 % per order) (Table 5-5).

The highest absolute numbers of Data Deficient (DD) species are again found among the Rodentia and Chiroptera orders with 361 and 193 species, respectively (Table 5-3). The highest percentage of DD species is found in the order Notoryctemorphia (marsupial moles) with both species in the order listed as DD (Table 5-4).

Mammal Order	# of LC	# of NT	# of VU	# of EN	# of CR	# of DD	TOTAL
Afrosoricida	30	3	9	7	1	4	**54**
Carnivora	146	25	36	17	5	15	**244**
Cetartiodactyla	100	19	44	38	11	13	**225**
Chiroptera	685	83	95	51	21	193	**1128**
Cingulata	8	5	3	0	0	5	**21**
Dasyuromorphia	47	10	5	6	1	4	**73**
Dermoptera	2	0	0	0	0	0	**2**
Didelphimorphia	69	3	7	0	1	17	**97**
Diprotodontia	76	16	16	16	12	2	**138**
Eulipotyphla	269	13	31	41	12	75	**441**
Hyracoidea	5	0	0	0	0	0	**5**
Lagomorpha	61	5	5	10	3	8	**92**
Macroscelidea	9	1	2	1	0	4	**17**
Microbiotheria	0	1	0	0	0	0	**1**
Monotremata	2	0	0	0	3	0	**5**
Notoryctemorphia	0	0	0	0	0	2	**2**
Paucituberculata	2	2	2	0	0	0	**6**
Peramelemorphia	9	1	2	4	0	3	**19**
Perissodactyla	2	1	3	5	4	0	**15**
Pholidota	0	0	4	2	2	0	**8**
Pilosa	7	0	2	0	1	0	**10**
Primates	127	21	84	115	58	18	**423**
Proboscidea	0	0	1	1	0	0	**2**
Rodentia	1399	102	141	146	57	361	**2206**
Scandentia	15	0	0	2	0	2	**19**
Tubulidentata	1	0	0	0	0	0	**1**
TOTAL	**3071**	**311**	**492**	**462**	**192**	**726**	**5254**

Table 5-3. Number of species per IUCN Red List™ category for each terrestrial mammal order (maximum values per category are highlighted in grey).

Mammal Order	% LC	% NT	% VU	% EN	% CR	% DD
Afrosoricida	55.56	5.56	16.67	12.96	1.85	7.41
Carnivora	59.84	10.25	14.75	6.97	2.05	6.15
Cetartiodactyla	44.44	8.44	19.56	16.89	4.89	5.78
Chiroptera	60.73	7.36	8.42	4.52	1.86	17.11
Cingulata	38.10	23.81	14.29	0.00	0.00	23.81
Dasyuromorphia	64.38	13.70	6.85	8.22	1.37	5.48
Dermoptera	100.00	0.00	0.00	0.00	0.00	0.00
Didelphimorphia	71.13	3.09	7.22	0.00	1.03	17.53
Diprotodontia	55.07	11.59	11.59	11.59	8.70	1.45
Eulipotyphla	61.00	2.95	7.03	9.30	2.72	17.01
Hyracoidea	100.00	0.00	0.00	0.00	0.00	0.00
Lagomorpha	66.30	5.43	5.43	10.87	3.26	8.70
Macroscelidea	52.94	5.88	11.76	5.88	0.00	23.53
Microbiotheria	0.00	100.00	0.00	0.00	0.00	0.00
Monotremata	40.00	0.00	0.00	0.00	60.00	0.00
Notoryctemorphia	0.00	0.00	0.00	0.00	0.00	100.00
Paucituberculata	33.33	33.33	33.33	0.00	0.00	0.00
Peramelemorphia	47.37	5.26	10.53	21.05	0.00	15.79
Perissodactyla	13.33	6.67	20.00	33.33	26.67	0.00
Pholidota	0.00	0.00	50.00	25.00	25.00	0.00
Pilosa	70.00	0.00	20.00	0.00	10.00	0.00
Primates	30.02	4.96	19.86	27.19	13.71	4.26
Proboscidea	0.00	0.00	50.00	50.00	0.00	0.00
Rodentia	63.42	4.62	6.39	6.62	2.58	16.36
Scandentia	78.95	0.00	0.00	10.53	0.00	10.53
Tubulidentata	100.00	0.00	0.00	0.00	0.00	0.00
TOTAL	**58.45**	**5.92**	**9.36**	**8.79**	**3.65**	**13.82**

Table 5-4. Percentage of species per IUCN Red List™ category for each terrestrial mammal order (maximum values per category are highlighted in grey).

Mammal Order	# Non-Threat.	% Non-Threat.	# Threatened	% Threatened	TOTAL
Afrosoricida	33	61.11	17	31.48	54
Carnivora	171	70.08	58	23.77	244
Cetartiodactyla	119	52.89	93	41.33	225
Chiroptera	768	68.09	167	14.80	1128
Cingulata	13	61.90	3	14.29	21
Dasyuromorphia	57	78.08	12	16.44	73
Dermoptera	2	100.00	0	0.00	2
Didelphimorphia	72	74.23	8	8.25	97
Diprotodontia	92	66.67	44	31.88	138
Eulipotyphla	282	63.95	84	19.05	441
Hyracoidea	5	100.00	0	0.00	5
Lagomorpha	66	71.74	18	19.57	92
Macroscelidea	10	58.82	3	17.65	17
Microbiotheria	1	100.00	0	0.00	1
Monotremata	2	40.00	3	60.00	5
Notoryctemorphia	0	0.00	0	0.00	2
Paucituberculata	4	66.67	2	33.33	6
Peramelemorphia	10	52.63	6	31.58	19
Perissodactyla	3	20.00	12	80.00	15
Pholidota	0	0.00	8	100.00	8
Pilosa	7	70.00	3	30.00	10
Primates	148	34.99	257	60.76	423
Proboscidea	0	0.00	2	100.00	2
Rodentia	1501	68.04	344	15.59	2206
Scandentia	15	78.95	2	10.53	19
Tubulidentata	1	100.00	0	0.00	1
TOTAL	**3382**	**64.37**	**1146**	**21.81**	**5254**

Table 5-5. Number and percentage of non-threatened and threatened species per mammal order (maximum values per category are highlighted in grey).

II. Local Temperature Changes per Tt of Carbon Emissions (RTCRE) for Terrestrial Mammal Species

i. Statistical Overview (All Mammals)

The spatial average of temperature change per Tt of carbon emissions (RTCRE) for each terrestrial mammal species' range is listed in the Appendix. The average RTCRE value for all 5254 terrestrial mammal species included in my analysis is 1.85 ^{o}C/TtC, 0.17 ^{o}C/TtC below the global average RTCRE of 2.02 ^{o}C/TtC. The minimum RTCRE value (1.01 ^{o}C/TtC) occurs for *Abrothrix hershkovitzi* (Hershkovitz's grass mouse), a Least Concern species of the order Rodentia, native to Argentina and Chile. The maximum RTCRE value (4.94 ^{o}C/TtC) occurs for both *Dicrostonyx vinogradovi* (the Wrangel Island collared lemming) and *Lemmus portenkoi* (the Portenkoi lemming), both of which are Data Deficient species of the order Rodentia, found only on Wrangel Island (off the northeastern coast of Russia). The difference between the maximum and minimum RTCRE values for all terrestrial mammal species is 3.93 ^{o}C/TtC.

ii. Species per 0.5 ^{o}C/TtC Range of RTCRE Values

The majority of species (2762 – nearly 53 % of all species assessed in this study) have RTCRE values ranging between 1.5 and 2.0 ^{o}C/TtC, followed by 1253 species (23.85 %) with RTCRE values of 2.0 to 2.5 ^{o}C/TtC (Table 5-6). Fifty-one species (~ 1 %) have RTCRE values of 3.0 to 4.0 ^{o}C/TtC, while eight species (or 0.15 %) have an RTCRE of greater than 4.0 ^{o}C/TtC (Table 5-6). Species with an RTCRE of greater than 4.0 ^{o}C/TtC are listed in Table 5-7. Four of these are ranked as Least Concern on the IUCN Red List™: *Lemmus sibiricus* (the brown lemming), *Dicrostonyx torquatus* (the Arctic lemming) and *Microtus middendorffii* (Middendorff's vole) (all three of which are of the order Rodentia and are found in northern Russia), as well as *Marmota broweri* (the Alaska marmot, also of the order Rodentia but native to Alaska) (Table 5-7). One species, *Ursus maritimus* (the polar bear of the order Carnivora, found in the Arctic region), is listed as Vulnerable. Three of the species with an RTCRE of greater than 4.0 ^{o}C/TtC, *Dicrostonyx vinogradovi* (the Wrangel Island collared lemming, described above), *Lemmus portenkoi* (the Portenkoi lemming, also described above), and *Sorex portenkoi* (Portenko's shrew of the order Eulipotyphla, also a native of northern Russia), are listed as Data Deficient on the IUCN Red List™.

RTCRE (°C/TtC)	Number of Species	% of Species
4.5 - 5.0	2	0.04
4.0 - 4.5	6	0.11
3.5 - 4.0	11	0.21
3.0 - 3.5	40	0.76
2.5 - 3.0	173	3.29
2.0 - 2.5	1253	23.85
1.5 - 2.0	2762	52.57
1.0 - 1.5	1007	19.17

Table 5-6. Number and percentage of species per 0.5 °C/TtC range of RTCRE values

Species (Common Name)	Mammal Order	RTCRE (°C/TtC)	IUCN Red List™ Category
Wrangel Island collared lemming	Rodentia	4.94	DD
Portenkoi lemming	Rodentia	4.94	DD
Brown lemming	Rodentia	4.25	LC
Arctic lemming	Rodentia	4.18	LC
Middendorff's vole	Rodentia	4.17	LC
Alaska marmot	Rodentia	4.13	LC
Portenko's shrew	Eulipotyphla	4.11	DD
Polar bear	Carnivora	4.09	VU

Table 5-7. Species with an RTCRE of > 4.0 °C/TtC

iii. RTCRE Values by IUCN Red List™ Category

Overview

RTCRE values are plotted by Red List™ category in Figure 5-3. Summary statistics (mean, minimum, maximum, and range) of RTCRE values by Red List™ category are shown in Table 5-8. Table 5-8 also shows the number and percentage of species per Red List™ category with an RTCRE value of greater than 1.85 ^{o}C/TtC, the overall mean for terrestrial mammal species.

The Least Concern category has the highest overall RTCRE mean (1.93 ^{o}C/TtC), while the Critically Endangered group has the lowest mean (1.65 ^{o}C/TtC) (Table 5-8). The highest RTCRE value (4.94 ^{o}C/TtC) occurs in the Data Deficient category (as mentioned above), while the lowest (1.01 ^{o}C/TtC) occurs in the Least Concern group (also mentioned above) (Table 5-8). RTCRE values for Data Deficient species have the greatest spread (3.80 ^{o}C/TtC) of all the categories, while RTCRE values for Endangered species have the narrowest spread (1.56 ^{o}C/TtC) (Table 5-8). The Least Concern category has the greatest number (1813) and percentage (59.0 %) of species with RTCRE values of greater than the overall mean of 1.85 ^{o}C/TtC for all terrestrial mammals.

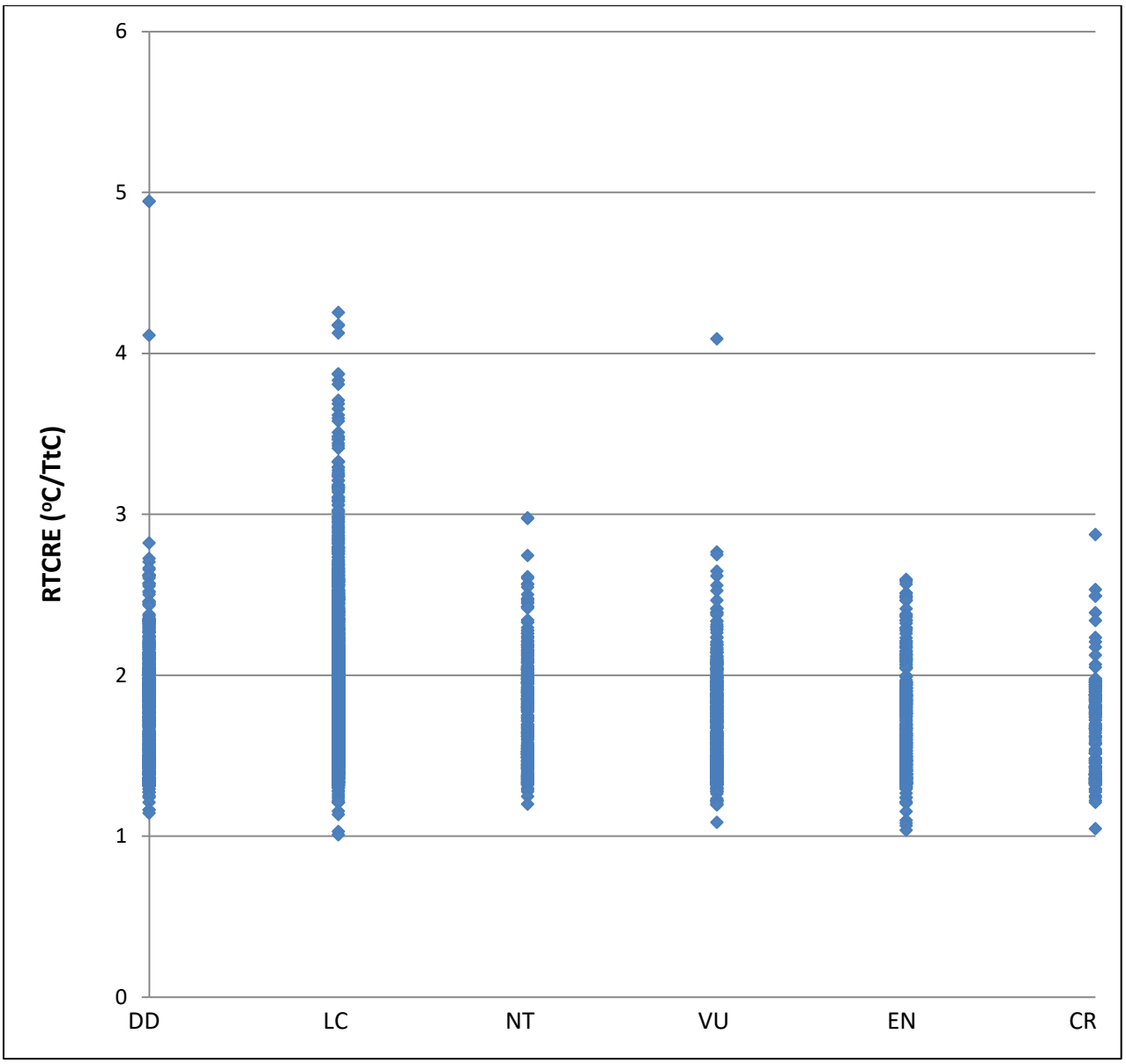


Figure 5-3. RTCRE values plotted by IUCN Red List™ category

IUCN Red List™ Category	Mean RTCRE (°C/TtC)	Min. RTCRE (°C/TtC)	Max. RTCRE (°C/TtC)	RTCRE Range (°C/TtC)	RTCRE > 1.85 °C/TtC
Data Deficient (DD)	1.80	1.14	4.94	3.80	324 spp. (44.6 %)
Least Concern (LC)	1.93	1.01	4.25	3.24	1813 spp. (59.0 %)
Near Threatened (NT)	1.78	1.20	2.98	1.78	124 spp. (39.9 %)
Vulnerable (VU)	1.70	1.09	4.09	3.00	155 spp. (31.5 %)
Endangered (EN)	1.68	1.04	2.60	1.56	132 spp. (28.6 %)
Critically Endangered (CR)	1.65	1.05	2.87	1.82	47 spp. (24.5 %)

Table 5-8. Mean, minimum, maximum and range of RTCRE values per IUCN Red List™ category, as well as the number and percentage of species per category whose RTCRE value exceeds the terrestrial mammal average of 1.85 °C/TtC (maximum values per column (lowest in the case of min. RTCRE) are highlighted in grey).

RTCRE Values for Data Deficient Species

RTCRE values for Data Deficient (DD) species have an average of 1.80 °C/TtC and range from 1.14 °C/TtC (for *Chelemys delfini* – the Magellanic long-clawed akodont of the order Rodentia, found in southern Chile) to 4.94 °C/TtC (for both *Dicrostonyx vinogradovi* – the Wrangel Island collared lemming, described above, and *Lemmus portenkoi* – the Portenkoi lemming, also described above), followed closely by *Sorex portenkoi* (Portenko's shrew, described above) with an RTCRE of 4.11 °C/TtC (Fig. 5-3, Tables 5-8 & 5-9). Nearly 45 % of Data Deficient species (324 in all) have RTCRE values of greater than the overall terrestrial mammal mean of 1.85 °C/TtC (Table 5-8). Species with the ten highest RTCRE values in the Data Deficient category are listed in Table 5-9.

DD Species	Common Name	Order	RTCRE (^{o}C/TtC)
Dicrostonyx vinogradovi	Wrangel Island collared lemming	Rodentia	4.94
Lemmus portenkoi	Portenkoi lemming	Rodentia	4.94
Sorex portenkoi	Portenko's shrew	Eulipotyphla	4.11
Microtus mujanensis	Muisk vole	Rodentia	2.82
Alticola olchonensis	Olkhon mountain vole	Rodentia	2.73
Microtus evoronensis	Lake Evoron vole	Rodentia	2.70
Sorex alaskanus	Glacier Bay water shrew	Eulipotyphla	2.67
Sicista pseudonapaea	Gray birch mouse	Rodentia	2.66
Murina fusca	Dusky tube-nosed bat	Chiroptera	2.62
Sicista caudata	Long-tailed birch mouse	Rodentia	2.62

Table 5-9. Top ten RTCRE values for Data Deficient species

RTCRE Values for Non-Threatened Species

RTCRE values for Least Concern (LC) species range from a low of 1.01 ^{o}C/TtC (for *Abrothrix hershkovitzi* – Hershkovitz's grass mouse, described above) to a high of 4.25 ^{o}C/TtC (for *Lemmus sibiricus* – the Siberian brown lemming, described above), with an average of 1.93 ^{o}C/TtC for the category (Fig. 5-3, Tables 5-8 & 5-10). Fifty-nine percent of Least Concern species (1813) have RTCRE values of greater than 1.85 ^{o}C/TtC (the mean RTCRE for all terrestrial mammal species) (Table 5-8). Species with the top ten RTCRE values in the Least Concern category are listed in Table 5-10.

LC Species	Common Name	Order	RTCRE (°C/TtC)
Lemmus sibiricus	Siberian brown lemming	Rodentia	4.25
Dicrostonyx torquatus	Arctic lemming	Rodentia	4.18
Microtus middendorffii	Middendorff's vole	Rodentia	4.17
Marmota broweri	Alaska marmot	Rodentia	4.13
Sorex ugyunak	Barren ground shrew	Eulipotyphla	3.87
Ovibos moschatus	Muskox	Cetartiodactyla	3.87
Dicrostonyx groenlandicus	Neartic collared lemming	Rodentia	3.83
Sorex jacksoni	St. Lawrence Island shrew	Eulipotyphla	3.81
Vulpes lagopus	Arctic fox	Carnivora	3.71
Microtus hyperboreus	North Siberian vole	Rodentia	3.69

Table 5-10. Top ten RTCRE values for Least Concern species

For the Near Threatened (NT) category, RTCRE values have an average of 1.78 °C/TtC and range from 1.20 °C/TtC (for *Rhyncholestes raphanurus* – the Chilean shrew opossum of the order Paucituberculata, found in south-central Chile) to 2.98 °C/TtC (for *Microtus sachalinensis* – the Sakhalin vole of the order Rodentia, endemic to Sakhalin Island off the southeastern coast of Russia) (Fig. 5-3, Tables 5-8 & 5-11). Nearly 40 % of Near Threatened species (124 in all) have RTCRE values of >1.85 °C/TtC, the overall terrestrial mammal mean (Table 5-8). Species with the top ten RTCRE values in the Near Threatened category are listed in Table 5-11.

NT Species	Common Name	Order	RTCRE (^{o}C/TtC)
Microtus sachalinensis	Sakhalin vole	Rodentia	2.98
Bison bison	American bison	Cetartiodactyla	2.97
Myotis dasycneme	Pond bat	Chiroptera	2.74
Hyperacrius fertilis	Burrowing vole	Rodentia	2.61
Myotis bombinus	Far Eastern myotis	Chiroptera	2.60
Spalax uralensis	Kazakhstan blind mole rat	Rodentia	2.57
Spermophilus suslicus	Speckled ground squirrel	Rodentia	2.56
Pygeretmus zhitkovi	Greater fat-tailed jerboa	Rodentia	2.55
Ovis ammon	Wild sheep	Cetartiodactyla	2.50
Mustela altaica	Mountain weasel	Carnivora	2.48

Table 5-11. Top ten RTCRE values for Near Threatened species

RTCRE Values for Threatened Species

The polar bear (*Ursus maritimus,* described above), a Vulnerable (VU) species, stands out with an RTCRE value of 4.09 ^{o}C/TtC, the highest value of all the threatened terrestrial mammal species (Fig. 5-3, Tables 5-8 & 5-12). The lowest RTCRE value among VU species is 1.09 ^{o}C/TtC (for *Pearsonomys annectens* – Pearson's long-clawed mouse of the order Rodentia, found in Chile) (Fig. 5-3, Table 5-8). Overall, the VU category has an RTCRE average of 1.70 ^{o}C/TtC (Table 5-8). Nearly 32 % of Vulnerable species (155) have an RTCRE of greater than the terrestrial mammal mean of 1.85 ^{o}C/TtC (Table 5-8). The ten highest RTCRE values for VU species are shown in Table 5-12.

VU Species	Common Name	Order	RTCRE (^{o}C/TtC)
Ursus maritimus	Polar bear	Carnivora	4.09
Moschus moschiferus	Siberian musk deer	Cetartiodactyla	2.77
Desmana moschata	Russian desman	Eulipotyphla	2.75
Sylvilagus transitionalis	New England cottontail	Lagomorpha	2.65
Alticola montosa	Central Kashmir vole	Rodentia	2.62
Microtus breweri	Beach vole	Rodentia	2.56
Dryomys niethammeri	Baluchistan forest dormouse	Rodentia	2.53
Bos mutus	Wild yak	Cetartiodactyla	2.47
Naemorhedus baileyi	Red goral	Cetartiodactyla	2.41
Naemorhedus caudatus	Long-tailed goral	Cetartiodactyla	2.41

Table 5-12. Top ten RTCRE values for Vulnerable species

RTCRE values for Endangered (EN) species range from 1.04 ^{o}C/TtC (for *Crocidura canariensis* – the Canary shrew of the order Eulipotyphla, endemic to the Canary Islands) to 2.60 ^{o}C/TtC (for *Moschus cupreus* – the Kashmir muskdeer of the order Cetartiodactyla, found in the Himalayan region), with an average RTCRE value of 1.68 ^{o}C/TtC for all Endangered species (Fig. 5-3, Tables 5-8 & 5-13). Nearly 29 % of the Endangered species in the dataset (132 species in all) have an RTCRE value of greater than the terrestrial mammal mean of 1.85 ^{o}C/TtC (Table 5-8). The ten highest RTCRE values for Endangered species are shown in Table 5-13.

EN Species	Common Name	Order	RTCRE (^{o}C/TtC)
Moschus cupreus	Kashmir muskdeer	Cetartiodactyla	2.60
Macaca munzala	Arunachal macaque	Primates	2.59
Sorex pribilofensis	Pribilof Island shrew	Eulipotyphla	2.58
Eupetaurus cinereus	Woolly flying squirrel	Rodentia	2.57
Equus hemionus	Asiatic wild ass	Perissodactyla	2.51
Ochotona hoffmanni	Hoffmann's pika	Lagomorpha	2.51
Marmota sibirica	Mongolian marmot	Rodentia	2.51
Panthera uncia	Snow leopard	Carnivora	2.49
Pantholops hodgsonii	Tibetan antelope	Cetartiodactyla	2.49
Ochotona iliensis	Ili pika	Lagomorpha	2.49

Table 5-13. Top ten RTCRE values for Endangered species

In the Critically Endangered (CR) species category, RTCRE values range from 1.05 ^{o}C/TtC (for *Pseudalopex fulvipes* – Darwin's fox of the order Carnivora, endemic to Chile) to a high of 2.87 ^{o}C/TtC (for *Mustela lutreola* – the European mink also of the order Carnivora but found in France, Romania, Russia, Spain and the Ukraine), with an overall average of 1.65 ^{o}C/TtC for the category (Fig. 5-3, Tables 5-8 & 5-14). Nearly 25 % of species in the CR category (47 in all) have an RTCRE value which is greater than the terrestrial mammal mean of 1.85 ^{o}C/TtC (Table 5-8). The ten highest RTCRE values for Critically Endangered species are shown in Table 5-14.

CR Species	Common Name	Order	RTCRE (°C/TtC)
Mustela lutreola	European mink	Carnivora	2.87
Saiga tatarica	Mongolian saiga	Cetartiodactyla	2.53
Camelus ferus	Bactrian camel	Cetartiodactyla	2.49
Ochotona argentata	Helan Shan pika	Lagomorpha	2.49
Biswamoyopterus biswasi	Namdapha flying squirrel	Rodentia	2.39
Pipanacoctomys aureus	Golden vizcacha rat	Rodentia	2.34
Myotis hajastanicus	Armenian myotis	Chiroptera	2.23
Addax nasomaculatus	Addax	Cetartiodactyla	2.21
Nanger dama	Dama gazelle	Cetartiodactyla	2.17
Abrocoma boliviensis	Bolivian chinchilla rat	Rodentia	2.12

Table 5-14. Top ten RTCRE values for Critically Endangered species

iv. RTCRE Values by Mammal Order

Mean, minimum, maximum and range of RTCRE values for each mammal order are shown in Table 5-15. The number and percentage of species per mammal order whose RTCRE value exceeds the overall terrestrial mammal mean of 1.85 °C/TtC are also shown in Table 5-15.

The order Lagomorpha (hares, rabbits, and pikas) has the highest overall mean RTCRE with 2.20 °C/TtC. The order Microbiotheria (the monito del monte) has the lowest overall mean with an RTCRE of 1.30 °C/TtC. The order Rodentia (rodents) has the lowest minimum RTCRE of all the orders (with 1.01 °C/TtC), the highest maximum RTCRE (with 4.94 °C/TtC) as well as the greatest range of RTCRE values (with a difference of 3.93 °C/TtC between the maximum and minimum RTCRE values within the order). The smallest range greater than zero (i.e. for orders with more than one species) is for the order

Notoryctemorphia (marsupial moles) with a difference of only 0.03 ^{o}C/TtC between the maximum and minimum RTCRE values for the order.

Twenty-two orders have at least one species with an RTCRE value of greater than the overall terrestrial mammal mean of 1.85 ^{o}C/TtC. Only the orders Dermoptera (flying lemurs), Microbiotheria (the monito del monte), Monotremata (the platypus and spiny anteaters) and Scandentia (tree shrews) are excluded from this, with RTCRE values for all species within these orders at less than or equal to 1.85 ^{o}C/TtC. The order Rodentia has the highest absolute number of species with RTCRE values greater than the terrestrial mammal mean (1181 species or 53.5 % of the total number of species in the order). All species in the orders Notoryctemorphia (marsupial moles – two species) and Tubulidentata (the aardvark – one species) have RTCRE values of greater than the terrestrial mammal mean.

Mammal Order	Mean RTCRE (°C/TtC)	Min. RTCRE (°C/TtC)	Max. RTCRE (°C/TtC)	RTCRE Range (°C/TtC)	RTCRE > 1.85 °C/TtC
Afrosoricida	1.73	1.37	2.13	0.76	15 spp. (27.8 %)
Carnivora	1.97	1.05	4.09	3.04	146 spp. (59.8 %)
Cetartiodactyla	1.97	1.20	3.87	2.67	144 spp. (64.0 %)
Chiroptera	1.75	1.07	2.77	1.70	466 spp. (41.3 %)
Cingulata	1.92	1.51	2.15	0.64	16 spp. (76.2 %)
Dasyuromorphia	1.64	1.22	2.00	0.78	16 spp. (21.9 %)
Dermoptera	1.49	1.45	1.53	0.08	0 sp. (0.00 %)
Didelphimorphia	1.93	1.23	2.28	1.05	73 spp. (75.3 %)
Diprotodontia	1.55	1.28	1.92	0.64	1 sp. (0.72 %)
Eulipotyphla	1.95	1.04	4.11	3.07	264 spp. (59.9 %)
Hyracoidea	1.90	1.80	2.00	0.20	3 spp. (60.0 %)
Lagomorpha	2.20	1.39	3.62	2.23	73 spp. (79.3 %)
Macroscelidea	1.89	1.69	2.17	0.48	9 spp. (52.9 %)
Microbiotheria	1.30	1.30	1.30	0.00	0 sp. (0.00 %)
Monotremata	1.56	1.39	1.77	0.38	0 sp. (0.00 %)
Notoryctemorphia	1.89	1.88	1.91	0.03	2 spp. (100 %)
Paucituberculata	1.62	1.20	2.00	0.80	1 sp. (16.7 %)
Peramelemorphia	1.49	1.35	1.94	0.59	1 sp. (5.26 %)
Perissodactyla	1.91	1.40	2.51	1.11	9 spp. (60.0 %)
Pholidota	1.79	1.33	2.03	0.70	4 spp. (50.0 %)
Pilosa	1.88	1.43	2.04	0.61	7 spp. (70.0 %)
Primates	1.78	1.33	2.59	1.26	162 spp. (38.3 %)
Proboscidea	1.82	1.71	1.93	0.22	1 sp. (50.0 %)
Rodentia	1.88	1.01	4.94	3.93	1181 spp. (53.5 %)
Scandentia	1.51	1.33	1.84	0.51	0 sp. (0.00 %)
Tubulidentata	1.96	1.96	1.96	0.00	1 sp. (100 %)

Table 5-15. RTCRE statistics per mammal order, as well as species per order whose RTCRE value exceeds 1.85 °C/TtC (maximum values per column (lowest in the case of min. RTCRE) are highlighted in grey).

III. Global Hotspots of Mammalian Vulnerability to Climate Change

i. Species Richness per km^2

Maximum species richness per km^2 is shown for each mammal order in Table 5-16. The order Chiroptera (bats) has the highest density for any given location with 121 species per km^2 near the northeastern coast of South America, followed by a high of 60 species per km^2 for the order Rodentia in central Africa (Table 5-16).

When all terrestrial mammal species are considered together, densities range from one species per km^2 to as many as 212 species per km^2 (Fig. 5-4). Lowest species densities (25 species or less per km^2) are found predominantly in higher altitudes, high latitudes and desert regions (Fig. 5-4). These include the northern regions of North America and Eurasia, the Tibetan Plateau, and numerous deserts such as the Atacama and Patagonian Deserts of South American, the Sahara and Arabian Deserts of North Africa and the Middle East, as well as the deserts of Australia (Fig. 5-4). Highest densities of terrestrial mammal species (~150 species or more per km^2) are found in the tropical rainforest and savannah regions of Central and South America, central Africa and Southeast Asia (Fig. 5-4).

Mammal Order	Common Names	Max. # of Spp. /km^2	% of Spp. in the Order
Chiroptera	Bats	121	10.7
Rodentia	Rodents (mice, rats, etc.)	60	2.7
Carnivora	Placental mammals	31	12.7
Cetartiodactyla	Even-toed ungulates	26	11.6
Eulipotyphla	Shrews, hedgehogs, moles, etc.	25	5.7
Diprotodontia	Marsupial mammals	23	16.7
Afrosoricida	Golden moles and tenrecs	21	38.9
Didelphimorphia	Opossums	20	20.6
Primates	Non-human primates	20	4.7
Cingulata	Armadillos	10	47.6
Dasyuromorphia	Australian carnivorous marsupials	10	13.7
Lagomorpha	Hares, rabbits, pikas	10	10.9
Scandentia	Tree shrews	9	47.4
Peramelemorphia	Bandicoots	7	36.8
Pilosa	Sloths, anteaters, tamanduas	6	60.0
Macroscelidea	Elephant-shrews	5	29.4
Hyracoidea	Hyraxes	4	80.0
Pholidota	Pangolins	4	50.0
Paucituberculata	Shrew opposums	3	50.0
Perissodactyla	Rhinos, zebras, tapirs, asses	3	20.0
Monotremata	Echidnas and the platypus	2	40.0
Notoryctemorphia	Marsupial moles	2	100.0
Proboscidea	Elephants	2	100.0
Dermoptera	Flying lemurs	1	50.0
Microbiotheria	The monito del monte	1	100.0
Tubulidentata	The aardvark	1	100.0

Table 5-16. Maximum numbers and percentages of species per km^2 for each terrestrial mammal order

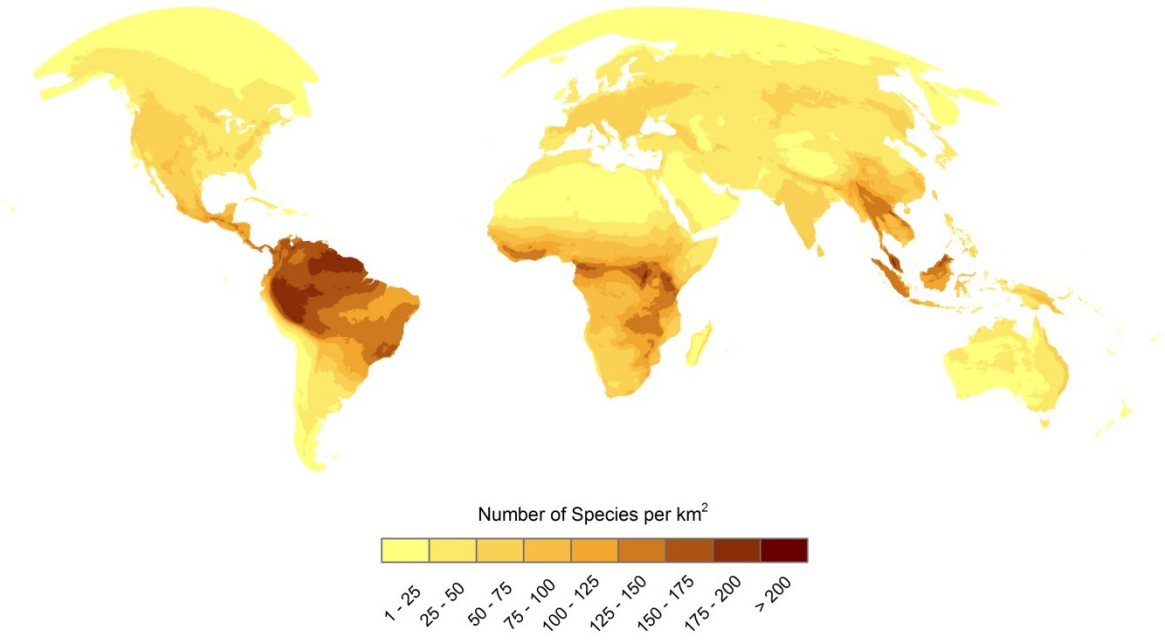


Figure 5-4. Number of terrestrial mammal species per km^2

ii. Average Species Threat Level per km^2

The highest number and percentage of species per km^2 for each Red List™ category are shown in Table 5-17. Highest densities of Data Deficient species (10 to 16 species per km^2) are found in patches primarily throughout South America. Highest densities of Least Concern species (150 species or more per km^2) occur in the Amazon region and in central-west Africa. Highest densities of Near Threatened species (20 or more per km^2) are found on the Malay Peninsula. For the threatened categories, highest densities of Vulnerable species (20 or more species per km^2) occur again on the Malay Peninsula but also in the northeastern portion of the island of Borneo. Endangered species are found in highest densities in patches across Southeast Asia, with as many as 11 species in a given location. Finally, species in the Critically Endangered category are found in highest numbers on the island of Madagascar, with a high of 4 species per km^2.

Red List™ Category	Max. # of Spp. /km^2	% of Total Spp./ Red List™ Category
Data Deficient (DD)	16	2.2
Least Concern (LC)	183	6.0
Near Threatened (NT)	23	7.4
Vulnerable (VU)	25	5.1
Endangered (EN)	11	2.4
Critically Endangered (CR)	4	2.1

Table 5-17. Maximum number and percentage of species per km^2 for each Red List™ category

Figure 5-5 shows the weighted average threat level for all species living in a given location. In general, smaller values indicate locations in which species are predominantly Data Deficient and/or Least Concern, while larger values indicate locations in which a larger proportion of species are threatened with extinction (Vulnerable, Endangered and/or Critically Endangered). Highest average threat levels occur primarily in high northern latitudes, and along the western coast of South America. Lower average threat levels occur in central Australia, North America, and northern Eurasia.

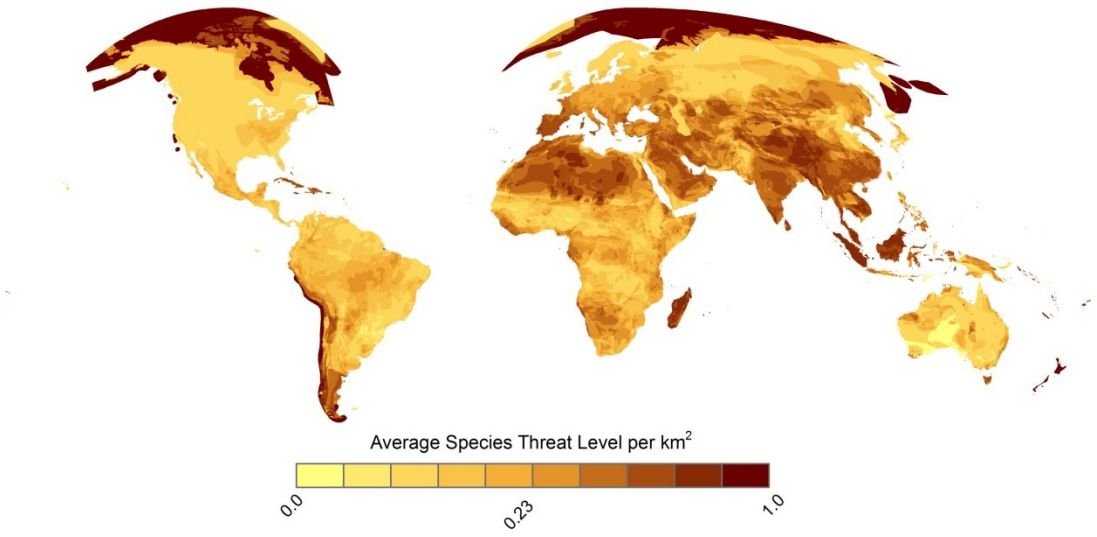


Figure 5-5. Average species threat level per km^2

iii. Climate Vulnerability Score per km^2

Climate vulnerability scores (the product of the normalized values of species richness, average species threat level and RTCRE per km^2) are shown in Figure 5-6. Highest scores (darkest colors), or potential hotspots of terrestrial mammalian vulnerability to climate change, are primarily found across northern Eurasia, central China, along the northern coasts of Canada, and in the Amazon region of South America. Higher climate vulnerability scores in northern Canada and Eurasia result from a combination of higher average species threat levels and high values of RTCRE. Higher climate vulnerability scores in the Amazon region are primarily due to elevated species densities in the area, while those in Southeast Asia result from a combination of high average species threat levels and high species richness per km^2. Lowest climate vulnerability scores occur in the United Kingdom, southern Australia, and the southernmost regions of South America where both species richness and RTCRE values are low.

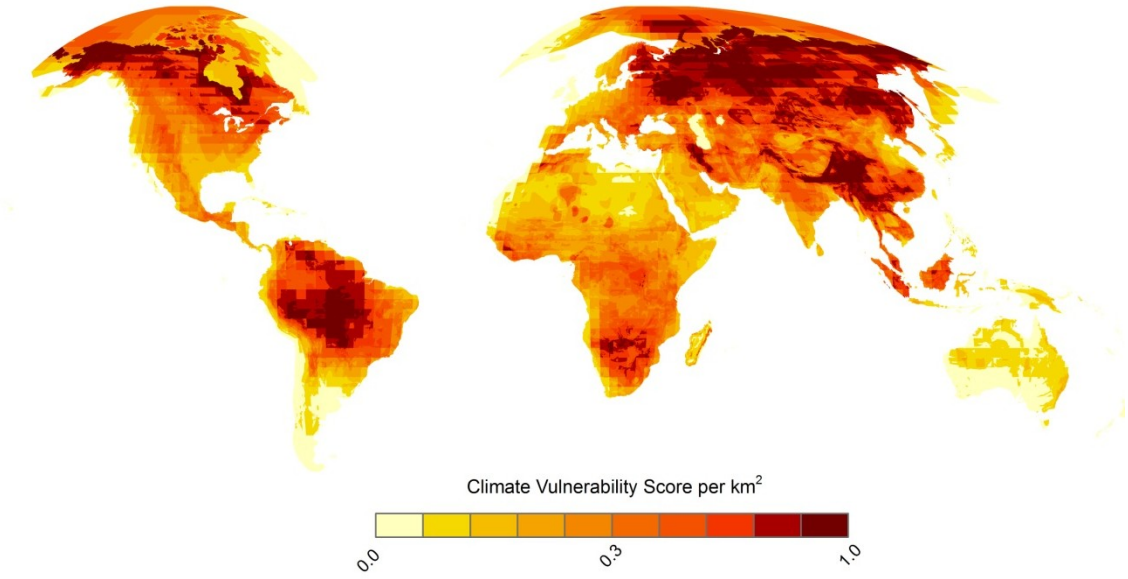


Figure 5-6. Climate vulnerability scores per km^2

Chapter 6 - Discussion

I. Overview

I quantified the expected change in mean annual temperature per Tt of carbon emissions across the range of each terrestrial mammal species, demonstrating the link between human activities and climate changes in natural habitats. I then identified species which may be of particular concern due to a high level of exposure to forthcoming climate change, particularly those which are already threatened with extinction (and may, therefore, be more sensitive and less able to adapt to changes in climate). Finally, I identified regions of terrestrial mammalian vulnerability to climate change – regions in which there is a high combination of terrestrial mammal species richness, average species extinction risk and expected exposure to climate change.

Numerous studies have already demonstrated the impacts that increasing and/or elevated temperatures can have on terrestrial mammal species. These include changes in the timing of breeding (Réale et al. 2003), increases in pregnancy failure (Beehner 2006), overall decreases in birth rates (Wiederholt & Post 2011), decreased body sizes (Post et al. 1997; Mason et al. 2014), increases in enforced resting time (Kosheleff & Anderson 2009; Korstjens et al. 2010), decreased traveling time (González-Zamora et al. 2011), range shifting (Moritz et al. 2008), changes in community compositions (Moritz et al. 2008), increasingly earlier dates of emergence from hibernation (Inouye et al. 2000), as well as increases in mortality rates (Mumby et al. 2013).

Other studies have shown the devastating impacts that severe weather and/or other climate-related events can have on individuals and populations of mammal species. Drought, flooding, heat waves, severe storms and forest fires (all of which are expected to increase and/or intensify with continued global warming (Webster et al. 2005; Kossin et al. 2007; Ganguly et al. 2009; Giorgi et al. 2011; Perkins et al. 2012; Dai 2013; Abatzoglou & Williams 2016)), may have both immediate and long-term effects on terrestrial mammal species. Such impacts may include habitat destruction (Pavelka et al. 2003; Levy 2005; Chambers et al. 2007), decreased quality and/or quantity of food supply (Singer et al. 1989; Behie & Pavelka 2005; Pavelka & Behie 2005; Levy 2005), disruption of social structures (Pavelka et al. 2003, 2007), increased risks of predation (Cheney et al. 2004), injury of individuals (Singer et al. 1989; Pavelka et al. 2003), immediate and/or longterm increases in mortality rates (Singer et al. 1989; Levy 2005; Morignat et al. 2014), as well as overall decreases in population size (Pavelka et al. 2003, 2007; Waite et al. 2007a).

The ability of species to adapt and persist in the face of such climatic changes will depend upon a variety of factors (many of which are already used in assessments of non-climate-related extinction risk, such as the IUCN Red List™) (Pearson et al. 2013). These factors include population size(s), range size and degree of fragmentation, individual body size, litter size, generation time, phenotypic plasticity, endemism, as well as the capacity for dispersal (Schloss et al. 2012; Pearson et al. 2013; McCain & King 2014; Urban 2015). Species which are already considered to be threatened with extinction due to existing external stressors and/or intrinsic vulnerabilities may become increasingly threatened by forthcoming changes in climate, the magnitude of which will be determined primarily by human decisions and actions with respect to greenhouse gas emissions (Karl & Trenberth 2003; Pearson et al. 2013).

II. Vulnerability to Climate Change due to Magnitude of Exposure

i. Temperature Changes by Species Range

Temperatures are expected to increase across the ranges of all terrestrial mammal species with continued carbon emissions. Generally speaking, species living in Arctic and mid-latitude continental interior regions are expected to experience the largest changes in annual average temperature, while species living in tropical and coastal areas are expected to experience smaller temperature changes. The majority of species are expected to be exposed to smaller changes in temperature (approximately 96 % of species ranges have an expected change of 2.5^{o}C/TtC or less), while the largest temperature changes are predicted for a smaller number of species (approximately 4 % of species ranges have an expected change of 2.5^{o}C/TtC or more).

ii. Temperature Changes by Red List™ Category

When considering temperature changes across various IUCN Red List™ categories, some of the highest changes are expected for species in the Data Deficient category (e.g. *Dicrostonyx vinogradovi* (the Wrangel Island collared lemming), *Lemmus portenkoi* (the Portenkoi lemming), and *Sorex portenkoi* (Portenko's shrew), species which play an essential role in northern ecosystems as a food source for many Arctic predators). Nearly 14 % of Earth's terrestrial mammals (726 species) are listed as Data

Deficient on the IUCN Red List™. Very little is known about the health of the population(s) of these species, their intrinsic vulnerabilities nor their susceptibility to external stressors. It is therefore difficult to estimate the degree of sensitivity and/or adaptive capacity that these species may have to forthcoming climate change, and, thus, it is essential that further research be done to assess the vulnerability of these species.

The current ranges of several Least Concern species are also expected to experience some of the highest temperature changes (e.g. *Lemmus sibiricus* (the brown lemming), *Dicrostonyx torquatus* (the Arctic lemming), *Microtus middendorffii* (Middendorff's vole) and *Marmota broweri* (the Alaska marmot)). While populations of these species are currently known to be healthy (and may therefore be more resilient than others in the face of increasing temperatures), large temperature changes and/or extreme events associated with such temperature changes could lead to a decrease in resilience. In addition, some Least Concern species may not be currently threatened by any external stressors and, therefore, it may be difficult to ascertain the degree to which these species are sensitive to environmental stress and whether or not they would be able to adapt to rapid environmental shifts, particularly changes in climate. Similarly, Near Threatened species may become threatened if they are unable to adapt to climate change.

Of greatest concern, however, are species which are already threatened with extinction (Vulnerable, Endangered or Critically Endangered on the IUCN Red List™). These species are already facing issues such as declines in the number of individuals and/or the number of populations, as well as range fragmentation and reduction, making them potentially less resilient to additional stressors such as changes in climate. Though the expected temperature changes in regions inhabited by threatened species is slightly lower on average (compared with those of the non-threatened categories), the sensitivity of these species to external pressures may result in a weakened capacity for adaptation to even the slightest degree of climate change and, thus, potentially, an accelerated risk of extinction.

iii. Temperature Changes by Mammal Order

When considering climate changes for mammal orders on the whole, the order Lagomorpha (consisting of 92 species of hares, rabbits and pikas, nearly 20 % of which are already threatened, and nearly 9 % of which are currently characterized as Data Deficient) has the highest expected overall average temperature change, with expected temperature changes of greater than the terrestrial mammal

average for nearly 80 % of the species in the order. The order Rodentia (consisting of 2206 species of rodents, nearly 16 % of which are already threatened, and more than 16 % of which are Data Deficient) has both the highest maximum and lowest minimum expected temperature changes (and therefore the largest range), as well as the highest number of species with expected temperature changes greater than the overall mean for terrestrial mammals. All species of the orders Notoryctemorphia (consisting of two species of marsupial moles, both of which are classified as Data Deficient) and Tubulidentata (consisting of one species – the aardvark, classified as Least Concern) have expected temperature changes of greater than the terrestrial mammal mean.

Orders with a smaller number of species (such as Dermoptera (flying lemurs), Hyracoidea (hyraxes or dassies), Microbiotheria (the monito del monte), Monotremata (the platypus and spiny anteaters), Notoryctemorphia (marsupial moles), Proboscidea (elephants), and Tubulidentata (the aardvark) – all of which consist of five species or less per order) may be more at risk with forthcoming climate change, particularly if many of the species within the order are already threatened with extinction. For example, three out of five species of the order Monotremata are currently listed as Critically Endangered on the IUCN Red List™. Both species of the order Proboscidea are currently threatened with extinction (one species is ranked as Vulnerable and the other as Endangered). In the case of the order Notoryctemorphia, both species are currently listed as Data Deficient (so it is not currently possible to assess their levels of sensitivity to environmental change).

III. Vulnerability to Climate Change due to High Local Species Density

The richness of terrestrial mammal species is greatest in equatorial and tropical locations and lower at higher latitudes. Regions of higher species richness (such as the Amazon basin, central Africa, and portions of Southeast Asia) may represent areas in which mammals are highly vulnerable to climate change in that even a single, severe climate-related event (e.g. a heat wave, drought, flooding, hurricane, etc.) could have devastating impacts on large numbers of species (Ameca y Juárez et al. 2013).

Similarly, for mammal orders as a whole, those with higher absolute numbers or proportions of species concentrated in one particular location may be more vulnerable to the effects of climate change. The orders Chiroptera (bats) and Rodentia (rodents) each have locations wherein species are found in large absolute numbers (with 121 and 60 species, respectively). Local climate changes and/or severe climatic events in these areas of high species richness could therefore have impacts on large numbers of

species in each order. Orders with only a few species may be even more at risk in this context, particularly when many or all of the species of the order (i.e. high proportions) are concentrated in a given location. The orders Notoryctemorphia (marsupial moles), Proboscidea (elephants), Microbiotheria (the monito del monte), and Tubulidentata (the aardvark) each have only one or two species and these species are often found to be co-existing in the same location. If climate changes and/or climate-related events are severe in these locations and species are unable to adapt to these changes or events, the orders themselves may face extinction.

IV. Vulnerability to Climate Change due to High Local Average Threat Level

Highest average species threat levels occur in high northern latitudes, along the western coastal regions of South America, northern Africa, Madagascar and large swaths of Asia. Lowest average threat levels occur largely in North America, Russia and central Australia. In general, the spatial distribution of extinction risk appears to potentially minimize the effects of localized climate threats: the maximum number of Critically Endangered species in a given location is four, representing only 2.1 % of Critically Endangered species in one location. Similarly, the maximum numbers of Vulnerable and Endangered species are 25 and 11, respectively (only 5.1 % and 2.4 % of the species in each of these categories). In other words, if climate changes in a local area were significant, only a small number of species from each threat category would be affected in that area. Least Concern species, on the other hand, may become threatened simply due to the concentration of a large number of species in one area. As many as 183 Least Concern species can be found co-existing in a given location. If extreme climatic events were to occur in these locations of high species density, large numbers of Least Concern species could be affected.

V. Hotspots of Vulnerability to Climate Change

When expected temperature change, species richness and species threat levels are assessed together, regions of overall mammalian vulnerability to climate change emerge. These include the northernmost coasts of North America, central regions of South America, large areas of Russia and locations in East Asia. Such regions and the species inhabiting these regions should be prioritized for more intensive research and conservation planning measures with forthcoming climate change.

VI. Limitations and Future Research

I have assumed in this study that larger amounts of exposure to climate change (i.e. higher temperature changes) will equate to greater vulnerability to climate change. However, species that are found in areas where temperature changes are expected to be the largest (such as the Arctic and mid-latitude continental interiors) are already adapted to a wider range of temperatures, and may therefore have a greater capacity to adapt to larger amounts of climate change. Conversely, species living in areas such as tropical and coastal locations, where temperature changes are expected to be smaller in magnitude, may have a lower capacity to adapt to even the slightest of changes as they are currently adapted to a very narrow range of temperatures. In fact, tropical areas (where the magnitude of temperature change is expected to be lower in absolute value than in higher latitudes) are expected to experience climate changes exceeding historical ranges far more quickly than other regions, allowing less time for adaptation to occur (Mora et al. 2013). Risk of exposure to extreme climatic events is also much higher in these areas (Ameca y Juárez et al. 2013). Future research should include a comparison of the historical range of temperatures across each species range with the magnitude of change expected for the area in the future as a means of assessing each species' capacity to withstand future changes in climate (i.e. if future change falls within the range of historical variability, the species is more likely to adapt to changes in climate than if future changes far exceed historical norms).

Climate variables other than annual average temperature, such as monthly averages, daily maximums, consecutive days of sustained elevated temperatures, as well as various measures of precipitation and humidity could also be assessed using methods similar to those that I have used in this study. Such work could provide a more accurate picture of local climate changes and could be compared with the climate tolerances of individual species.

Much work is also needed in assessing the sensitivity and adaptive capacity of individual species to climate change. Data Deficient species are of particular concern in this regard as we do not have even a baseline indicator of the current health of their populations, let alone any understanding of how these species might respond to future climate change.

Conclusion

In this study, I have attempted to evaluate the vulnerability of terrestrial mammal species to anthropogenic climate change. I have quantified the magnitude of climate change to which each species will be exposed, and ranked species according to their expected exposure. Of the species whose ranges are expected to experience the highest magnitudes of climate change, I have identified those which are already threatened with extinction (and may, therefore, be more sensitive and less capable of adapting to changes in climate). In addition, I have determined hotspots of terrestrial mammalian vulnerability to climate change by identifying regions in which there is a high combination of terrestrial mammal species richness and/or average species extinction risk and/or expected magnitude of climate change exposure.

In general, species which are already at risk of extinction due to non-climate factors (whether intrinsic, extrinsic or both), are likely to be more vulnerable to the effects of anthropogenic climate change (Keith et al. 2014). Both high absolute changes in climate (which I have evaluated here) as well as significant changes from historical climate regimes (which need to be evaluated in future research) may prove to be problematic in terms of species vulnerability to climate change (particularly if those changes occur at a very rapid pace) (Mora et al. 2013). Extreme climatic events (which are expected to increase in frequency and/or abundance with continued climate change) are also an important concern, particularly for hotspot locations wherein a high number of species with an already-elevated average extinction risk are found (Ameca y Juárez et al. 2013).

Clearly, significant and rapid reductions of carbon dioxide and other greenhouse gas emissions are essential in mitigating climate change and its impacts on biodiversity (Warren et al. 2013). However, even if all emissions were to cease immediately, climate changes would continue to occur for centuries, and possibly longer (Solomon et al. 2009). It is, therefore, highly likely that conservation actions will be necessary in helping species to adapt to changes in climate (Fordham et al. 2013). While the IUCN Red List™ assessments do provide a strong indicator of species' overall vulnerabilities, in-depth species assessments that include climate-related criterion will be essential in preparing for the future (Akçakaya et al. 2014). It is my hope that this study will serve as a guide in the identification of priority species and regions for future climate-focused conservation research and planning.

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Appendix

Mammal Order	Species	Red List™ Status	RTCRE (°C/TtC)
Afrosoricida	*Amblysomus corriae*	NT	1.62
Afrosoricida	*Amblysomus hottentotus*	LC	1.97
Afrosoricida	*Amblysomus marleyi*	EN	1.90
Afrosoricida	*Amblysomus robustus*	VU	2.12
Afrosoricida	*Amblysomus septentrionalis*	NT	2.13
Afrosoricida	*Calcochloris obtusirostris*	LC	2.03
Afrosoricida	*Calcochloris tytonis*	DD	1.68
Afrosoricida	*Carpitalpa arendsi*	VU	2.08
Afrosoricida	*Chlorotalpa duthieae*	VU	1.88
Afrosoricida	*Chlorotalpa sclateri*	LC	2.08
Afrosoricida	*Chrysochloris asiatica*	LC	1.42
Afrosoricida	*Chrysochloris stuhlmanni*	LC	1.91
Afrosoricida	*Chrysochloris visagiei*	DD	1.81
Afrosoricida	*Chrysospalax trevelyani*	EN	1.87
Afrosoricida	*Chrysospalax villosus*	VU	2.10
Afrosoricida	*Cryptochloris wintoni*	CR	1.48
Afrosoricida	*Cryptochloris zyli*	EN	1.37
Afrosoricida	*Echinops telfairi*	LC	1.56
Afrosoricida	*Eremitalpa granti*	LC	1.57
Afrosoricida	*Geogale aurita*	LC	1.56
Afrosoricida	*Hemicentetes nigriceps*	LC	1.75
Afrosoricida	*Hemicentetes semispinosus*	LC	1.68
Afrosoricida	*Huetia leucorhina*	DD	1.84
Afrosoricida	*Limnogale mergulus*	VU	1.73
Afrosoricida	*Microgale brevicaudata*	LC	1.46
Afrosoricida	*Microgale cowani*	LC	1.64
Afrosoricida	*Microgale dobsoni*	LC	1.65
Afrosoricida	*Microgale drouhardi*	LC	1.62
Afrosoricida	*Microgale dryas*	VU	1.62
Afrosoricida	*Microgale fotsifotsy*	LC	1.63
Afrosoricida	*Microgale gracilis*	LC	1.69
Afrosoricida	*Microgale gymnorhyncha*	LC	1.69
Afrosoricida	*Microgale jenkinsae*	EN	1.48
Afrosoricida	*Microgale jobihely*	EN	1.39
Afrosoricida	*Microgale longicaudata*	LC	1.43
Afrosoricida	*Microgale majori*	LC	1.64
Afrosoricida	*Microgale monticola*	VU	1.46
Afrosoricida	*Microgale nasoloi*	VU	1.47
Afrosoricida	*Microgale parvula*	LC	1.64

Afrosoricida	*Microgale principula*	LC	1.68
Afrosoricida	*Microgale pusilla*	LC	1.73
Afrosoricida	*Microgale soricoides*	LC	1.64
Afrosoricida	*Microgale taiva*	LC	1.68
Afrosoricida	*Microgale talazaci*	LC	1.64
Afrosoricida	*Microgale thomasi*	LC	1.74
Afrosoricida	*Micropotamogale lamottei*	EN	1.76
Afrosoricida	*Micropotamogale ruwenzorii*	NT	1.96
Afrosoricida	*Neamblysomus gunningi*	EN	2.13
Afrosoricida	*Neamblysomus julianae*	VU	2.08
Afrosoricida	*Oryzorictes hova*	LC	1.62
Afrosoricida	*Oryzorictes tetradactylus*	DD	1.80
Afrosoricida	*Potamogale velox*	LC	1.88
Afrosoricida	*Setifer setosus*	LC	1.61
Afrosoricida	*Tenrec ecaudatus*	LC	1.61
Carnivora	*Acinonyx jubatus*	VU	2.16
Carnivora	*Ailuropoda melanoleuca*	EN	2.18
Carnivora	*Ailurus fulgens*	VU	2.34
Carnivora	*Aonyx capensis*	LC	1.96
Carnivora	*Aonyx cinerea*	VU	1.76
Carnivora	*Aonyx congicus*	LC	1.87
Carnivora	*Arctictis binturong*	VU	1.68
Carnivora	*Arctogalidia trivirgata*	LC	1.64
Carnivora	*Arctonyx collaris*	NT	2.00
Carnivora	*Atelocynus microtis*	NT	2.08
Carnivora	*Atilax paludinosus*	LC	1.92
Carnivora	*Bassaricyon alleni*	LC	1.99
Carnivora	*Bassaricyon beddardi*	LC	2.08
Carnivora	*Bassaricyon gabbii*	LC	1.76
Carnivora	*Bassaricyon lasius*	DD	1.63
Carnivora	*Bassaricyon pauli*	DD	1.63
Carnivora	*Bassariscus astutus*	LC	2.02
Carnivora	*Bassariscus sumichrasti*	LC	1.78
Carnivora	*Bdeogale crassicauda*	LC	1.91
Carnivora	*Bdeogale jacksoni*	NT	1.79
Carnivora	*Bdeogale nigripes*	LC	1.85
Carnivora	*Bdeogale omnivora*	VU	1.71
Carnivora	*Canis adustus*	LC	1.96
Carnivora	*Canis aureus*	LC	2.05
Carnivora	*Canis latrans*	LC	2.60
Carnivora	*Canis lupus*	LC	2.84
Carnivora	*Canis mesomelas*	LC	1.96
Carnivora	*Canis simensis*	EN	1.94

Carnivora	*Caracal aurata*	NT	1.85
Carnivora	*Caracal caracal*	LC	2.05
Carnivora	*Catopuma badia*	EN	1.56
Carnivora	*Catopuma temminckii*	NT	1.87
Carnivora	*Cerdocyon thous*	LC	1.98
Carnivora	*Chrotogale owstoni*	VU	1.83
Carnivora	*Chrysocyon brachyurus*	NT	2.12
Carnivora	*Civettictis civetta*	LC	1.94
Carnivora	*Conepatus chinga*	LC	1.90
Carnivora	*Conepatus humboldtii*	LC	1.42
Carnivora	*Conepatus leuconotus*	LC	1.97
Carnivora	*Conepatus semistriatus*	LC	1.70
Carnivora	*Crocuta crocuta*	LC	1.96
Carnivora	*Crossarchus alexandri*	LC	1.94
Carnivora	*Crossarchus ansorgei*	DD	1.92
Carnivora	*Crossarchus obscurus*	LC	1.78
Carnivora	*Crossarchus platycephalus*	LC	1.75
Carnivora	*Cryptoprocta ferox*	VU	1.58
Carnivora	*Cuon alpinus*	EN	2.20
Carnivora	*Cynictis penicillata*	LC	2.10
Carnivora	*Cynogale bennettii*	EN	1.53
Carnivora	*Diplogale hosei*	VU	1.43
Carnivora	*Dologale dybowskii*	DD	1.95
Carnivora	*Eira barbara*	LC	2.01
Carnivora	*Enhydra lutris*	EN	2.34
Carnivora	*Eupleres goudotii*	NT	1.60
Carnivora	*Felis chaus*	LC	2.02
Carnivora	*Felis margarita*	NT	2.19
Carnivora	*Felis nigripes*	VU	2.14
Carnivora	*Felis silvestris*	LC	2.05
Carnivora	*Fossa fossana*	NT	1.62
Carnivora	*Galictis cuja*	LC	1.82
Carnivora	*Galictis vittata*	LC	1.99
Carnivora	*Galidia elegans*	LC	1.62
Carnivora	*Galidictis fasciata*	NT	1.68
Carnivora	*Galidictis grandidieri*	EN	1.48
Carnivora	*Genetta abyssinica*	LC	2.00
Carnivora	*Genetta angolensis*	LC	1.99
Carnivora	*Genetta bourloni*	NT	1.74
Carnivora	*Genetta cristata*	VU	1.71
Carnivora	*Genetta genetta*	LC	1.99
Carnivora	*Genetta johnstoni*	VU	1.72
Carnivora	*Genetta maculata*	LC	1.93

Carnivora	*Genetta pardina*	LC	1.84
Carnivora	*Genetta piscivora*	DD	1.94
Carnivora	*Genetta poensis*	DD	1.75
Carnivora	*Genetta servalina*	LC	1.87
Carnivora	*Genetta thierryi*	LC	1.89
Carnivora	*Genetta tigrina*	LC	1.78
Carnivora	*Genetta victoriae*	LC	1.95
Carnivora	*Gulo gulo*	LC	3.33
Carnivora	*Helarctos malayanus*	VU	1.64
Carnivora	*Helogale hirtula*	LC	1.80
Carnivora	*Helogale parvula*	LC	1.94
Carnivora	*Hemigalus derbyanus*	VU	1.52
Carnivora	*Herpailurus yagouaroundi*	LC	1.97
Carnivora	*Herpestes brachyurus*	LC	1.52
Carnivora	*Herpestes edwardsii*	LC	1.99
Carnivora	*Herpestes flavescens*	LC	1.70
Carnivora	*Herpestes fuscus*	VU	1.47
Carnivora	*Herpestes ichneumon*	LC	1.95
Carnivora	*Herpestes javanicus*	LC	2.03
Carnivora	*Herpestes naso*	LC	1.86
Carnivora	*Herpestes ochraceus*	LC	1.83
Carnivora	*Herpestes pulverulentus*	LC	1.94
Carnivora	*Herpestes sanguineus*	LC	1.97
Carnivora	*Herpestes semitorquatus*	DD	1.54
Carnivora	*Herpestes smithii*	LC	1.79
Carnivora	*Herpestes urva*	LC	1.55
Carnivora	*Herpestes vitticollis*	LC	1.49
Carnivora	*Hyaena brunnea*	NT	2.10
Carnivora	*Hyaena hyaena*	NT	2.08
Carnivora	*Ichneumia albicauda*	LC	1.98
Carnivora	*Ictonyx libyca*	LC	1.99
Carnivora	*Ictonyx striatus*	LC	1.99
Carnivora	*Leopardus colocolo*	NT	1.85
Carnivora	*Leopardus geoffroyi*	NT	1.69
Carnivora	*Leopardus guigna*	VU	1.28
Carnivora	*Leopardus jacobita*	EN	2.04
Carnivora	*Leopardus pardalis*	LC	2.00
Carnivora	*Leopardus tigrinus*	VU	2.04
Carnivora	*Leopardus wiedii*	NT	2.01
Carnivora	*Leptailurus serval*	LC	1.96
Carnivora	*Liberiictis kuhni*	VU	1.72
Carnivora	*Lontra canadensis*	LC	2.86
Carnivora	*Lontra felina*	EN	1.27

Carnivora	*Lontra longicaudis*	DD	2.00
Carnivora	*Lontra provocax*	EN	1.37
Carnivora	*Lutra lutra*	NT	2.43
Carnivora	*Lutra maculicollis*	LC	1.92
Carnivora	*Lutra sumatrana*	EN	1.50
Carnivora	*Lutrogale perspicillata*	VU	1.78
Carnivora	*Lycaon pictus*	EN	2.09
Carnivora	*Lyncodon patagonicus*	DD	1.63
Carnivora	*Lynx canadensis*	LC	3.08
Carnivora	*Lynx lynx*	LC	2.92
Carnivora	*Lynx pardinus*	CR	1.53
Carnivora	*Lynx rufus*	LC	2.24
Carnivora	*Macrogalidia musschenbroekii*	VU	1.45
Carnivora	*Martes americana*	LC	3.01
Carnivora	*Martes flavigula*	LC	1.94
Carnivora	*Martes foina*	LC	2.26
Carnivora	*Martes gwatkinsii*	VU	1.48
Carnivora	*Martes martes*	LC	2.41
Carnivora	*Martes melampus*	LC	1.84
Carnivora	*Martes pennanti*	LC	2.79
Carnivora	*Martes zibellina*	LC	3.14
Carnivora	*Meles anakuma*	LC	1.84
Carnivora	*Meles leucurus*	LC	2.60
Carnivora	*Meles meles*	LC	2.24
Carnivora	*Mellivora capensis*	LC	2.00
Carnivora	*Melogale everetti*	DD	1.35
Carnivora	*Melogale moschata*	LC	1.97
Carnivora	*Melogale orientalis*	DD	1.43
Carnivora	*Melogale personata*	DD	1.76
Carnivora	*Melursus ursinus*	VU	1.83
Carnivora	*Mephitis macroura*	LC	1.94
Carnivora	*Mephitis mephitis*	LC	2.47
Carnivora	*Mungos gambianus*	LC	1.84
Carnivora	*Mungos mungo*	LC	1.94
Carnivora	*Mungotictis decemlineata*	VU	1.47
Carnivora	*Mustela africana*	LC	2.02
Carnivora	*Mustela altaica*	NT	2.48
Carnivora	*Mustela erminea*	LC	2.96
Carnivora	*Mustela eversmanii*	LC	2.55
Carnivora	*Mustela felipei*	VU	1.55
Carnivora	*Mustela frenata*	LC	2.19
Carnivora	*Mustela itatsi*	LC	1.84
Carnivora	*Mustela kathiah*	LC	1.99

Carnivora	*Mustela lutreola*	CR	2.87
Carnivora	*Mustela lutreolina*	DD	1.40
Carnivora	*Mustela nivalis*	LC	2.89
Carnivora	*Mustela nudipes*	LC	1.52
Carnivora	*Mustela putorius*	LC	2.30
Carnivora	*Mustela sibirica*	LC	2.63
Carnivora	*Mustela strigidorsa*	LC	1.99
Carnivora	*Mustela subpalmata*	LC	1.60
Carnivora	*Mydaus javanensis*	LC	1.52
Carnivora	*Mydaus marchei*	LC	1.33
Carnivora	*Nandinia binotata*	LC	1.87
Carnivora	*Nasua narica*	LC	1.85
Carnivora	*Nasua nasua*	LC	2.07
Carnivora	*Nasuella olivacea*	DD	1.81
Carnivora	*Neofelis diardi*	VU	1.53
Carnivora	*Neofelis nebulosa*	VU	1.99
Carnivora	*Neovison vison*	LC	2.80
Carnivora	*Nyctereutes procyonoides*	LC	2.28
Carnivora	*Otocolobus manul*	NT	2.47
Carnivora	*Otocyon megalotis*	LC	1.97
Carnivora	*Paguma larvata*	LC	1.91
Carnivora	*Panthera leo*	VU	1.96
Carnivora	*Panthera onca*	NT	2.00
Carnivora	*Panthera pardus*	NT	1.98
Carnivora	*Panthera tigris*	EN	1.83
Carnivora	*Panthera uncia*	EN	2.49
Carnivora	*Paracynictis selousi*	LC	2.11
Carnivora	*Paradoxurus hermaphroditus*	LC	1.77
Carnivora	*Paradoxurus jerdoni*	LC	1.49
Carnivora	*Paradoxurus zeylonensis*	VU	1.42
Carnivora	*Pardofelis marmorata*	VU	1.74
Carnivora	*Poecilogale albinucha*	LC	2.00
Carnivora	*Poiana leightoni*	DD	1.71
Carnivora	*Poiana richardsonii*	LC	1.84
Carnivora	*Potos flavus*	LC	2.00
Carnivora	*Prionailurus bengalensis*	LC	1.99
Carnivora	*Prionailurus planiceps*	EN	1.51
Carnivora	*Prionailurus rubiginosus*	VU	1.79
Carnivora	*Prionailurus viverrinus*	EN	1.70
Carnivora	*Prionodon linsang*	LC	1.53
Carnivora	*Prionodon pardicolor*	LC	2.01
Carnivora	*Procyon cancrivorus*	LC	2.01
Carnivora	*Procyon lotor*	LC	2.28

Carnivora	*Procyon pygmaeus*	CR	1.38
Carnivora	*Proteles cristata*	LC	1.99
Carnivora	*Pseudalopex culpaeus*	LC	1.76
Carnivora	*Pseudalopex fulvipes*	CR	1.05
Carnivora	*Pseudalopex griseus*	LC	1.56
Carnivora	*Pseudalopex gymnocercus*	LC	1.79
Carnivora	*Pseudalopex sechurae*	NT	1.55
Carnivora	*Pseudalopex vetulus*	LC	2.13
Carnivora	*Pteronura brasiliensis*	EN	2.10
Carnivora	*Puma concolor*	LC	2.03
Carnivora	*Rhynchogale melleri*	LC	2.02
Carnivora	*Salanoia concolor*	VU	1.63
Carnivora	*Speothos venaticus*	NT	2.04
Carnivora	*Spilogale angustifrons*	LC	1.82
Carnivora	*Spilogale gracilis*	LC	2.10
Carnivora	*Spilogale putorius*	LC	2.23
Carnivora	*Spilogale pygmaea*	VU	1.71
Carnivora	*Suricata suricatta*	LC	2.07
Carnivora	*Taxidea taxus*	LC	2.33
Carnivora	*Tremarctos ornatus*	VU	1.85
Carnivora	*Urocyon cinereoargenteus*	LC	2.12
Carnivora	*Urocyon littoralis*	NT	1.49
Carnivora	*Ursus americanus*	LC	2.90
Carnivora	*Ursus arctos*	LC	3.16
Carnivora	*Ursus maritimus*	VU	4.09
Carnivora	*Ursus thibetanus*	VU	2.23
Carnivora	*Viverra civettina*	CR	1.45
Carnivora	*Viverra megaspila*	VU	1.76
Carnivora	*Viverra tangalunga*	LC	1.50
Carnivora	*Viverra zibetha*	NT	1.90
Carnivora	*Viverricula indica*	LC	1.92
Carnivora	*Vormela peregusna*	VU	2.39
Carnivora	*Vulpes bengalensis*	LC	1.98
Carnivora	*Vulpes cana*	LC	2.27
Carnivora	*Vulpes chama*	LC	2.08
Carnivora	*Vulpes corsac*	LC	2.53
Carnivora	*Vulpes ferrilata*	LC	2.44
Carnivora	*Vulpes lagopus*	LC	3.71
Carnivora	*Vulpes macrotis*	LC	2.08
Carnivora	*Vulpes pallida*	LC	2.07
Carnivora	*Vulpes rueppellii*	LC	2.15
Carnivora	*Vulpes velox*	LC	2.22
Carnivora	*Vulpes vulpes*	LC	2.66

Carnivora	*Vulpes zerda*	LC	2.11
Cetartiodactyla	*Addax nasomaculatus*	CR	2.21
Cetartiodactyla	*Aepyceros melampus*	LC	2.00
Cetartiodactyla	*Alcelaphus buselaphus*	LC	2.00
Cetartiodactyla	*Alces alces*	LC	2.97
Cetartiodactyla	*Alces americanus*	LC	3.11
Cetartiodactyla	*Ammodorcas clarkei*	VU	1.78
Cetartiodactyla	*Ammotragus lervia*	VU	2.06
Cetartiodactyla	*Antidorcas marsupialis*	LC	2.07
Cetartiodactyla	*Antilocapra americana*	LC	2.33
Cetartiodactyla	*Antilope cervicapra*	NT	1.87
Cetartiodactyla	*Arabitragus jayakari*	EN	2.10
Cetartiodactyla	*Axis axis*	LC	1.84
Cetartiodactyla	*Axis calamianensis*	EN	1.34
Cetartiodactyla	*Axis kuhlii*	CR	1.38
Cetartiodactyla	*Axis porcinus*	EN	2.12
Cetartiodactyla	*Babyrousa babyrussa*	VU	1.37
Cetartiodactyla	*Babyrousa celebensis*	VU	1.46
Cetartiodactyla	*Babyrousa togeanensis*	EN	1.37
Cetartiodactyla	*Beatragus hunteri*	CR	1.70
Cetartiodactyla	*Bison bison*	NT	2.97
Cetartiodactyla	*Blastocerus dichotomus*	VU	2.24
Cetartiodactyla	*Bos gaurus*	VU	1.81
Cetartiodactyla	*Bos javanicus*	EN	1.61
Cetartiodactyla	*Bos mutus*	VU	2.47
Cetartiodactyla	*Boselaphus tragocamelus*	LC	1.94
Cetartiodactyla	*Bubalus arnee*	EN	1.90
Cetartiodactyla	*Bubalus depressicornis*	EN	1.46
Cetartiodactyla	*Bubalus mindorensis*	CR	1.35
Cetartiodactyla	*Bubalus quarlesi*	EN	1.47
Cetartiodactyla	*Budorcas taxicolor*	VU	2.30
Cetartiodactyla	*Camelus ferus*	CR	2.49
Cetartiodactyla	*Capra aegagrus*	VU	2.28
Cetartiodactyla	*Capra caucasica*	EN	1.87
Cetartiodactyla	*Capra cylindricornis*	NT	2.06
Cetartiodactyla	*Capra falconeri*	EN	2.47
Cetartiodactyla	*Capra ibex*	LC	1.90
Cetartiodactyla	*Capra nubiana*	VU	2.10
Cetartiodactyla	*Capra pyrenaica*	LC	1.99
Cetartiodactyla	*Capra sibirica*	LC	2.51
Cetartiodactyla	*Capra walie*	EN	2.12
Cetartiodactyla	*Capreolus capreolus*	LC	2.17
Cetartiodactyla	*Capreolus pygargus*	LC	2.66

Cetartiodactyla	*Capricornis crispus*	LC	1.86
Cetartiodactyla	*Capricornis milneedwardsii*	NT	1.99
Cetartiodactyla	*Capricornis rubidus*	NT	1.99
Cetartiodactyla	*Capricornis sumatraensis*	VU	1.45
Cetartiodactyla	*Capricornis swinhoei*	LC	1.47
Cetartiodactyla	*Capricornis thar*	NT	2.23
Cetartiodactyla	*Catagonus wagneri*	EN	2.09
Cetartiodactyla	*Cephalophus adersi*	CR	1.69
Cetartiodactyla	*Cephalophus callipygus*	LC	1.72
Cetartiodactyla	*Cephalophus dorsalis*	LC	1.84
Cetartiodactyla	*Cephalophus harveyi*	LC	1.83
Cetartiodactyla	*Cephalophus jentinki*	EN	1.67
Cetartiodactyla	*Cephalophus leucogaster*	LC	1.81
Cetartiodactyla	*Cephalophus natalensis*	LC	1.89
Cetartiodactyla	*Cephalophus niger*	LC	1.80
Cetartiodactyla	*Cephalophus nigrifrons*	LC	1.87
Cetartiodactyla	*Cephalophus ogilbyi*	LC	1.70
Cetartiodactyla	*Cephalophus rufilatus*	LC	1.93
Cetartiodactyla	*Cephalophus silvicultor*	LC	1.89
Cetartiodactyla	*Cephalophus spadix*	EN	1.82
Cetartiodactyla	*Cephalophus weynsi*	LC	1.93
Cetartiodactyla	*Cephalophus zebra*	VU	1.70
Cetartiodactyla	*Cervus albirostris*	VU	2.39
Cetartiodactyla	*Cervus elaphus*	LC	2.35
Cetartiodactyla	*Cervus nippon*	LC	1.95
Cetartiodactyla	*Choeropsis liberiensis*	EN	1.76
Cetartiodactyla	*Connochaetes gnou*	LC	2.17
Cetartiodactyla	*Connochaetes taurinus*	LC	2.14
Cetartiodactyla	*Dama dama*	LC	2.05
Cetartiodactyla	*Dama mesopotamica*	EN	2.38
Cetartiodactyla	*Damaliscus lunatus*	LC	2.06
Cetartiodactyla	*Damaliscus pygargus*	LC	2.13
Cetartiodactyla	*Dorcatragus megalotis*	VU	1.80
Cetartiodactyla	*Elaphodus cephalophus*	NT	2.04
Cetartiodactyla	*Eudorcas albonotata*	LC	1.87
Cetartiodactyla	*Eudorcas rufifrons*	VU	2.05
Cetartiodactyla	*Eudorcas thomsonii*	NT	1.80
Cetartiodactyla	*Gazella bennettii*	LC	2.17
Cetartiodactyla	*Gazella cuvieri*	EN	1.81
Cetartiodactyla	*Gazella dorcas*	VU	2.10
Cetartiodactyla	*Gazella gazella*	VU	2.04
Cetartiodactyla	*Gazella leptoceros*	EN	2.15
Cetartiodactyla	*Gazella spekei*	EN	1.84

Cetartiodactyla	*Gazella subgutturosa*	VU	2.37
Cetartiodactyla	*Giraffa camelopardalis*	LC	2.00
Cetartiodactyla	*Hemitragus jemlahicus*	NT	2.47
Cetartiodactyla	*Hippocamelus antisensis*	VU	2.04
Cetartiodactyla	*Hippocamelus bisulcus*	EN	1.20
Cetartiodactyla	*Hippopotamus amphibius*	VU	1.94
Cetartiodactyla	*Hippotragus equinus*	LC	2.00
Cetartiodactyla	*Hippotragus niger*	LC	2.01
Cetartiodactyla	*Hydropotes inermis*	VU	2.01
Cetartiodactyla	*Hyemoschus aquaticus*	LC	1.84
Cetartiodactyla	*Hylochoerus meinertzhageni*	LC	1.87
Cetartiodactyla	*Kobus ellipsiprymnus*	LC	1.96
Cetartiodactyla	*Kobus kob*	LC	1.93
Cetartiodactyla	*Kobus leche*	LC	2.18
Cetartiodactyla	*Kobus megaceros*	EN	1.85
Cetartiodactyla	*Kobus vardonii*	NT	2.04
Cetartiodactyla	*Lama guanicoe*	LC	1.67
Cetartiodactyla	*Litocranius walleri*	NT	1.82
Cetartiodactyla	*Madoqua guentheri*	LC	1.83
Cetartiodactyla	*Madoqua kirkii*	LC	1.82
Cetartiodactyla	*Madoqua piacentinii*	DD	1.69
Cetartiodactyla	*Madoqua saltiana*	LC	1.87
Cetartiodactyla	*Mazama americana*	DD	2.05
Cetartiodactyla	*Mazama bororo*	VU	1.93
Cetartiodactyla	*Mazama bricenii*	VU	1.98
Cetartiodactyla	*Mazama chunyi*	VU	2.04
Cetartiodactyla	*Mazama gouazoubira*	LC	1.95
Cetartiodactyla	*Mazama nana*	DD	1.98
Cetartiodactyla	*Mazama nemorivaga*	LC	2.05
Cetartiodactyla	*Mazama pandora*	VU	1.56
Cetartiodactyla	*Mazama rufina*	VU	1.60
Cetartiodactyla	*Mazama temama*	DD	1.72
Cetartiodactyla	*Moschiola indica*	LC	1.84
Cetartiodactyla	*Moschiola kathygre*	LC	1.41
Cetartiodactyla	*Moschiola meminna*	LC	1.46
Cetartiodactyla	*Moschus anhuiensis*	EN	2.08
Cetartiodactyla	*Moschus berezovskii*	EN	2.07
Cetartiodactyla	*Moschus chrysogaster*	EN	2.41
Cetartiodactyla	*Moschus cupreus*	EN	2.60
Cetartiodactyla	*Moschus fuscus*	EN	2.46
Cetartiodactyla	*Moschus leucogaster*	EN	2.48
Cetartiodactyla	*Moschus moschiferus*	VU	2.77
Cetartiodactyla	*Muntiacus atherodes*	LC	1.54

Cetartiodactyla	*Muntiacus crinifrons*	VU	1.99
Cetartiodactyla	*Muntiacus feae*	DD	1.62
Cetartiodactyla	*Muntiacus gongshanensis*	DD	2.30
Cetartiodactyla	*Muntiacus montanus*	DD	1.47
Cetartiodactyla	*Muntiacus muntjak*	LC	1.51
Cetartiodactyla	*Muntiacus puhoatensis*	DD	1.84
Cetartiodactyla	*Muntiacus putaoensis*	DD	2.03
Cetartiodactyla	*Muntiacus reevesi*	LC	2.00
Cetartiodactyla	*Muntiacus rooseveltorum*	DD	1.89
Cetartiodactyla	*Muntiacus truongsonensis*	DD	1.58
Cetartiodactyla	*Muntiacus vaginalis*	LC	1.86
Cetartiodactyla	*Muntiacus vuquangensis*	EN	1.60
Cetartiodactyla	*Naemorhedus baileyi*	VU	2.41
Cetartiodactyla	*Naemorhedus caudatus*	VU	2.41
Cetartiodactyla	*Naemorhedus goral*	NT	2.46
Cetartiodactyla	*Naemorhedus griseus*	VU	2.06
Cetartiodactyla	*Nanger dama*	CR	2.17
Cetartiodactyla	*Nanger granti*	LC	1.81
Cetartiodactyla	*Nanger soemmerringii*	VU	1.96
Cetartiodactyla	*Neotragus batesi*	LC	1.76
Cetartiodactyla	*Neotragus pygmaeus*	LC	1.76
Cetartiodactyla	*Nesotragus moschatus*	LC	1.89
Cetartiodactyla	*Nilgiritragus hylocrius*	EN	1.49
Cetartiodactyla	*Odocoileus hemionus*	LC	2.34
Cetartiodactyla	*Odocoileus virginianus*	LC	2.26
Cetartiodactyla	*Okapia johnstoni*	EN	1.95
Cetartiodactyla	*Oreamnos americanus*	LC	2.60
Cetartiodactyla	*Oreotragus oreotragus*	LC	1.94
Cetartiodactyla	*Oryx beisa*	NT	1.84
Cetartiodactyla	*Oryx gazella*	LC	2.11
Cetartiodactyla	*Ourebia ourebi*	LC	1.98
Cetartiodactyla	*Ovibos moschatus*	LC	3.87
Cetartiodactyla	*Ovis ammon*	NT	2.50
Cetartiodactyla	*Ovis canadensis*	LC	2.19
Cetartiodactyla	*Ovis dalli*	LC	3.29
Cetartiodactyla	*Ovis nivicola*	LC	3.47
Cetartiodactyla	*Ovis orientalis*	VU	2.33
Cetartiodactyla	*Ozotoceros bezoarticus*	NT	2.19
Cetartiodactyla	*Pantholops hodgsonii*	EN	2.49
Cetartiodactyla	*Pecari tajacu*	LC	1.99
Cetartiodactyla	*Pelea capreolus*	LC	1.93
Cetartiodactyla	*Phacochoerus aethiopicus*	LC	1.81
Cetartiodactyla	*Phacochoerus africanus*	LC	1.97

Cetartiodactyla	*Philantomba maxwellii*	LC	1.82
Cetartiodactyla	*Philantomba monticola*	LC	1.90
Cetartiodactyla	*Porcula salvania*	CR	1.93
Cetartiodactyla	*Potamochoerus larvatus*	LC	1.96
Cetartiodactyla	*Potamochoerus porcus*	LC	1.87
Cetartiodactyla	*Procapra gutturosa*	LC	2.48
Cetartiodactyla	*Procapra picticaudata*	NT	2.45
Cetartiodactyla	*Procapra przewalskii*	EN	2.32
Cetartiodactyla	*Pseudoryx nghetinhensis*	CR	1.67
Cetartiodactyla	*Pudu mephistophiles*	VU	1.67
Cetartiodactyla	*Pudu puda*	VU	1.28
Cetartiodactyla	*Rangifer tarandus*	LC	3.44
Cetartiodactyla	*Raphicerus campestris*	LC	2.06
Cetartiodactyla	*Raphicerus melanotis*	LC	1.70
Cetartiodactyla	*Raphicerus sharpei*	LC	2.01
Cetartiodactyla	*Redunca arundinum*	LC	1.99
Cetartiodactyla	*Redunca fulvorufula*	LC	1.99
Cetartiodactyla	*Redunca redunca*	LC	1.93
Cetartiodactyla	*Rucervus duvaucelii*	VU	2.19
Cetartiodactyla	*Rucervus eldii*	EN	1.74
Cetartiodactyla	*Rupicapra pyrenaica*	LC	1.73
Cetartiodactyla	*Rupicapra rupicapra*	LC	1.99
Cetartiodactyla	*Rusa alfredi*	EN	1.36
Cetartiodactyla	*Rusa marianna*	VU	1.43
Cetartiodactyla	*Rusa timorensis*	VU	1.42
Cetartiodactyla	*Rusa unicolor*	VU	1.83
Cetartiodactyla	*Saiga tatarica*	CR	2.53
Cetartiodactyla	*Sus ahoenobarbus*	VU	1.34
Cetartiodactyla	*Sus barbatus*	VU	1.55
Cetartiodactyla	*Sus cebifrons*	CR	1.36
Cetartiodactyla	*Sus celebensis*	NT	1.44
Cetartiodactyla	*Sus oliveri*	EN	1.36
Cetartiodactyla	*Sus philippensis*	VU	1.43
Cetartiodactyla	*Sus scrofa*	LC	2.22
Cetartiodactyla	*Sus verrucosus*	EN	1.44
Cetartiodactyla	*Sylvicapra grimmia*	LC	1.97
Cetartiodactyla	*Syncerus caffer*	LC	1.92
Cetartiodactyla	*Tayassu pecari*	VU	2.07
Cetartiodactyla	*Tetracerus quadricornis*	VU	1.91
Cetartiodactyla	*Tragelaphus angasii*	LC	2.07
Cetartiodactyla	*Tragelaphus buxtoni*	EN	1.91
Cetartiodactyla	*Tragelaphus derbianus*	LC	1.98
Cetartiodactyla	*Tragelaphus eurycerus*	NT	1.89

Cetartiodactyla	*Tragelaphus imberbis*	NT	1.83
Cetartiodactyla	*Tragelaphus oryx*	LC	2.02
Cetartiodactyla	*Tragelaphus scriptus*	LC	1.94
Cetartiodactyla	*Tragelaphus spekii*	LC	1.91
Cetartiodactyla	*Tragelaphus strepsiceros*	LC	2.01
Cetartiodactyla	*Tragulus javanicus*	DD	1.44
Cetartiodactyla	*Tragulus kanchil*	LC	1.58
Cetartiodactyla	*Tragulus napu*	LC	1.52
Cetartiodactyla	*Tragulus nigricans*	EN	1.32
Cetartiodactyla	*Tragulus williamsoni*	DD	1.74
Cetartiodactyla	*Vicugna vicugna*	LC	2.00
Chiroptera	*Acerodon celebensis*	LC	1.44
Chiroptera	*Acerodon humilis*	EN	1.33
Chiroptera	*Acerodon jubatus*	EN	1.41
Chiroptera	*Acerodon leucotis*	VU	1.33
Chiroptera	*Acerodon mackloti*	VU	1.36
Chiroptera	*Aethalops aequalis*	LC	1.46
Chiroptera	*Aethalops alecto*	LC	1.49
Chiroptera	*Alionycteris paucidentata*	LC	1.48
Chiroptera	*Ametrida centurio*	LC	2.05
Chiroptera	*Amorphochilus schnablii*	EN	1.68
Chiroptera	*Anoura caudifer*	LC	2.00
Chiroptera	*Anoura cultrata*	NT	1.79
Chiroptera	*Anoura fistulata*	DD	1.64
Chiroptera	*Anoura geoffroyi*	LC	1.94
Chiroptera	*Anoura latidens*	LC	1.88
Chiroptera	*Anoura luismanueli*	LC	1.96
Chiroptera	*Anthops ornatus*	DD	1.33
Chiroptera	*Antrozous pallidus*	LC	2.04
Chiroptera	*Aproteles bulmerae*	CR	1.62
Chiroptera	*Ardops nichollsi*	LC	1.21
Chiroptera	*Arielulus aureocollaris*	LC	1.83
Chiroptera	*Arielulus circumdatus*	LC	1.91
Chiroptera	*Arielulus cuprosus*	DD	1.35
Chiroptera	*Arielulus societatis*	VU	1.52
Chiroptera	*Arielulus torquatus*	LC	1.51
Chiroptera	*Ariteus flavescens*	LC	1.32
Chiroptera	*Artibeus amplus*	LC	1.92
Chiroptera	*Artibeus anderseni*	LC	2.10
Chiroptera	*Artibeus aztecus*	LC	1.81
Chiroptera	*Artibeus cinereus*	LC	2.00
Chiroptera	*Artibeus concolor*	LC	2.01
Chiroptera	*Artibeus fimbriatus*	LC	1.91

Chiroptera	*Artibeus fraterculus*	LC	1.61
Chiroptera	*Artibeus glaucus*	LC	1.95
Chiroptera	*Artibeus gnomus*	LC	2.04
Chiroptera	*Artibeus hirsutus*	LC	1.75
Chiroptera	*Artibeus incomitatus*	CR	1.43
Chiroptera	*Artibeus inopinatus*	DD	1.82
Chiroptera	*Artibeus jamaicensis*	LC	1.65
Chiroptera	*Artibeus lituratus*	LC	1.98
Chiroptera	*Artibeus obscurus*	LC	2.04
Chiroptera	*Artibeus phaeotis*	LC	1.84
Chiroptera	*Artibeus planirostris*	LC	2.03
Chiroptera	*Artibeus rosenbergii*	DD	1.42
Chiroptera	*Artibeus toltecus*	LC	1.79
Chiroptera	*Artibeus watsoni*	LC	1.64
Chiroptera	*Asellia patrizii*	LC	1.98
Chiroptera	*Asellia tridens*	LC	2.12
Chiroptera	*Aselliscus stoliczkanus*	LC	1.85
Chiroptera	*Aselliscus tricuspidatus*	LC	1.44
Chiroptera	*Balantiopteryx infusca*	EN	1.36
Chiroptera	*Balantiopteryx io*	VU	1.87
Chiroptera	*Balantiopteryx plicata*	LC	1.81
Chiroptera	*Balionycteris maculata*	LC	1.51
Chiroptera	*Barbastella barbastellus*	NT	1.95
Chiroptera	*Barbastella leucomelas*	LC	2.28
Chiroptera	*Bauerus dubiaquercus*	NT	1.80
Chiroptera	*Brachyphylla cavernarum*	LC	1.25
Chiroptera	*Brachyphylla nana*	LC	1.38
Chiroptera	*Cardioderma cor*	LC	1.86
Chiroptera	*Carollia brevicauda*	LC	1.99
Chiroptera	*Carollia castanea*	LC	1.90
Chiroptera	*Carollia manu*	LC	2.01
Chiroptera	*Carollia perspicillata*	LC	1.99
Chiroptera	*Carollia sowelli*	LC	1.74
Chiroptera	*Carollia subrufa*	LC	1.84
Chiroptera	*Casinycteris argynnis*	LC	1.89
Chiroptera	*Centronycteris centralis*	LC	1.81
Chiroptera	*Centronycteris maximiliani*	LC	1.99
Chiroptera	*Centurio senex*	LC	1.76
Chiroptera	*Chalinolobus dwyeri*	NT	1.75
Chiroptera	*Chalinolobus gouldii*	LC	1.79
Chiroptera	*Chalinolobus morio*	LC	1.67
Chiroptera	*Chalinolobus neocaledonicus*	EN	1.29
Chiroptera	*Chalinolobus nigrogriseus*	LC	1.62

Chiroptera	*Chalinolobus picatus*	NT	1.82
Chiroptera	*Chalinolobus tuberculatus*	VU	1.54
Chiroptera	*Cheiromeles parvidens*	LC	1.43
Chiroptera	*Cheiromeles torquatus*	LC	1.52
Chiroptera	*Chilonatalus micropus*	NT	1.38
Chiroptera	*Chilonatalus tumidifrons*	NT	1.34
Chiroptera	*Chiroderma doriae*	LC	2.00
Chiroptera	*Chiroderma improvisum*	VU	1.22
Chiroptera	*Chiroderma salvini*	LC	1.86
Chiroptera	*Chiroderma trinitatum*	LC	2.06
Chiroptera	*Chiroderma villosum*	LC	2.03
Chiroptera	*Chironax melanocephalus*	LC	1.50
Chiroptera	*Choeroniscus godmani*	LC	1.85
Chiroptera	*Choeroniscus minor*	LC	2.00
Chiroptera	*Choeroniscus periosus*	VU	1.42
Chiroptera	*Choeronycteris mexicana*	NT	1.87
Chiroptera	*Chrotopterus auritus*	LC	2.01
Chiroptera	*Cistugo lesueuri*	LC	2.13
Chiroptera	*Cistugo seabrae*	LC	1.70
Chiroptera	*Cloeotis percivali*	LC	2.16
Chiroptera	*Coelops frithii*	LC	1.69
Chiroptera	*Coelops hirsutus*	DD	1.44
Chiroptera	*Coelops robinsoni*	VU	1.60
Chiroptera	*Coleura afra*	LC	1.91
Chiroptera	*Coleura seychellensis*	CR	1.41
Chiroptera	*Cormura brevirostris*	LC	2.05
Chiroptera	*Corynorhinus mexicanus*	NT	1.89
Chiroptera	*Corynorhinus rafinesquii*	LC	2.04
Chiroptera	*Corynorhinus townsendii*	LC	2.16
Chiroptera	*Craseonycteris thonglongyai*	VU	1.68
Chiroptera	*Cynomops abrasus*	DD	2.03
Chiroptera	*Cynomops greenhalli*	LC	1.91
Chiroptera	*Cynomops mexicanus*	LC	1.80
Chiroptera	*Cynomops paranus*	DD	2.02
Chiroptera	*Cynomops planirostris*	LC	2.05
Chiroptera	*Cynopterus brachyotis*	LC	1.64
Chiroptera	*Cynopterus horsfieldii*	LC	1.52
Chiroptera	*Cynopterus luzoniensis*	LC	1.42
Chiroptera	*Cynopterus minutus*	LC	1.51
Chiroptera	*Cynopterus nusatenggara*	LC	1.36
Chiroptera	*Cynopterus sphinx*	LC	1.84
Chiroptera	*Cynopterus titthaecheilus*	LC	1.48
Chiroptera	*Cyttarops alecto*	LC	1.80

Chiroptera	*Desmodus rotundus*	LC	1.96
Chiroptera	*Diaemus youngi*	LC	2.02
Chiroptera	*Diclidurus albus*	LC	2.00
Chiroptera	*Diclidurus ingens*	DD	2.01
Chiroptera	*Diclidurus isabellus*	LC	2.11
Chiroptera	*Diclidurus scutatus*	LC	2.03
Chiroptera	*Diphylla ecaudata*	LC	1.97
Chiroptera	*Dobsonia anderseni*	LC	1.34
Chiroptera	*Dobsonia beauforti*	LC	1.38
Chiroptera	*Dobsonia chapmani*	CR	1.39
Chiroptera	*Dobsonia crenulata*	LC	1.43
Chiroptera	*Dobsonia emersa*	VU	1.42
Chiroptera	*Dobsonia exoleta*	LC	1.44
Chiroptera	*Dobsonia inermis*	LC	1.33
Chiroptera	*Dobsonia minor*	LC	1.48
Chiroptera	*Dobsonia moluccensis*	LC	1.47
Chiroptera	*Dobsonia pannietensis*	NT	1.32
Chiroptera	*Dobsonia peronii*	LC	1.36
Chiroptera	*Dobsonia praedatrix*	LC	1.34
Chiroptera	*Dobsonia viridis*	LC	1.36
Chiroptera	*Dyacopterus brooksi*	VU	1.50
Chiroptera	*Dyacopterus spadiceus*	NT	1.49
Chiroptera	*Ectophylla alba*	NT	1.61
Chiroptera	*Eidolon dupreanum*	VU	1.61
Chiroptera	*Eidolon helvum*	NT	1.93
Chiroptera	*Emballonura alecto*	LC	1.51
Chiroptera	*Emballonura atrata*	LC	1.70
Chiroptera	*Emballonura beccarii*	LC	1.47
Chiroptera	*Emballonura dianae*	LC	1.43
Chiroptera	*Emballonura furax*	DD	1.59
Chiroptera	*Emballonura monticola*	LC	1.51
Chiroptera	*Emballonura raffrayana*	LC	1.49
Chiroptera	*Emballonura semicaudata*	EN	1.30
Chiroptera	*Emballonura serii*	LC	1.38
Chiroptera	*Emballonura tiavato*	LC	1.46
Chiroptera	*Enchisthenes hartii*	LC	1.82
Chiroptera	*Eonycteris major*	DD	1.54
Chiroptera	*Eonycteris robusta*	NT	1.43
Chiroptera	*Eonycteris spelaea*	LC	1.63
Chiroptera	*Epomophorus angolensis*	NT	1.69
Chiroptera	*Epomophorus anselli*	DD	2.01
Chiroptera	*Epomophorus crypturus*	LC	2.03
Chiroptera	*Epomophorus gambianus*	LC	1.93

Chiroptera	*Epomophorus grandis*	DD	1.84
Chiroptera	*Epomophorus labiatus*	LC	1.93
Chiroptera	*Epomophorus minimus*	LC	1.87
Chiroptera	*Epomophorus wahlbergi*	LC	1.93
Chiroptera	*Epomops buettikoferi*	LC	1.82
Chiroptera	*Epomops dobsonii*	LC	2.03
Chiroptera	*Epomops franqueti*	LC	1.88
Chiroptera	*Eptesicus andinus*	LC	1.70
Chiroptera	*Eptesicus bobrinskoi*	LC	2.64
Chiroptera	*Eptesicus bottae*	LC	2.23
Chiroptera	*Eptesicus brasiliensis*	LC	2.01
Chiroptera	*Eptesicus chiriquinus*	LC	1.64
Chiroptera	*Eptesicus diminutus*	DD	1.93
Chiroptera	*Eptesicus dimissus*	DD	2.46
Chiroptera	*Eptesicus floweri*	LC	2.13
Chiroptera	*Eptesicus furinalis*	LC	1.96
Chiroptera	*Eptesicus fuscus*	LC	2.29
Chiroptera	*Eptesicus gobiensis*	LC	2.49
Chiroptera	*Eptesicus guadeloupensis*	VU	1.22
Chiroptera	*Eptesicus hottentotus*	LC	2.12
Chiroptera	*Eptesicus innoxius*	NT	1.54
Chiroptera	*Eptesicus japonensis*	EN	1.82
Chiroptera	*Eptesicus malagasyensis*	EN	1.66
Chiroptera	*Eptesicus matroka*	LC	1.74
Chiroptera	*Eptesicus nasutus*	LC	2.20
Chiroptera	*Eptesicus nilssonii*	LC	2.77
Chiroptera	*Eptesicus pachyotis*	LC	2.30
Chiroptera	*Eptesicus platyops*	DD	1.74
Chiroptera	*Eptesicus serotinus*	LC	2.12
Chiroptera	*Eptesicus tatei*	DD	2.33
Chiroptera	*Erophylla bombifrons*	LC	1.36
Chiroptera	*Erophylla sezekorni*	LC	1.39
Chiroptera	*Euderma maculatum*	LC	2.26
Chiroptera	*Eudiscopus denticulus*	DD	1.63
Chiroptera	*Eumops auripendulus*	LC	2.00
Chiroptera	*Eumops bonariensis*	LC	1.98
Chiroptera	*Eumops dabbenei*	LC	2.03
Chiroptera	*Eumops floridanus*	CR	1.46
Chiroptera	*Eumops glaucinus*	LC	2.03
Chiroptera	*Eumops hansae*	LC	2.03
Chiroptera	*Eumops maurus*	DD	1.89
Chiroptera	*Eumops patagonicus*	LC	1.85
Chiroptera	*Eumops perotis*	LC	2.04

Chiroptera	*Eumops trumbulli*	LC	2.07
Chiroptera	*Eumops underwoodi*	LC	1.84
Chiroptera	*Falsistrellus affinis*	LC	2.04
Chiroptera	*Falsistrellus mackenziei*	NT	1.36
Chiroptera	*Falsistrellus mordax*	DD	1.44
Chiroptera	*Falsistrellus petersi*	DD	1.39
Chiroptera	*Falsistrellus tasmaniensis*	LC	1.64
Chiroptera	*Furipterus horrens*	LC	1.98
Chiroptera	*Glauconycteris alboguttata*	LC	1.86
Chiroptera	*Glauconycteris argentata*	LC	1.86
Chiroptera	*Glauconycteris beatrix*	LC	1.81
Chiroptera	*Glauconycteris curryae*	DD	1.80
Chiroptera	*Glauconycteris egeria*	DD	1.88
Chiroptera	*Glauconycteris gleni*	DD	1.84
Chiroptera	*Glauconycteris humeralis*	DD	1.94
Chiroptera	*Glauconycteris kenyacola*	DD	1.70
Chiroptera	*Glauconycteris machadoi*	DD	2.07
Chiroptera	*Glauconycteris poensis*	LC	1.82
Chiroptera	*Glauconycteris superba*	LC	1.85
Chiroptera	*Glauconycteris variegata*	LC	1.95
Chiroptera	*Glischropus javanus*	DD	1.36
Chiroptera	*Glischropus tylopus*	LC	1.58
Chiroptera	*Glossophaga commissarisi*	LC	1.91
Chiroptera	*Glossophaga leachii*	LC	1.84
Chiroptera	*Glossophaga longirostris*	DD	1.92
Chiroptera	*Glossophaga morenoi*	LC	1.85
Chiroptera	*Glossophaga soricina*	LC	1.98
Chiroptera	*Glyphonycteris behnii*	DD	2.23
Chiroptera	*Glyphonycteris daviesi*	LC	2.04
Chiroptera	*Glyphonycteris sylvestris*	LC	2.00
Chiroptera	*Haplonycteris fischeri*	LC	1.42
Chiroptera	*Harpiocephalus harpia*	LC	1.61
Chiroptera	*Harpiocephalus mordax*	DD	1.58
Chiroptera	*Harpiola grisea*	DD	2.37
Chiroptera	*Harpiola isodon*	DD	1.47
Chiroptera	*Harpyionycteris celebensis*	VU	1.44
Chiroptera	*Harpyionycteris whiteheadi*	LC	1.43
Chiroptera	*Hesperoptenus blanfordi*	LC	1.59
Chiroptera	*Hesperoptenus doriae*	DD	1.53
Chiroptera	*Hesperoptenus gaskelli*	DD	1.49
Chiroptera	*Hesperoptenus tickelli*	LC	1.71
Chiroptera	*Hesperoptenus tomesi*	VU	1.49
Chiroptera	*Hipposideros abae*	LC	1.90

Chiroptera	*Hipposideros armiger*	LC	1.87
Chiroptera	*Hipposideros ater*	LC	1.57
Chiroptera	*Hipposideros beatus*	LC	1.84
Chiroptera	*Hipposideros bicolor*	LC	1.51
Chiroptera	*Hipposideros boeadii*	DD	1.48
Chiroptera	*Hipposideros breviceps*	DD	1.33
Chiroptera	*Hipposideros caffer*	LC	1.96
Chiroptera	*Hipposideros calcaratus*	LC	1.45
Chiroptera	*Hipposideros camerunensis*	DD	1.76
Chiroptera	*Hipposideros cervinus*	LC	1.50
Chiroptera	*Hipposideros cineraceus*	LC	1.80
Chiroptera	*Hipposideros commersoni*	NT	1.62
Chiroptera	*Hipposideros coronatus*	DD	1.48
Chiroptera	*Hipposideros corynophyllus*	DD	1.59
Chiroptera	*Hipposideros coxi*	DD	1.51
Chiroptera	*Hipposideros crumeniferus*	DD	1.39
Chiroptera	*Hipposideros curtus*	VU	1.69
Chiroptera	*Hipposideros cyclops*	LC	1.79
Chiroptera	*Hipposideros demissus*	VU	1.33
Chiroptera	*Hipposideros diadema*	LC	1.52
Chiroptera	*Hipposideros dinops*	DD	1.33
Chiroptera	*Hipposideros doriae*	NT	1.53
Chiroptera	*Hipposideros durgadasi*	EN	1.96
Chiroptera	*Hipposideros dyacorum*	LC	1.54
Chiroptera	*Hipposideros edwardshilli*	DD	1.33
Chiroptera	*Hipposideros fuliginosus*	LC	1.84
Chiroptera	*Hipposideros fulvus*	LC	1.90
Chiroptera	*Hipposideros galeritus*	LC	1.59
Chiroptera	*Hipposideros gigas*	LC	1.87
Chiroptera	*Hipposideros grandis*	DD	1.93
Chiroptera	*Hipposideros halophyllus*	EN	1.64
Chiroptera	*Hipposideros hypophyllus*	EN	1.58
Chiroptera	*Hipposideros inexpectatus*	DD	1.47
Chiroptera	*Hipposideros inornatus*	VU	1.64
Chiroptera	*Hipposideros jonesi*	NT	1.95
Chiroptera	*Hipposideros khaokhouayensis*	VU	1.80
Chiroptera	*Hipposideros lamottei*	CR	1.97
Chiroptera	*Hipposideros lankadiva*	LC	1.74
Chiroptera	*Hipposideros larvatus*	LC	1.67
Chiroptera	*Hipposideros lekaguli*	NT	1.52
Chiroptera	*Hipposideros lylei*	LC	1.78
Chiroptera	*Hipposideros macrobullatus*	DD	1.36
Chiroptera	*Hipposideros madurae*	LC	1.41

Chiroptera	*Hipposideros maggietaylorae*	LC	1.49
Chiroptera	*Hipposideros marisae*	VU	1.79
Chiroptera	*Hipposideros megalotis*	LC	1.92
Chiroptera	*Hipposideros muscinus*	DD	1.56
Chiroptera	*Hipposideros nequam*	DD	1.55
Chiroptera	*Hipposideros obscurus*	LC	1.41
Chiroptera	*Hipposideros orbiculus*	EN	1.56
Chiroptera	*Hipposideros papua*	LC	1.39
Chiroptera	*Hipposideros pelingensis*	NT	1.44
Chiroptera	*Hipposideros pomona*	LC	1.80
Chiroptera	*Hipposideros pratti*	LC	2.00
Chiroptera	*Hipposideros pygmaeus*	LC	1.39
Chiroptera	*Hipposideros ridleyi*	VU	1.48
Chiroptera	*Hipposideros rotalis*	LC	1.71
Chiroptera	*Hipposideros ruber*	LC	1.90
Chiroptera	*Hipposideros scutinares*	VU	1.64
Chiroptera	*Hipposideros semoni*	DD	1.45
Chiroptera	*Hipposideros sorenseni*	VU	1.50
Chiroptera	*Hipposideros speoris*	LC	1.70
Chiroptera	*Hipposideros stenotis*	LC	1.63
Chiroptera	*Hipposideros sumbae*	LC	1.36
Chiroptera	*Hipposideros thomensis*	LC	1.43
Chiroptera	*Hipposideros turpis*	NT	1.82
Chiroptera	*Hipposideros vittatus*	NT	2.02
Chiroptera	*Hipposideros wollastoni*	LC	1.60
Chiroptera	*Histiotus alienus*	DD	1.76
Chiroptera	*Histiotus humboldti*	DD	1.79
Chiroptera	*Histiotus laephotis*	NT	2.11
Chiroptera	*Histiotus macrotus*	LC	1.88
Chiroptera	*Histiotus magellanicus*	LC	1.22
Chiroptera	*Histiotus montanus*	LC	1.62
Chiroptera	*Histiotus velatus*	DD	1.97
Chiroptera	*Hylonycteris underwoodi*	LC	1.80
Chiroptera	*Hypsignathus monstrosus*	LC	1.82
Chiroptera	*Ia io*	LC	1.94
Chiroptera	*Idionycteris phyllotis*	LC	2.02
Chiroptera	*Kerivoula africana*	EN	1.81
Chiroptera	*Kerivoula agnella*	DD	1.31
Chiroptera	*Kerivoula argentata*	LC	1.99
Chiroptera	*Kerivoula cuprosa*	DD	1.89
Chiroptera	*Kerivoula eriophora*	DD	1.92
Chiroptera	*Kerivoula flora*	VU	1.36
Chiroptera	*Kerivoula hardwickii*	LC	1.66

Chiroptera	*Kerivoula intermedia*	NT	1.43
Chiroptera	*Kerivoula kachinensis*	LC	1.79
Chiroptera	*Kerivoula krauensis*	DD	1.55
Chiroptera	*Kerivoula lanosa*	LC	1.96
Chiroptera	*Kerivoula lenis*	LC	1.55
Chiroptera	*Kerivoula minuta*	NT	1.47
Chiroptera	*Kerivoula muscina*	LC	1.52
Chiroptera	*Kerivoula myrella*	DD	1.34
Chiroptera	*Kerivoula papillosa*	LC	1.51
Chiroptera	*Kerivoula pellucida*	NT	1.49
Chiroptera	*Kerivoula phalaena*	LC	1.86
Chiroptera	*Kerivoula picta*	LC	1.66
Chiroptera	*Kerivoula smithii*	LC	1.88
Chiroptera	*Kerivoula titania*	LC	1.75
Chiroptera	*Kerivoula whiteheadi*	LC	1.40
Chiroptera	*Laephotis angolensis*	DD	2.01
Chiroptera	*Laephotis botswanae*	LC	2.16
Chiroptera	*Laephotis namibensis*	LC	1.58
Chiroptera	*Laephotis wintoni*	LC	1.91
Chiroptera	*Lampronycteris brachyotis*	LC	2.01
Chiroptera	*Lasionycteris noctivagans*	LC	2.44
Chiroptera	*Lasiurus atratus*	LC	1.81
Chiroptera	*Lasiurus blossevillii*	LC	2.00
Chiroptera	*Lasiurus borealis*	LC	2.31
Chiroptera	*Lasiurus castaneus*	DD	1.64
Chiroptera	*Lasiurus cinereus*	LC	2.35
Chiroptera	*Lasiurus degelidus*	VU	1.32
Chiroptera	*Lasiurus ebenus*	DD	1.98
Chiroptera	*Lasiurus ega*	LC	1.96
Chiroptera	*Lasiurus egregius*	DD	1.80
Chiroptera	*Lasiurus insularis*	VU	1.40
Chiroptera	*Lasiurus intermedius*	LC	1.84
Chiroptera	*Lasiurus minor*	VU	1.36
Chiroptera	*Lasiurus pfeifferi*	NT	1.40
Chiroptera	*Lasiurus seminolus*	LC	1.98
Chiroptera	*Lasiurus varius*	LC	1.24
Chiroptera	*Lasiurus xanthinus*	LC	1.90
Chiroptera	*Latidens salimalii*	EN	1.45
Chiroptera	*Lavia frons*	LC	1.91
Chiroptera	*Leptonycteris curasoae*	VU	1.84
Chiroptera	*Leptonycteris nivalis*	EN	1.90
Chiroptera	*Leptonycteris yerbabuenae*	VU	1.85
Chiroptera	*Lichonycteris obscura*	LC	1.99

Chiroptera	*Lionycteris spurrelli*	LC	2.00
Chiroptera	*Lissonycteris angolensis*	LC	1.89
Chiroptera	*Lonchophylla bokermanni*	DD	1.99
Chiroptera	*Lonchophylla chocoana*	DD	1.57
Chiroptera	*Lonchophylla concava*	NT	1.49
Chiroptera	*Lonchophylla dekeyseri*	NT	2.05
Chiroptera	*Lonchophylla handleyi*	LC	1.79
Chiroptera	*Lonchophylla hesperia*	NT	1.72
Chiroptera	*Lonchophylla mordax*	LC	1.86
Chiroptera	*Lonchophylla orcesi*	DD	1.56
Chiroptera	*Lonchophylla robusta*	LC	1.66
Chiroptera	*Lonchophylla thomasi*	LC	2.03
Chiroptera	*Lonchorhina aurita*	LC	1.99
Chiroptera	*Lonchorhina fernandezi*	EN	2.15
Chiroptera	*Lonchorhina inusitata*	DD	2.10
Chiroptera	*Lonchorhina marinkellei*	EN	1.92
Chiroptera	*Lonchorhina orinocensis*	VU	2.03
Chiroptera	*Lophostoma aequatorialis*	DD	1.39
Chiroptera	*Lophostoma brasiliense*	LC	1.98
Chiroptera	*Lophostoma carrikeri*	LC	2.04
Chiroptera	*Lophostoma evotis*	LC	1.80
Chiroptera	*Lophostoma schulzi*	LC	1.97
Chiroptera	*Lophostoma silvicolum*	LC	2.00
Chiroptera	*Lophostoma yasuni*	DD	1.80
Chiroptera	*Macroderma gigas*	VU	1.67
Chiroptera	*Macroglossus minimus*	LC	1.50
Chiroptera	*Macroglossus sobrinus*	LC	1.67
Chiroptera	*Macrophyllum macrophyllum*	LC	2.00
Chiroptera	*Macrotus californicus*	LC	1.82
Chiroptera	*Macrotus waterhousii*	LC	1.72
Chiroptera	*Megaderma lyra*	LC	1.87
Chiroptera	*Megaderma spasma*	LC	1.61
Chiroptera	*Megaerops ecaudatus*	LC	1.52
Chiroptera	*Megaerops kusnotoi*	VU	1.37
Chiroptera	*Megaerops niphanae*	LC	1.77
Chiroptera	*Megaerops wetmorei*	VU	1.48
Chiroptera	*Megaloglossus woermanni*	LC	1.85
Chiroptera	*Melonycteris fardoulisi*	LC	1.32
Chiroptera	*Melonycteris melanops*	LC	1.34
Chiroptera	*Melonycteris woodfordi*	LC	1.33
Chiroptera	*Mesophylla macconnelli*	LC	2.03
Chiroptera	*Micronycteris brosseti*	DD	2.04
Chiroptera	*Micronycteris hirsuta*	LC	1.95

Chiroptera	*Micronycteris matses*	DD	2.04
Chiroptera	*Micronycteris megalotis*	LC	2.01
Chiroptera	*Micronycteris microtis*	LC	1.99
Chiroptera	*Micronycteris minuta*	LC	2.01
Chiroptera	*Micronycteris sanborni*	DD	1.87
Chiroptera	*Micronycteris schmidtorum*	LC	1.95
Chiroptera	*Micropteropus intermedius*	DD	1.89
Chiroptera	*Micropteropus pusillus*	LC	1.89
Chiroptera	*Mimetillus moloneyi*	LC	1.91
Chiroptera	*Mimon bennettii*	LC	1.94
Chiroptera	*Mimon cozumelae*	LC	1.67
Chiroptera	*Mimon crenulatum*	LC	1.99
Chiroptera	*Mimon koepckeae*	DD	1.93
Chiroptera	*Miniopterus australis*	LC	1.52
Chiroptera	*Miniopterus fraterculus*	LC	1.98
Chiroptera	*Miniopterus fuliginosus*	LC	2.05
Chiroptera	*Miniopterus fuscus*	EN	1.41
Chiroptera	*Miniopterus gleni*	LC	1.59
Chiroptera	*Miniopterus griveaudi*	DD	1.36
Chiroptera	*Miniopterus inflatus*	LC	1.92
Chiroptera	*Miniopterus macrocneme*	DD	1.29
Chiroptera	*Miniopterus magnater*	LC	1.31
Chiroptera	*Miniopterus majori*	LC	1.66
Chiroptera	*Miniopterus manavi*	LC	1.61
Chiroptera	*Miniopterus medius*	LC	1.52
Chiroptera	*Miniopterus minor*	DD	1.80
Chiroptera	*Miniopterus natalensis*	LC	2.03
Chiroptera	*Miniopterus newtoni*	DD	1.43
Chiroptera	*Miniopterus oceanensis*	LC	1.61
Chiroptera	*Miniopterus paululus*	DD	1.36
Chiroptera	*Miniopterus petersoni*	DD	1.77
Chiroptera	*Miniopterus pusillus*	LC	1.66
Chiroptera	*Miniopterus robustior*	EN	1.29
Chiroptera	*Miniopterus schreibersii*	NT	1.92
Chiroptera	*Miniopterus shortridgei*	DD	1.42
Chiroptera	*Miniopterus sororculus*	LC	1.77
Chiroptera	*Miniopterus tristis*	LC	1.40
Chiroptera	*Mirimiri acrodonta*	CR	1.28
Chiroptera	*Molossops aequatorianus*	VU	1.44
Chiroptera	*Molossops mattogrossensis*	LC	2.04
Chiroptera	*Molossops neglectus*	DD	2.04
Chiroptera	*Molossops temminckii*	LC	2.04
Chiroptera	*Molossus aztecus*	LC	1.74

Chiroptera	*Molossus barnesi*	DD	1.57
Chiroptera	*Molossus coibensis*	LC	2.10
Chiroptera	*Molossus currentium*	LC	1.83
Chiroptera	*Molossus molossus*	LC	1.97
Chiroptera	*Molossus pretiosus*	LC	1.85
Chiroptera	*Molossus rufus*	LC	1.99
Chiroptera	*Molossus sinaloae*	LC	1.71
Chiroptera	*Monophyllus plethodon*	LC	1.21
Chiroptera	*Monophyllus redmani*	LC	1.38
Chiroptera	*Mormoops blainvillei*	LC	1.38
Chiroptera	*Mormoops megalophylla*	LC	1.82
Chiroptera	*Mormopterus acetabulosus*	VU	1.33
Chiroptera	*Mormopterus beccarii*	LC	1.78
Chiroptera	*Mormopterus doriae*	DD	1.55
Chiroptera	*Mormopterus jugularis*	LC	1.67
Chiroptera	*Mormopterus kalinowskii*	LC	1.82
Chiroptera	*Mormopterus loriae*	LC	1.54
Chiroptera	*Mormopterus minutus*	VU	1.38
Chiroptera	*Mormopterus norfolkensis*	VU	1.73
Chiroptera	*Mormopterus phrudus*	VU	1.98
Chiroptera	*Mormopterus planiceps*	LC	1.75
Chiroptera	*Mosia nigrescens*	LC	1.46
Chiroptera	*Murina aenea*	VU	1.46
Chiroptera	*Murina aurata*	LC	2.10
Chiroptera	*Murina cyclotis*	LC	1.69
Chiroptera	*Murina florium*	LC	1.44
Chiroptera	*Murina fusca*	DD	2.62
Chiroptera	*Murina harrisoni*	DD	1.60
Chiroptera	*Murina hilgendorfi*	LC	2.65
Chiroptera	*Murina huttoni*	LC	2.39
Chiroptera	*Murina leucogaster*	DD	2.07
Chiroptera	*Murina puta*	NT	1.51
Chiroptera	*Murina rozendaali*	VU	1.39
Chiroptera	*Murina ryukyuana*	EN	1.44
Chiroptera	*Murina suilla*	LC	1.52
Chiroptera	*Murina tenebrosa*	CR	1.80
Chiroptera	*Murina tubinaris*	LC	1.91
Chiroptera	*Murina ussuriensis*	LC	2.25
Chiroptera	*Musonycteris harrisoni*	VU	1.74
Chiroptera	*Myonycteris brachycephala*	EN	1.43
Chiroptera	*Myonycteris relicta*	VU	1.78
Chiroptera	*Myonycteris torquata*	LC	1.87
Chiroptera	*Myopterus daubentonii*	DD	1.95

Chiroptera	*Myopterus whitleyi*	LC	1.86
Chiroptera	*Myotis adversus*	LC	1.50
Chiroptera	*Myotis aelleni*	DD	1.34
Chiroptera	*Myotis albescens*	LC	1.99
Chiroptera	*Myotis alcathoe*	DD	1.69
Chiroptera	*Myotis altarium*	LC	1.97
Chiroptera	*Myotis anjouanensis*	DD	1.38
Chiroptera	*Myotis annamiticus*	DD	1.64
Chiroptera	*Myotis annectans*	LC	1.80
Chiroptera	*Myotis atacamensis*	NT	1.79
Chiroptera	*Myotis ater*	LC	1.44
Chiroptera	*Myotis aurascens*	LC	2.22
Chiroptera	*Myotis auriculus*	LC	2.00
Chiroptera	*Myotis austroriparius*	LC	2.02
Chiroptera	*Myotis bechsteinii*	NT	1.91
Chiroptera	*Myotis blythii*	LC	2.16
Chiroptera	*Myotis bocagii*	LC	1.86
Chiroptera	*Myotis bombinus*	NT	2.60
Chiroptera	*Myotis brandtii*	LC	2.58
Chiroptera	*Myotis bucharensis*	DD	2.33
Chiroptera	*Myotis californicus*	LC	2.06
Chiroptera	*Myotis capaccinii*	VU	1.98
Chiroptera	*Myotis chiloensis*	LC	1.26
Chiroptera	*Myotis chinensis*	LC	1.94
Chiroptera	*Myotis ciliolabrum*	LC	2.40
Chiroptera	*Myotis cobanensis*	DD	1.85
Chiroptera	*Myotis csorbai*	DD	2.44
Chiroptera	*Myotis dasycneme*	NT	2.74
Chiroptera	*Myotis daubentonii*	LC	2.50
Chiroptera	*Myotis davidii*	LC	2.23
Chiroptera	*Myotis dieteri*	DD	1.61
Chiroptera	*Myotis dinellii*	LC	1.81
Chiroptera	*Myotis dominicensis*	VU	1.21
Chiroptera	*Myotis elegans*	LC	1.79
Chiroptera	*Myotis emarginatus*	LC	2.00
Chiroptera	*Myotis evotis*	LC	2.27
Chiroptera	*Myotis fimbriatus*	LC	1.97
Chiroptera	*Myotis findleyi*	EN	1.57
Chiroptera	*Myotis formosus*	LC	1.85
Chiroptera	*Myotis fortidens*	LC	1.82
Chiroptera	*Myotis frater*	DD	2.28
Chiroptera	*Myotis gomantongensis*	LC	1.54
Chiroptera	*Myotis goudoti*	LC	1.61

Chiroptera	*Myotis grisescens*	NT	2.18
Chiroptera	*Myotis hajastanicus*	CR	2.23
Chiroptera	*Myotis hasseltii*	LC	1.54
Chiroptera	*Myotis hermani*	DD	1.45
Chiroptera	*Myotis horsfieldii*	LC	1.62
Chiroptera	*Myotis ikonnikovi*	LC	2.57
Chiroptera	*Myotis keaysi*	LC	1.82
Chiroptera	*Myotis keenii*	LC	2.03
Chiroptera	*Myotis laniger*	LC	2.09
Chiroptera	*Myotis leibii*	LC	2.45
Chiroptera	*Myotis levis*	LC	1.69
Chiroptera	*Myotis longipes*	DD	2.43
Chiroptera	*Myotis lucifugus*	LC	2.69
Chiroptera	*Myotis macrodactylus*	LC	2.10
Chiroptera	*Myotis macropus*	LC	1.62
Chiroptera	*Myotis macrotarsus*	NT	1.37
Chiroptera	*Myotis martiniquensis*	VU	1.20
Chiroptera	*Myotis melanorhinus*	LC	2.12
Chiroptera	*Myotis moluccarum*	LC	1.43
Chiroptera	*Myotis montivagus*	LC	1.81
Chiroptera	*Myotis morrisi*	DD	1.91
Chiroptera	*Myotis muricola*	LC	1.74
Chiroptera	*Myotis myotis*	LC	1.92
Chiroptera	*Myotis mystacinus*	LC	2.19
Chiroptera	*Myotis nattereri*	LC	2.04
Chiroptera	*Myotis nesopolus*	LC	1.40
Chiroptera	*Myotis nigricans*	LC	2.00
Chiroptera	*Myotis nipalensis*	LC	2.41
Chiroptera	*Myotis occultus*	LC	2.12
Chiroptera	*Myotis oreias*	DD	1.62
Chiroptera	*Myotis oxyotus*	LC	1.85
Chiroptera	*Myotis peninsularis*	EN	1.15
Chiroptera	*Myotis pequinius*	LC	2.11
Chiroptera	*Myotis pilosus*	NT	1.97
Chiroptera	*Myotis planiceps*	EN	1.94
Chiroptera	*Myotis pruinosus*	EN	1.87
Chiroptera	*Myotis punicus*	NT	1.80
Chiroptera	*Myotis ridleyi*	NT	1.49
Chiroptera	*Myotis riparius*	LC	2.00
Chiroptera	*Myotis rosseti*	LC	1.64
Chiroptera	*Myotis ruber*	NT	1.98
Chiroptera	*Myotis rufopictus*	DD	1.38
Chiroptera	*Myotis schaubi*	DD	2.24

Chiroptera	*Myotis scotti*	VU	1.92
Chiroptera	*Myotis septentrionalis*	LC	2.70
Chiroptera	*Myotis sicarius*	VU	2.38
Chiroptera	*Myotis siligorensis*	LC	1.82
Chiroptera	*Myotis simus*	DD	2.00
Chiroptera	*Myotis sodalis*	EN	2.34
Chiroptera	*Myotis stalkeri*	DD	1.35
Chiroptera	*Myotis thysanodes*	LC	2.09
Chiroptera	*Myotis tricolor*	LC	1.96
Chiroptera	*Myotis velifer*	LC	2.01
Chiroptera	*Myotis vivesi*	VU	1.59
Chiroptera	*Myotis volans*	LC	2.23
Chiroptera	*Myotis welwitschii*	LC	1.97
Chiroptera	*Myotis yanbarensis*	CR	1.43
Chiroptera	*Myotis yumanensis*	LC	2.11
Chiroptera	*Mystacina tuberculata*	VU	1.57
Chiroptera	*Myzopoda aurita*	LC	1.69
Chiroptera	*Myzopoda schliemanni*	LC	1.46
Chiroptera	*Nanonycteris veldkampii*	LC	1.84
Chiroptera	*Natalus espiritosantensis*	NT	1.87
Chiroptera	*Natalus jamaicensis*	CR	1.32
Chiroptera	*Natalus lanatus*	LC	1.77
Chiroptera	*Natalus major*	NT	1.37
Chiroptera	*Natalus mexicanus*	LC	1.82
Chiroptera	*Natalus primus*	CR	1.34
Chiroptera	*Natalus stramineus*	LC	1.21
Chiroptera	*Natalus tumidirostris*	LC	1.88
Chiroptera	*Neonycteris pusilla*	VU	1.93
Chiroptera	*Neopteryx frosti*	EN	1.39
Chiroptera	*Noctilio albiventris*	LC	2.01
Chiroptera	*Noctilio leporinus*	LC	1.98
Chiroptera	*Notopteris macdonaldi*	VU	1.29
Chiroptera	*Notopteris neocaledonica*	VU	1.29
Chiroptera	*Nyctalus aviator*	NT	2.15
Chiroptera	*Nyctalus azoreum*	EN	1.21
Chiroptera	*Nyctalus furvus*	VU	1.91
Chiroptera	*Nyctalus lasiopterus*	NT	2.26
Chiroptera	*Nyctalus leisleri*	LC	2.05
Chiroptera	*Nyctalus montanus*	LC	2.36
Chiroptera	*Nyctalus noctula*	LC	2.26
Chiroptera	*Nyctalus plancyi*	LC	2.02
Chiroptera	*Nycteris arge*	LC	1.86
Chiroptera	*Nycteris aurita*	LC	1.82

Chiroptera	*Nycteris gambiensis*	LC	1.93
Chiroptera	*Nycteris grandis*	LC	1.86
Chiroptera	*Nycteris hispida*	LC	1.92
Chiroptera	*Nycteris intermedia*	LC	1.90
Chiroptera	*Nycteris javanica*	VU	1.44
Chiroptera	*Nycteris macrotis*	LC	1.91
Chiroptera	*Nycteris madagascariensis*	DD	1.39
Chiroptera	*Nycteris major*	DD	1.87
Chiroptera	*Nycteris nana*	LC	1.86
Chiroptera	*Nycteris parisii*	DD	1.81
Chiroptera	*Nycteris thebaica*	LC	1.97
Chiroptera	*Nycteris tragata*	NT	1.52
Chiroptera	*Nycteris vinsoni*	DD	1.91
Chiroptera	*Nycteris woodi*	LC	2.13
Chiroptera	*Nycticeinops schlieffeni*	LC	2.01
Chiroptera	*Nycticeius cubanus*	NT	1.35
Chiroptera	*Nycticeius humeralis*	LC	2.15
Chiroptera	*Nyctiellus lepidus*	LC	1.40
Chiroptera	*Nyctimene aello*	LC	1.48
Chiroptera	*Nyctimene albiventer*	LC	1.47
Chiroptera	*Nyctimene cephalotes*	LC	1.43
Chiroptera	*Nyctimene certans*	LC	1.51
Chiroptera	*Nyctimene cyclotis*	DD	1.47
Chiroptera	*Nyctimene draconilla*	DD	1.53
Chiroptera	*Nyctimene keasti*	VU	1.32
Chiroptera	*Nyctimene major*	LC	1.33
Chiroptera	*Nyctimene malaitensis*	DD	1.33
Chiroptera	*Nyctimene masalai*	DD	1.36
Chiroptera	*Nyctimene minutus*	VU	1.36
Chiroptera	*Nyctimene rabori*	EN	1.37
Chiroptera	*Nyctimene robinsoni*	LC	1.56
Chiroptera	*Nyctimene sanctacrucis*	DD	1.32
Chiroptera	*Nyctimene vizcaccia*	LC	1.34
Chiroptera	*Nyctinomops aurispinosus*	LC	1.77
Chiroptera	*Nyctinomops femorosaccus*	LC	1.87
Chiroptera	*Nyctinomops laticaudatus*	LC	2.00
Chiroptera	*Nyctinomops macrotis*	LC	2.01
Chiroptera	*Nyctophilus arnhemensis*	LC	1.64
Chiroptera	*Nyctophilus bifax*	LC	1.62
Chiroptera	*Nyctophilus geoffroyi*	LC	1.79
Chiroptera	*Nyctophilus gouldi*	LC	1.69
Chiroptera	*Nyctophilus heran*	DD	1.35
Chiroptera	*Nyctophilus microdon*	DD	1.54

Chiroptera	*Nyctophilus microtis*	LC	1.52
Chiroptera	*Nyctophilus nebulosus*	CR	1.29
Chiroptera	*Nyctophilus sherrini*	DD	1.40
Chiroptera	*Nyctophilus timoriensis*	DD	1.70
Chiroptera	*Nyctophilus walkeri*	LC	1.62
Chiroptera	*Otomops formosus*	DD	1.42
Chiroptera	*Otomops johnstonei*	DD	1.33
Chiroptera	*Otomops madagascariensis*	LC	1.51
Chiroptera	*Otomops martiensseni*	NT	1.96
Chiroptera	*Otomops papuensis*	DD	1.52
Chiroptera	*Otomops secundus*	DD	1.42
Chiroptera	*Otomops wroughtoni*	DD	1.69
Chiroptera	*Otonycteris hemprichii*	LC	2.21
Chiroptera	*Otopteropus cartilagonodus*	LC	1.39
Chiroptera	*Paracoelops megalotis*	DD	1.64
Chiroptera	*Penthetor lucasi*	LC	1.52
Chiroptera	*Peropteryx kappleri*	LC	1.99
Chiroptera	*Peropteryx leucoptera*	LC	2.01
Chiroptera	*Peropteryx macrotis*	LC	2.00
Chiroptera	*Peropteryx trinitatis*	DD	1.32
Chiroptera	*Philetor brachypterus*	LC	1.49
Chiroptera	*Phoniscus atrox*	NT	1.51
Chiroptera	*Phoniscus jagorii*	LC	1.65
Chiroptera	*Phoniscus papuensis*	LC	1.58
Chiroptera	*Phylloderma stenops*	LC	1.98
Chiroptera	*Phyllonycteris aphylla*	LC	1.32
Chiroptera	*Phyllonycteris poeyi*	LC	1.39
Chiroptera	*Phyllops falcatus*	LC	1.39
Chiroptera	*Phyllostomus discolor*	LC	2.00
Chiroptera	*Phyllostomus elongatus*	LC	2.03
Chiroptera	*Phyllostomus hastatus*	LC	2.00
Chiroptera	*Phyllostomus latifolius*	LC	2.04
Chiroptera	*Pipistrellus abramus*	LC	2.05
Chiroptera	*Pipistrellus adamsi*	LC	1.53
Chiroptera	*Pipistrellus aero*	DD	1.81
Chiroptera	*Pipistrellus alaschanicus*	LC	2.26
Chiroptera	*Pipistrellus anchietae*	LC	2.05
Chiroptera	*Pipistrellus angulatus*	LC	1.48
Chiroptera	*Pipistrellus anthonyi*	DD	1.90
Chiroptera	*Pipistrellus arabicus*	DD	2.14
Chiroptera	*Pipistrellus ariel*	DD	2.03
Chiroptera	*Pipistrellus brunneus*	NT	1.74
Chiroptera	*Pipistrellus cadornae*	LC	1.77

Chiroptera	*Pipistrellus capensis*	LC	1.96
Chiroptera	*Pipistrellus ceylonicus*	LC	1.80
Chiroptera	*Pipistrellus collinus*	LC	1.53
Chiroptera	*Pipistrellus coromandra*	LC	1.87
Chiroptera	*Pipistrellus crassulus*	LC	1.85
Chiroptera	*Pipistrellus deserti*	LC	2.20
Chiroptera	*Pipistrellus eisentrauti*	DD	1.64
Chiroptera	*Pipistrellus endoi*	EN	1.88
Chiroptera	*Pipistrellus flavescens*	DD	1.93
Chiroptera	*Pipistrellus guineensis*	LC	1.92
Chiroptera	*Pipistrellus hanaki*	DD	1.60
Chiroptera	*Pipistrellus helios*	DD	1.80
Chiroptera	*Pipistrellus hesperidus*	LC	1.93
Chiroptera	*Pipistrellus hesperus*	LC	2.00
Chiroptera	*Pipistrellus imbricatus*	LC	1.44
Chiroptera	*Pipistrellus inexspectatus*	DD	1.94
Chiroptera	*Pipistrellus javanicus*	LC	1.76
Chiroptera	*Pipistrellus joffrei*	DD	1.88
Chiroptera	*Pipistrellus kitcheneri*	DD	1.61
Chiroptera	*Pipistrellus kuhlii*	LC	2.15
Chiroptera	*Pipistrellus lophurus*	DD	1.50
Chiroptera	*Pipistrellus macrotis*	DD	1.52
Chiroptera	*Pipistrellus maderensis*	EN	1.10
Chiroptera	*Pipistrellus melckorum*	DD	2.01
Chiroptera	*Pipistrellus minahassae*	DD	1.38
Chiroptera	*Pipistrellus murrayi*	CR	1.35
Chiroptera	*Pipistrellus musciculus*	DD	1.83
Chiroptera	*Pipistrellus nanulus*	LC	1.82
Chiroptera	*Pipistrellus nanus*	LC	1.92
Chiroptera	*Pipistrellus nathusii*	LC	2.19
Chiroptera	*Pipistrellus papuanus*	LC	1.49
Chiroptera	*Pipistrellus paterculus*	LC	1.85
Chiroptera	*Pipistrellus permixtus*	DD	1.82
Chiroptera	*Pipistrellus pipistrellus*	LC	2.10
Chiroptera	*Pipistrellus pulveratus*	LC	1.98
Chiroptera	*Pipistrellus pygmaeus*	LC	1.92
Chiroptera	*Pipistrellus raceyi*	DD	1.58
Chiroptera	*Pipistrellus rendalli*	LC	1.95
Chiroptera	*Pipistrellus rueppellii*	LC	1.99
Chiroptera	*Pipistrellus rusticus*	LC	2.04
Chiroptera	*Pipistrellus savii*	LC	2.13
Chiroptera	*Pipistrellus somalicus*	LC	1.92
Chiroptera	*Pipistrellus stenopterus*	LC	1.49

Chiroptera	*Pipistrellus subflavus*	LC	2.23
Chiroptera	*Pipistrellus tenuipinnis*	LC	1.84
Chiroptera	*Pipistrellus tenuis*	LC	1.84
Chiroptera	*Pipistrellus vordermanni*	DD	1.44
Chiroptera	*Pipistrellus wattsi*	LC	1.48
Chiroptera	*Pipistrellus westralis*	LC	1.54
Chiroptera	*Pipistrellus zuluensis*	LC	2.08
Chiroptera	*Platalina genovensium*	NT	1.74
Chiroptera	*Platymops setiger*	LC	1.83
Chiroptera	*Platyrrhinus albericoi*	LC	1.94
Chiroptera	*Platyrrhinus aurarius*	LC	2.04
Chiroptera	*Platyrrhinus brachycephalus*	LC	2.07
Chiroptera	*Platyrrhinus chocoensis*	EN	1.42
Chiroptera	*Platyrrhinus dorsalis*	LC	1.65
Chiroptera	*Platyrrhinus helleri*	LC	2.02
Chiroptera	*Platyrrhinus infuscus*	LC	1.95
Chiroptera	*Platyrrhinus ismaeli*	VU	1.72
Chiroptera	*Platyrrhinus lineatus*	LC	1.99
Chiroptera	*Platyrrhinus masu*	LC	2.04
Chiroptera	*Platyrrhinus matapalensis*	NT	1.42
Chiroptera	*Platyrrhinus nigellus*	LC	1.87
Chiroptera	*Platyrrhinus recifinus*	LC	1.85
Chiroptera	*Platyrrhinus umbratus*	DD	1.95
Chiroptera	*Platyrrhinus vittatus*	LC	1.69
Chiroptera	*Plecotus auritus*	LC	2.19
Chiroptera	*Plecotus austriacus*	LC	1.90
Chiroptera	*Plecotus balensis*	DD	1.94
Chiroptera	*Plecotus christii*	DD	2.05
Chiroptera	*Plecotus kolombatovici*	LC	1.85
Chiroptera	*Plecotus macrobullaris*	LC	2.11
Chiroptera	*Plecotus ognevi*	LC	2.71
Chiroptera	*Plecotus sacrimontis*	LC	1.98
Chiroptera	*Plecotus sardus*	VU	1.63
Chiroptera	*Plecotus taivanus*	NT	1.51
Chiroptera	*Plecotus teneriffae*	EN	1.07
Chiroptera	*Plerotes anchietae*	DD	1.99
Chiroptera	*Promops centralis*	LC	1.90
Chiroptera	*Promops nasutus*	LC	2.02
Chiroptera	*Ptenochirus jagori*	LC	1.41
Chiroptera	*Ptenochirus minor*	LC	1.45
Chiroptera	*Pteralopex anceps*	EN	1.33
Chiroptera	*Pteralopex atrata*	EN	1.32
Chiroptera	*Pteralopex flanneryi*	CR	1.33

Chiroptera	*Pteralopex taki*	EN	1.32
Chiroptera	*Pteronotus davyi*	LC	1.81
Chiroptera	*Pteronotus gymnonotus*	LC	1.96
Chiroptera	*Pteronotus macleayii*	LC	1.39
Chiroptera	*Pteronotus paraguanensis*	CR	1.24
Chiroptera	*Pteronotus parnellii*	LC	1.96
Chiroptera	*Pteronotus personatus*	LC	1.91
Chiroptera	*Pteronotus quadridens*	LC	1.38
Chiroptera	*Pteropus admiralitatum*	LC	1.33
Chiroptera	*Pteropus aldabrensis*	VU	1.34
Chiroptera	*Pteropus alecto*	LC	1.56
Chiroptera	*Pteropus anetianus*	VU	1.31
Chiroptera	*Pteropus argentatus*	DD	1.34
Chiroptera	*Pteropus aruensis*	CR	1.32
Chiroptera	*Pteropus caniceps*	NT	1.38
Chiroptera	*Pteropus capistratus*	NT	1.34
Chiroptera	*Pteropus chrysoproctus*	NT	1.36
Chiroptera	*Pteropus cognatus*	EN	1.33
Chiroptera	*Pteropus conspicillatus*	LC	1.44
Chiroptera	*Pteropus dasymallus*	NT	1.50
Chiroptera	*Pteropus faunulus*	VU	1.36
Chiroptera	*Pteropus fundatus*	EN	1.31
Chiroptera	*Pteropus giganteus*	LC	1.95
Chiroptera	*Pteropus gilliardorum*	DD	1.36
Chiroptera	*Pteropus griseus*	DD	1.43
Chiroptera	*Pteropus howensis*	DD	1.34
Chiroptera	*Pteropus hypomelanus*	LC	1.42
Chiroptera	*Pteropus insularis*	CR	1.33
Chiroptera	*Pteropus intermedius*	DD	1.69
Chiroptera	*Pteropus keyensis*	DD	1.34
Chiroptera	*Pteropus leucopterus*	LC	1.38
Chiroptera	*Pteropus livingstonii*	EN	1.38
Chiroptera	*Pteropus lombocensis*	DD	1.36
Chiroptera	*Pteropus lylei*	VU	1.62
Chiroptera	*Pteropus macrotis*	LC	1.48
Chiroptera	*Pteropus mahaganus*	VU	1.33
Chiroptera	*Pteropus mariannus*	EN	1.36
Chiroptera	*Pteropus melanopogon*	EN	1.35
Chiroptera	*Pteropus melanotus*	VU	1.34
Chiroptera	*Pteropus molossinus*	VU	1.33
Chiroptera	*Pteropus neohibernicus*	LC	1.47
Chiroptera	*Pteropus niger*	VU	1.26
Chiroptera	*Pteropus nitendiensis*	EN	1.32

Chiroptera	*Pteropus ocularis*	VU	1.36
Chiroptera	*Pteropus ornatus*	VU	1.29
Chiroptera	*Pteropus pelewensis*	NT	1.33
Chiroptera	*Pteropus personatus*	LC	1.38
Chiroptera	*Pteropus pohlei*	EN	1.44
Chiroptera	*Pteropus poliocephalus*	VU	1.67
Chiroptera	*Pteropus pselaphon*	CR	1.33
Chiroptera	*Pteropus pumilus*	NT	1.37
Chiroptera	*Pteropus rayneri*	NT	1.33
Chiroptera	*Pteropus rennelli*	VU	1.32
Chiroptera	*Pteropus rodricensis*	CR	1.25
Chiroptera	*Pteropus rufus*	VU	1.69
Chiroptera	*Pteropus samoensis*	NT	1.29
Chiroptera	*Pteropus scapulatus*	LC	1.70
Chiroptera	*Pteropus seychellensis*	LC	1.39
Chiroptera	*Pteropus speciosus*	DD	1.35
Chiroptera	*Pteropus temminckii*	VU	1.36
Chiroptera	*Pteropus tonganus*	LC	1.30
Chiroptera	*Pteropus ualanus*	VU	1.33
Chiroptera	*Pteropus vampyrus*	NT	1.51
Chiroptera	*Pteropus vetulus*	VU	1.29
Chiroptera	*Pteropus voeltzkowi*	VU	1.59
Chiroptera	*Pteropus woodfordi*	VU	1.32
Chiroptera	*Pteropus yapensis*	VU	1.34
Chiroptera	*Pygoderma bilabiatum*	LC	2.04
Chiroptera	*Rhinolophus acuminatus*	LC	1.56
Chiroptera	*Rhinolophus adami*	DD	1.81
Chiroptera	*Rhinolophus affinis*	LC	1.81
Chiroptera	*Rhinolophus alcyone*	LC	1.85
Chiroptera	*Rhinolophus arcuatus*	LC	1.45
Chiroptera	*Rhinolophus beddomei*	LC	1.50
Chiroptera	*Rhinolophus blasii*	LC	2.19
Chiroptera	*Rhinolophus bocharicus*	LC	2.30
Chiroptera	*Rhinolophus borneensis*	LC	1.54
Chiroptera	*Rhinolophus canuti*	VU	1.37
Chiroptera	*Rhinolophus capensis*	LC	1.73
Chiroptera	*Rhinolophus celebensis*	LC	1.44
Chiroptera	*Rhinolophus clivosus*	LC	1.99
Chiroptera	*Rhinolophus coelophyllus*	LC	1.68
Chiroptera	*Rhinolophus cognatus*	EN	1.37
Chiroptera	*Rhinolophus convexus*	DD	1.86
Chiroptera	*Rhinolophus creaghi*	LC	1.40
Chiroptera	*Rhinolophus darlingi*	LC	2.15

Chiroptera	*Rhinolophus deckenii*	NT	1.79
Chiroptera	*Rhinolophus denti*	LC	2.12
Chiroptera	*Rhinolophus eloquens*	LC	1.86
Chiroptera	*Rhinolophus euryale*	NT	1.90
Chiroptera	*Rhinolophus euryotis*	LC	1.45
Chiroptera	*Rhinolophus ferrumequinum*	LC	2.11
Chiroptera	*Rhinolophus formosae*	NT	1.52
Chiroptera	*Rhinolophus fumigatus*	LC	1.96
Chiroptera	*Rhinolophus guineensis*	VU	1.83
Chiroptera	*Rhinolophus hildebrandti*	LC	1.97
Chiroptera	*Rhinolophus hilli*	CR	1.96
Chiroptera	*Rhinolophus hillorum*	NT	1.85
Chiroptera	*Rhinolophus hipposideros*	LC	2.01
Chiroptera	*Rhinolophus inops*	LC	1.39
Chiroptera	*Rhinolophus keyensis*	DD	1.36
Chiroptera	*Rhinolophus landeri*	LC	1.92
Chiroptera	*Rhinolophus lepidus*	LC	1.88
Chiroptera	*Rhinolophus luctus*	LC	1.72
Chiroptera	*Rhinolophus maclaudi*	EN	1.86
Chiroptera	*Rhinolophus macrotis*	LC	1.97
Chiroptera	*Rhinolophus madurensis*	EN	1.38
Chiroptera	*Rhinolophus maendeleo*	DD	1.77
Chiroptera	*Rhinolophus malayanus*	LC	1.71
Chiroptera	*Rhinolophus marshalli*	LC	1.78
Chiroptera	*Rhinolophus megaphyllus*	LC	1.62
Chiroptera	*Rhinolophus mehelyi*	VU	1.96
Chiroptera	*Rhinolophus mitratus*	DD	1.96
Chiroptera	*Rhinolophus montanus*	DD	1.33
Chiroptera	*Rhinolophus nereis*	DD	1.35
Chiroptera	*Rhinolophus osgoodi*	DD	1.92
Chiroptera	*Rhinolophus paradoxolophus*	LC	1.81
Chiroptera	*Rhinolophus pearsonii*	LC	1.96
Chiroptera	*Rhinolophus philippinensis*	LC	1.44
Chiroptera	*Rhinolophus pusillus*	LC	1.84
Chiroptera	*Rhinolophus rex*	LC	1.97
Chiroptera	*Rhinolophus robinsoni*	NT	1.51
Chiroptera	*Rhinolophus rouxii*	LC	1.75
Chiroptera	*Rhinolophus rufus*	NT	1.42
Chiroptera	*Rhinolophus ruwenzorii*	VU	1.96
Chiroptera	*Rhinolophus sakejiensis*	DD	2.01
Chiroptera	*Rhinolophus sedulus*	NT	1.54
Chiroptera	*Rhinolophus shameli*	LC	1.73
Chiroptera	*Rhinolophus shortridgei*	LC	1.96

Chiroptera	*Rhinolophus siamensis*	LC	1.86
Chiroptera	*Rhinolophus silvestris*	DD	1.72
Chiroptera	*Rhinolophus simulator*	LC	1.98
Chiroptera	*Rhinolophus sinicus*	LC	2.01
Chiroptera	*Rhinolophus stheno*	LC	1.64
Chiroptera	*Rhinolophus subbadius*	LC	2.10
Chiroptera	*Rhinolophus subrufus*	DD	1.40
Chiroptera	*Rhinolophus swinnyi*	LC	2.04
Chiroptera	*Rhinolophus thomasi*	LC	1.82
Chiroptera	*Rhinolophus trifoliatus*	LC	1.54
Chiroptera	*Rhinolophus virgo*	LC	1.39
Chiroptera	*Rhinolophus yunanensis*	LC	1.87
Chiroptera	*Rhinolophus ziama*	EN	1.95
Chiroptera	*Rhinonicteris aurantia*	LC	1.64
Chiroptera	*Rhinophylla alethina*	NT	1.42
Chiroptera	*Rhinophylla fischerae*	LC	2.03
Chiroptera	*Rhinophylla pumilio*	LC	2.00
Chiroptera	*Rhinopoma hardwickii*	LC	2.08
Chiroptera	*Rhinopoma microphyllum*	LC	2.04
Chiroptera	*Rhinopoma muscatellum*	LC	2.29
Chiroptera	*Rhogeessa aeneus*	LC	1.55
Chiroptera	*Rhogeessa alleni*	LC	1.87
Chiroptera	*Rhogeessa genowaysi*	EN	1.85
Chiroptera	*Rhogeessa gracilis*	LC	1.83
Chiroptera	*Rhogeessa hussoni*	DD	1.98
Chiroptera	*Rhogeessa io*	LC	1.99
Chiroptera	*Rhogeessa minutilla*	VU	1.82
Chiroptera	*Rhogeessa mira*	VU	1.62
Chiroptera	*Rhogeessa parvula*	LC	1.80
Chiroptera	*Rhogeessa tumida*	LC	1.82
Chiroptera	*Rhynchonycteris naso*	LC	2.00
Chiroptera	*Rousettus aegyptiacus*	LC	1.87
Chiroptera	*Rousettus amplexicaudatus*	LC	1.55
Chiroptera	*Rousettus bidens*	VU	1.45
Chiroptera	*Rousettus celebensis*	LC	1.44
Chiroptera	*Rousettus lanosus*	LC	1.86
Chiroptera	*Rousettus leschenaultii*	LC	1.83
Chiroptera	*Rousettus linduensis*	DD	1.47
Chiroptera	*Rousettus madagascariensis*	NT	1.58
Chiroptera	*Rousettus obliviosus*	VU	1.37
Chiroptera	*Rousettus spinalatus*	VU	1.42
Chiroptera	*Saccolaimus flaviventris*	LC	1.80
Chiroptera	*Saccolaimus mixtus*	DD	1.41

Chiroptera	*Saccolaimus peli*	LC	1.86
Chiroptera	*Saccolaimus saccolaimus*	LC	1.57
Chiroptera	*Saccopteryx antioquensis*	DD	1.80
Chiroptera	*Saccopteryx bilineata*	LC	1.99
Chiroptera	*Saccopteryx canescens*	LC	1.99
Chiroptera	*Saccopteryx leptura*	LC	2.00
Chiroptera	*Sauromys petrophilus*	LC	1.98
Chiroptera	*Scleronycteris ega*	LC	2.06
Chiroptera	*Scoteanax rueppellii*	LC	1.65
Chiroptera	*Scotoecus albofuscus*	DD	1.87
Chiroptera	*Scotoecus hirundo*	LC	1.92
Chiroptera	*Scotoecus pallidus*	LC	2.20
Chiroptera	*Scotomanes ornatus*	LC	1.93
Chiroptera	*Scotonycteris ophiodon*	NT	1.64
Chiroptera	*Scotonycteris zenkeri*	LC	1.81
Chiroptera	*Scotophilus celebensis*	DD	1.44
Chiroptera	*Scotophilus collinus*	LC	1.41
Chiroptera	*Scotophilus dinganii*	LC	1.98
Chiroptera	*Scotophilus heathii*	LC	1.91
Chiroptera	*Scotophilus kuhlii*	LC	1.72
Chiroptera	*Scotophilus leucogaster*	LC	1.96
Chiroptera	*Scotophilus marovaza*	LC	1.45
Chiroptera	*Scotophilus nigrita*	LC	1.93
Chiroptera	*Scotophilus nucella*	DD	1.82
Chiroptera	*Scotophilus nux*	LC	1.83
Chiroptera	*Scotophilus robustus*	LC	1.66
Chiroptera	*Scotophilus tandrefana*	DD	1.46
Chiroptera	*Scotophilus viridis*	LC	1.94
Chiroptera	*Scotorepens balstoni*	LC	1.85
Chiroptera	*Scotorepens greyii*	LC	1.80
Chiroptera	*Scotorepens orion*	LC	1.69
Chiroptera	*Scotorepens sanborni*	LC	1.57
Chiroptera	*Scotozous dormeri*	LC	1.91
Chiroptera	*Sphaerias blanfordi*	LC	2.03
Chiroptera	*Sphaeronycteris toxophyllum*	DD	2.06
Chiroptera	*Stenoderma rufum*	VU	1.28
Chiroptera	*Sturnira aratathomasi*	NT	1.47
Chiroptera	*Sturnira bidens*	LC	1.74
Chiroptera	*Sturnira bogotensis*	LC	1.67
Chiroptera	*Sturnira erythromos*	LC	1.90
Chiroptera	*Sturnira lilium*	LC	1.98
Chiroptera	*Sturnira ludovici*	LC	1.78
Chiroptera	*Sturnira luisi*	LC	1.55

Chiroptera	*Sturnira magna*	LC	1.93
Chiroptera	*Sturnira mistratensis*	DD	1.43
Chiroptera	*Sturnira mordax*	NT	1.60
Chiroptera	*Sturnira nana*	EN	1.99
Chiroptera	*Sturnira oporaphilum*	NT	2.01
Chiroptera	*Sturnira sorianoi*	DD	2.12
Chiroptera	*Sturnira thomasi*	VU	1.22
Chiroptera	*Sturnira tildae*	LC	2.04
Chiroptera	*Styloctenium mindorensis*	DD	1.35
Chiroptera	*Styloctenium wallacei*	NT	1.44
Chiroptera	*Syconycteris australis*	LC	1.48
Chiroptera	*Syconycteris carolinae*	VU	1.39
Chiroptera	*Syconycteris hobbit*	VU	1.55
Chiroptera	*Tadarida aegyptiaca*	LC	2.03
Chiroptera	*Tadarida aloysiisabaudiae*	LC	1.89
Chiroptera	*Tadarida ansorgei*	LC	1.97
Chiroptera	*Tadarida australis*	LC	1.81
Chiroptera	*Tadarida bemmeleni*	LC	1.87
Chiroptera	*Tadarida bivittata*	LC	1.94
Chiroptera	*Tadarida brachyptera*	LC	1.84
Chiroptera	*Tadarida brasiliensis*	LC	1.88
Chiroptera	*Tadarida bregullae*	EN	1.30
Chiroptera	*Tadarida chapini*	LC	1.98
Chiroptera	*Tadarida condylura*	LC	1.94
Chiroptera	*Tadarida congica*	LC	1.90
Chiroptera	*Tadarida demonstrator*	LC	1.95
Chiroptera	*Tadarida fulminans*	LC	2.08
Chiroptera	*Tadarida gallagheri*	DD	1.93
Chiroptera	*Tadarida insignis*	DD	1.96
Chiroptera	*Tadarida jobensis*	LC	1.69
Chiroptera	*Tadarida jobimena*	LC	1.51
Chiroptera	*Tadarida johorensis*	VU	1.54
Chiroptera	*Tadarida kuboriensis*	LC	1.52
Chiroptera	*Tadarida latouchei*	DD	2.01
Chiroptera	*Tadarida leucostigma*	LC	1.51
Chiroptera	*Tadarida lobata*	LC	1.95
Chiroptera	*Tadarida major*	LC	1.98
Chiroptera	*Tadarida midas*	LC	1.95
Chiroptera	*Tadarida mops*	NT	1.49
Chiroptera	*Tadarida nanula*	LC	1.85
Chiroptera	*Tadarida niangarae*	DD	1.93
Chiroptera	*Tadarida nigeriae*	LC	2.03
Chiroptera	*Tadarida niveiventer*	LC	2.03

Chiroptera	*Tadarida petersoni*	NT	1.65
Chiroptera	*Tadarida plicata*	LC	1.59
Chiroptera	*Tadarida pumila*	LC	1.92
Chiroptera	*Tadarida russata*	DD	1.87
Chiroptera	*Tadarida sarasinorum*	DD	1.44
Chiroptera	*Tadarida solomonis*	LC	1.32
Chiroptera	*Tadarida spurrelli*	LC	1.83
Chiroptera	*Tadarida teniotis*	LC	1.94
Chiroptera	*Tadarida thersites*	LC	1.86
Chiroptera	*Tadarida tomensis*	EN	1.43
Chiroptera	*Tadarida trevori*	DD	1.85
Chiroptera	*Tadarida ventralis*	DD	1.94
Chiroptera	*Taphozous achates*	DD	1.34
Chiroptera	*Taphozous australis*	NT	1.48
Chiroptera	*Taphozous georgianus*	LC	1.71
Chiroptera	*Taphozous hamiltoni*	DD	1.91
Chiroptera	*Taphozous hildegardeae*	VU	1.74
Chiroptera	*Taphozous hilli*	LC	1.97
Chiroptera	*Taphozous kapalgensis*	LC	1.55
Chiroptera	*Taphozous longimanus*	LC	1.72
Chiroptera	*Taphozous mauritianus*	LC	1.93
Chiroptera	*Taphozous melanopogon*	LC	1.70
Chiroptera	*Taphozous nudiventris*	LC	1.97
Chiroptera	*Taphozous perforatus*	LC	1.98
Chiroptera	*Taphozous theobaldi*	LC	1.64
Chiroptera	*Taphozous troughtoni*	LC	1.73
Chiroptera	*Thoopterus nigrescens*	LC	1.44
Chiroptera	*Thyroptera devivoi*	DD	2.01
Chiroptera	*Thyroptera discifera*	LC	2.00
Chiroptera	*Thyroptera lavali*	DD	1.87
Chiroptera	*Thyroptera tricolor*	LC	2.01
Chiroptera	*Tomopeas ravus*	VU	1.69
Chiroptera	*Tonatia bidens*	DD	2.05
Chiroptera	*Tonatia saurophila*	LC	1.94
Chiroptera	*Trachops cirrhosus*	LC	2.00
Chiroptera	*Triaenops auritus*	VU	1.39
Chiroptera	*Triaenops furculus*	LC	1.44
Chiroptera	*Triaenops persicus*	LC	1.94
Chiroptera	*Triaenops rufus*	LC	1.55
Chiroptera	*Trinycteris nicefori*	LC	1.92
Chiroptera	*Tylonycteris pachypus*	LC	1.67
Chiroptera	*Tylonycteris robustula*	LC	1.65
Chiroptera	*Uroderma bilobatum*	LC	2.00

Chiroptera	*Uroderma magnirostrum*	LC	2.01
Chiroptera	*Vampyressa bidens*	LC	2.04
Chiroptera	*Vampyressa brocki*	LC	2.00
Chiroptera	*Vampyressa melissa*	VU	1.83
Chiroptera	*Vampyressa nymphaea*	LC	1.47
Chiroptera	*Vampyressa pusilla*	DD	1.96
Chiroptera	*Vampyressa thyone*	LC	1.89
Chiroptera	*Vampyrodes caraccioli*	LC	2.01
Chiroptera	*Vampyrum spectrum*	NT	1.95
Chiroptera	*Vespadelus baverstocki*	LC	1.84
Chiroptera	*Vespadelus caurinus*	LC	1.65
Chiroptera	*Vespadelus darlingtoni*	LC	1.62
Chiroptera	*Vespadelus douglasorum*	LC	1.59
Chiroptera	*Vespadelus finlaysoni*	LC	1.86
Chiroptera	*Vespadelus pumilus*	LC	1.70
Chiroptera	*Vespadelus regulus*	LC	1.60
Chiroptera	*Vespadelus troughtoni*	LC	1.68
Chiroptera	*Vespadelus vulturnus*	LC	1.75
Chiroptera	*Vespertilio murinus*	LC	2.53
Chiroptera	*Vespertilio sinensis*	LC	2.35
Chiroptera	*Xeronycteris vieirai*	DD	1.84
Cingulata	*Cabassous centralis*	DD	1.66
Cingulata	*Cabassous chacoensis*	NT	1.97
Cingulata	*Cabassous tatouay*	LC	2.01
Cingulata	*Cabassous unicinctus*	LC	2.07
Cingulata	*Calyptophractus retusus*	DD	2.08
Cingulata	*Chaetophractus nationi*	VU	2.15
Cingulata	*Chaetophractus vellerosus*	LC	1.87
Cingulata	*Chaetophractus villosus*	LC	1.62
Cingulata	*Chlamyphorus truncatus*	DD	1.65
Cingulata	*Dasypus hybridus*	NT	1.62
Cingulata	*Dasypus kappleri*	LC	2.06
Cingulata	*Dasypus novemcinctus*	LC	1.99
Cingulata	*Dasypus pilosus*	DD	1.86
Cingulata	*Dasypus sabanicola*	NT	1.99
Cingulata	*Dasypus septemcinctus*	LC	2.04
Cingulata	*Dasypus yepesi*	DD	2.12
Cingulata	*Euphractus sexcinctus*	LC	2.00
Cingulata	*Priodontes maximus*	VU	2.08
Cingulata	*Tolypeutes matacus*	NT	2.01
Cingulata	*Tolypeutes tricinctus*	VU	1.89
Cingulata	*Zaedyus pichiy*	NT	1.51
Dasyuromorphia	*Antechinomys laniger*	LC	1.91

Dasyuromorphia	*Antechinus adustus*	LC	1.63
Dasyuromorphia	*Antechinus agilis*	LC	1.63
Dasyuromorphia	*Antechinus bellus*	LC	1.56
Dasyuromorphia	*Antechinus flavipes*	LC	1.73
Dasyuromorphia	*Antechinus godmani*	NT	1.64
Dasyuromorphia	*Antechinus leo*	LC	1.39
Dasyuromorphia	*Antechinus minimus*	LC	1.37
Dasyuromorphia	*Antechinus stuartii*	LC	1.76
Dasyuromorphia	*Antechinus subtropicus*	LC	1.59
Dasyuromorphia	*Antechinus swainsonii*	LC	1.66
Dasyuromorphia	*Dasycercus blythi*	LC	1.97
Dasyuromorphia	*Dasycercus cristicauda*	LC	1.91
Dasyuromorphia	*Dasykaluta rosamondae*	LC	1.85
Dasyuromorphia	*Dasyuroides byrnei*	VU	1.98
Dasyuromorphia	*Dasyurus albopunctatus*	NT	1.49
Dasyuromorphia	*Dasyurus geoffroii*	NT	1.55
Dasyuromorphia	*Dasyurus hallucatus*	EN	1.60
Dasyuromorphia	*Dasyurus maculatus*	NT	1.67
Dasyuromorphia	*Dasyurus spartacus*	NT	1.51
Dasyuromorphia	*Dasyurus viverrinus*	NT	1.36
Dasyuromorphia	*Murexia habbema*	LC	1.56
Dasyuromorphia	*Murexia longicaudata*	LC	1.49
Dasyuromorphia	*Murexia melanurus*	LC	1.52
Dasyuromorphia	*Murexia naso*	LC	1.53
Dasyuromorphia	*Murexia rothschildi*	VU	1.40
Dasyuromorphia	*Myoictis leucura*	DD	1.56
Dasyuromorphia	*Myoictis melas*	LC	1.47
Dasyuromorphia	*Myoictis wallacei*	LC	1.51
Dasyuromorphia	*Myoictis wavicus*	DD	1.53
Dasyuromorphia	*Myrmecobius fasciatus*	EN	1.42
Dasyuromorphia	*Neophascogale lorentzii*	LC	1.51
Dasyuromorphia	*Ningaui ridei*	LC	1.92
Dasyuromorphia	*Ningaui timealeyi*	LC	1.80
Dasyuromorphia	*Ningaui yvonneae*	LC	1.72
Dasyuromorphia	*Parantechinus apicalis*	EN	1.65
Dasyuromorphia	*Phascogale calura*	NT	1.55
Dasyuromorphia	*Phascogale pirata*	VU	1.51
Dasyuromorphia	*Phascogale tapoatafa*	NT	1.56
Dasyuromorphia	*Phascolosorex doriae*	LC	1.46
Dasyuromorphia	*Phascolosorex dorsalis*	LC	1.52
Dasyuromorphia	*Planigale gilesi*	LC	1.86
Dasyuromorphia	*Planigale ingrami*	LC	1.81
Dasyuromorphia	*Planigale maculata*	LC	1.65

Dasyuromorphia	*Planigale novaeguineae*	LC	1.49
Dasyuromorphia	*Planigale tenuirostris*	LC	1.85
Dasyuromorphia	*Pseudantechinus bilarni*	NT	1.64
Dasyuromorphia	*Pseudantechinus macdonnellensis*	LC	2.00
Dasyuromorphia	*Pseudantechinus mimulus*	EN	1.88
Dasyuromorphia	*Pseudantechinus ningbing*	LC	1.63
Dasyuromorphia	*Pseudantechinus roryi*	LC	1.93
Dasyuromorphia	*Pseudantechinus woolleyae*	LC	1.91
Dasyuromorphia	*Sarcophilus harrisii*	EN	1.36
Dasyuromorphia	*Sminthopsis aitkeni*	CR	1.22
Dasyuromorphia	*Sminthopsis archeri*	DD	1.46
Dasyuromorphia	*Sminthopsis bindi*	LC	1.53
Dasyuromorphia	*Sminthopsis butleri*	VU	1.35
Dasyuromorphia	*Sminthopsis crassicaudata*	LC	1.79
Dasyuromorphia	*Sminthopsis dolichura*	LC	1.64
Dasyuromorphia	*Sminthopsis douglasi*	NT	1.78
Dasyuromorphia	*Sminthopsis fuliginosus*	DD	1.39
Dasyuromorphia	*Sminthopsis gilberti*	LC	1.55
Dasyuromorphia	*Sminthopsis granulipes*	LC	1.54
Dasyuromorphia	*Sminthopsis griseoventer*	LC	1.49
Dasyuromorphia	*Sminthopsis hirtipes*	LC	1.90
Dasyuromorphia	*Sminthopsis leucopus*	VU	1.50
Dasyuromorphia	*Sminthopsis longicaudata*	LC	1.95
Dasyuromorphia	*Sminthopsis macroura*	LC	1.86
Dasyuromorphia	*Sminthopsis murina*	LC	1.73
Dasyuromorphia	*Sminthopsis ooldea*	LC	1.90
Dasyuromorphia	*Sminthopsis psammophila*	EN	1.67
Dasyuromorphia	*Sminthopsis virginiae*	LC	1.49
Dasyuromorphia	*Sminthopsis youngsoni*	LC	1.95
Dermoptera	*Cynocephalus volans*	LC	1.45
Dermoptera	*Galeopterus variegatus*	LC	1.53
Didelphimorphia	*Caluromys derbianus*	LC	1.65
Didelphimorphia	*Caluromys lanatus*	LC	2.06
Didelphimorphia	*Caluromys philander*	LC	2.05
Didelphimorphia	*Caluromysiops irrupta*	LC	2.11
Didelphimorphia	*Chacodelphys formosa*	VU	1.86
Didelphimorphia	*Chironectes minimus*	LC	1.91
Didelphimorphia	*Cryptonanus agricolai*	DD	1.96
Didelphimorphia	*Cryptonanus chacoensis*	LC	1.95
Didelphimorphia	*Cryptonanus guahybae*	DD	1.70
Didelphimorphia	*Cryptonanus unduaviensis*	DD	2.24
Didelphimorphia	*Didelphis albiventris*	LC	1.93

Didelphimorphia	*Didelphis aurita*	LC	1.94
Didelphimorphia	*Didelphis imperfecta*	LC	2.01
Didelphimorphia	*Didelphis marsupialis*	LC	1.97
Didelphimorphia	*Didelphis pernigra*	LC	1.81
Didelphimorphia	*Didelphis virginiana*	LC	2.07
Didelphimorphia	*Glironia venusta*	LC	2.02
Didelphimorphia	*Gracilinanus aceramarcae*	LC	2.04
Didelphimorphia	*Gracilinanus agilis*	LC	2.06
Didelphimorphia	*Gracilinanus dryas*	NT	2.08
Didelphimorphia	*Gracilinanus emiliae*	DD	1.84
Didelphimorphia	*Gracilinanus marica*	LC	1.88
Didelphimorphia	*Gracilinanus microtarsus*	LC	1.93
Didelphimorphia	*Hyladelphys kalinowskii*	LC	2.03
Didelphimorphia	*Lestodelphys halli*	LC	1.49
Didelphimorphia	*Lutreolina crassicaudata*	LC	1.81
Didelphimorphia	*Marmosa alstoni*	LC	1.66
Didelphimorphia	*Marmosa andersoni*	DD	2.00
Didelphimorphia	*Marmosa constantiae*	LC	2.24
Didelphimorphia	*Marmosa demerarae*	LC	2.04
Didelphimorphia	*Marmosa lepida*	LC	1.94
Didelphimorphia	*Marmosa mexicana*	LC	1.73
Didelphimorphia	*Marmosa murina*	LC	2.02
Didelphimorphia	*Marmosa paraguayanus*	LC	1.94
Didelphimorphia	*Marmosa phaea*	VU	1.48
Didelphimorphia	*Marmosa quichua*	LC	1.96
Didelphimorphia	*Marmosa regina*	LC	1.99
Didelphimorphia	*Marmosa robinsoni*	LC	1.80
Didelphimorphia	*Marmosa rubra*	DD	1.91
Didelphimorphia	*Marmosa tyleriana*	DD	2.11
Didelphimorphia	*Marmosa xerophila*	VU	1.23
Didelphimorphia	*Marmosops bishopi*	LC	2.23
Didelphimorphia	*Marmosops cracens*	DD	1.24
Didelphimorphia	*Marmosops creightoni*	DD	2.07
Didelphimorphia	*Marmosops fuscatus*	DD	1.87
Didelphimorphia	*Marmosops handleyi*	CR	1.80
Didelphimorphia	*Marmosops impavidus*	LC	1.80
Didelphimorphia	*Marmosops incanus*	LC	1.88
Didelphimorphia	*Marmosops invictus*	LC	1.47
Didelphimorphia	*Marmosops juninensis*	VU	1.91
Didelphimorphia	*Marmosops neblina*	LC	2.06
Didelphimorphia	*Marmosops noctivagus*	LC	2.06
Didelphimorphia	*Marmosops ocellatus*	LC	2.28
Didelphimorphia	*Marmosops parvidens*	LC	2.03

Didelphimorphia	*Marmosops paulensis*	LC	1.88
Didelphimorphia	*Marmosops pinheiroi*	LC	1.87
Didelphimorphia	*Metachirus nudicaudatus*	LC	2.03
Didelphimorphia	*Monodelphis adusta*	LC	1.88
Didelphimorphia	*Monodelphis americana*	LC	1.86
Didelphimorphia	*Monodelphis brevicaudata*	LC	2.06
Didelphimorphia	*Monodelphis dimidiata*	LC	1.77
Didelphimorphia	*Monodelphis domestica*	LC	2.09
Didelphimorphia	*Monodelphis emiliae*	LC	2.10
Didelphimorphia	*Monodelphis glirina*	LC	2.19
Didelphimorphia	*Monodelphis handleyi*	NT	2.04
Didelphimorphia	*Monodelphis iheringi*	DD	1.90
Didelphimorphia	*Monodelphis kunsi*	LC	2.19
Didelphimorphia	*Monodelphis maraxina*	DD	1.74
Didelphimorphia	*Monodelphis osgoodi*	LC	2.03
Didelphimorphia	*Monodelphis palliolata*	LC	1.94
Didelphimorphia	*Monodelphis reigi*	VU	1.93
Didelphimorphia	*Monodelphis ronaldi*	LC	2.03
Didelphimorphia	*Monodelphis rubida*	DD	2.10
Didelphimorphia	*Monodelphis scalops*	LC	1.97
Didelphimorphia	*Monodelphis theresa*	DD	1.89
Didelphimorphia	*Monodelphis umbristriatus*	VU	2.04
Didelphimorphia	*Philander andersoni*	LC	1.96
Didelphimorphia	*Philander deltae*	LC	1.55
Didelphimorphia	*Philander frenatus*	LC	1.95
Didelphimorphia	*Philander mcilhennyi*	LC	2.10
Didelphimorphia	*Philander mondolfii*	LC	2.04
Didelphimorphia	*Philander olrogi*	DD	2.21
Didelphimorphia	*Philander opossum*	LC	2.06
Didelphimorphia	*Thylamys cinderella*	LC	2.28
Didelphimorphia	*Thylamys citellus*	LC	1.58
Didelphimorphia	*Thylamys elegans*	LC	1.31
Didelphimorphia	*Thylamys fenestrae*	LC	1.41
Didelphimorphia	*Thylamys karimii*	VU	2.09
Didelphimorphia	*Thylamys macrurus*	NT	2.05
Didelphimorphia	*Thylamys pallidior*	LC	1.82
Didelphimorphia	*Thylamys pulchellus*	LC	1.89
Didelphimorphia	*Thylamys pusillus*	LC	2.05
Didelphimorphia	*Thylamys sponsorius*	LC	2.10
Didelphimorphia	*Thylamys tatei*	DD	1.67
Didelphimorphia	*Thylamys velutinus*	LC	2.10
Didelphimorphia	*Thylamys venustus*	DD	2.18
Didelphimorphia	*Tlacuatzin canescens*	LC	1.78

Diprotodontia	*Acrobates pygmaeus*	LC	1.69
Diprotodontia	*Aepyprymnus rufescens*	LC	1.68
Diprotodontia	*Ailurops melanotis*	CR	1.33
Diprotodontia	*Ailurops ursinus*	VU	1.44
Diprotodontia	*Bettongia gaimardi*	NT	1.44
Diprotodontia	*Bettongia lesueur*	NT	1.51
Diprotodontia	*Bettongia penicillata*	CR	1.43
Diprotodontia	*Bettongia tropica*	EN	1.62
Diprotodontia	*Burramys parvus*	CR	1.77
Diprotodontia	*Cercartetus caudatus*	LC	1.51
Diprotodontia	*Cercartetus concinnus*	LC	1.55
Diprotodontia	*Cercartetus lepidus*	LC	1.43
Diprotodontia	*Cercartetus nanus*	LC	1.64
Diprotodontia	*Dactylonax palpator*	LC	1.51
Diprotodontia	*Dactylopsila megalura*	LC	1.49
Diprotodontia	*Dactylopsila tatei*	EN	1.34
Diprotodontia	*Dactylopsila trivirgata*	LC	1.49
Diprotodontia	*Dendrolagus bennettianus*	NT	1.57
Diprotodontia	*Dendrolagus dorianus*	VU	1.44
Diprotodontia	*Dendrolagus goodfellowi*	EN	1.55
Diprotodontia	*Dendrolagus inustus*	VU	1.42
Diprotodontia	*Dendrolagus lumholtzi*	LC	1.63
Diprotodontia	*Dendrolagus matschiei*	EN	1.44
Diprotodontia	*Dendrolagus mbaiso*	EN	1.46
Diprotodontia	*Dendrolagus notatus*	EN	1.58
Diprotodontia	*Dendrolagus pulcherrimus*	CR	1.33
Diprotodontia	*Dendrolagus scottae*	CR	1.33
Diprotodontia	*Dendrolagus spadix*	LC	1.59
Diprotodontia	*Dendrolagus stellarum*	VU	1.50
Diprotodontia	*Dendrolagus ursinus*	VU	1.43
Diprotodontia	*Distoechurus pennatus*	LC	1.50
Diprotodontia	*Dorcopsis atrata*	CR	1.34
Diprotodontia	*Dorcopsis hageni*	LC	1.48
Diprotodontia	*Dorcopsis luctuosa*	VU	1.49
Diprotodontia	*Dorcopsis muelleri*	LC	1.44
Diprotodontia	*Dorcopsulus macleayi*	LC	1.47
Diprotodontia	*Dorcopsulus vanheurni*	NT	1.52
Diprotodontia	*Gymnobelideus leadbeateri*	EN	1.53
Diprotodontia	*Hemibelideus lemuroides*	NT	1.65
Diprotodontia	*Hypsiprymnodon moschatus*	LC	1.62
Diprotodontia	*Lagorchestes conspicillatus*	LC	1.71
Diprotodontia	*Lagorchestes hirsutus*	VU	1.38
Diprotodontia	*Lagostrophus fasciatus*	EN	1.38

Diprotodontia	*Lasiorhinus krefftii*	CR	1.69
Diprotodontia	*Lasiorhinus latifrons*	LC	1.55
Diprotodontia	*Macropus agilis*	LC	1.60
Diprotodontia	*Macropus antilopinus*	LC	1.59
Diprotodontia	*Macropus bernardus*	NT	1.64
Diprotodontia	*Macropus dorsalis*	LC	1.71
Diprotodontia	*Macropus eugenii*	LC	1.45
Diprotodontia	*Macropus fuliginosus*	LC	1.68
Diprotodontia	*Macropus giganteus*	LC	1.75
Diprotodontia	*Macropus irma*	LC	1.46
Diprotodontia	*Macropus parma*	NT	1.72
Diprotodontia	*Macropus parryi*	LC	1.66
Diprotodontia	*Macropus robustus*	LC	1.81
Diprotodontia	*Macropus rufogriseus*	LC	1.69
Diprotodontia	*Macropus rufus*	LC	1.84
Diprotodontia	*Onychogalea fraenata*	EN	1.67
Diprotodontia	*Onychogalea unguifera*	LC	1.69
Diprotodontia	*Petauroides volans*	LC	1.70
Diprotodontia	*Petaurus abidi*	CR	1.33
Diprotodontia	*Petaurus australis*	LC	1.69
Diprotodontia	*Petaurus biacensis*	LC	1.42
Diprotodontia	*Petaurus breviceps*	LC	1.61
Diprotodontia	*Petaurus gracilis*	EN	1.67
Diprotodontia	*Petaurus norfolcensis*	LC	1.69
Diprotodontia	*Petrogale assimilis*	LC	1.72
Diprotodontia	*Petrogale brachyotis*	LC	1.60
Diprotodontia	*Petrogale burbidgei*	NT	1.49
Diprotodontia	*Petrogale coenensis*	NT	1.39
Diprotodontia	*Petrogale concinna*	DD	1.56
Diprotodontia	*Petrogale godmani*	LC	1.56
Diprotodontia	*Petrogale herberti*	LC	1.71
Diprotodontia	*Petrogale inornata*	LC	1.63
Diprotodontia	*Petrogale lateralis*	NT	1.92
Diprotodontia	*Petrogale mareeba*	LC	1.60
Diprotodontia	*Petrogale penicillata*	NT	1.75
Diprotodontia	*Petrogale persephone*	EN	1.65
Diprotodontia	*Petrogale purpureicollis*	LC	1.84
Diprotodontia	*Petrogale rothschildi*	LC	1.81
Diprotodontia	*Petrogale sharmani*	NT	1.69
Diprotodontia	*Petrogale xanthopus*	NT	1.80
Diprotodontia	*Petropseudes dahli*	LC	1.67
Diprotodontia	*Phalanger alexandrae*	EN	1.36
Diprotodontia	*Phalanger carmelitae*	LC	1.53

Diprotodontia	*Phalanger gymnotis*	LC	1.48
Diprotodontia	*Phalanger intercastellanus*	LC	1.42
Diprotodontia	*Phalanger lullulae*	EN	1.30
Diprotodontia	*Phalanger matabiru*	VU	1.39
Diprotodontia	*Phalanger matanim*	CR	1.60
Diprotodontia	*Phalanger mimicus*	LC	1.49
Diprotodontia	*Phalanger orientalis*	LC	1.47
Diprotodontia	*Phalanger ornatus*	LC	1.38
Diprotodontia	*Phalanger rothschildi*	LC	1.36
Diprotodontia	*Phalanger sericeus*	LC	1.53
Diprotodontia	*Phalanger vestitus*	LC	1.55
Diprotodontia	*Phascolarctos cinereus*	LC	1.72
Diprotodontia	*Potorous gilbertii*	CR	1.29
Diprotodontia	*Potorous longipes*	EN	1.66
Diprotodontia	*Potorous tridactylus*	LC	1.57
Diprotodontia	*Pseudocheirus occidentalis*	VU	1.28
Diprotodontia	*Pseudocheirus peregrinus*	LC	1.64
Diprotodontia	*Pseudochirops albertisii*	NT	1.41
Diprotodontia	*Pseudochirops archeri*	LC	1.63
Diprotodontia	*Pseudochirops corinnae*	NT	1.53
Diprotodontia	*Pseudochirops coronatus*	VU	1.47
Diprotodontia	*Pseudochirops cupreus*	LC	1.53
Diprotodontia	*Pseudochirulus canescens*	LC	1.48
Diprotodontia	*Pseudochirulus caroli*	LC	1.46
Diprotodontia	*Pseudochirulus cinereus*	LC	1.57
Diprotodontia	*Pseudochirulus forbesi*	LC	1.45
Diprotodontia	*Pseudochirulus herbertensis*	LC	1.65
Diprotodontia	*Pseudochirulus larvatus*	LC	1.55
Diprotodontia	*Pseudochirulus mayeri*	LC	1.52
Diprotodontia	*Pseudochirulus schlegeli*	VU	1.47
Diprotodontia	*Setonix brachyurus*	VU	1.33
Diprotodontia	*Spilocuscus kraemeri*	NT	1.33
Diprotodontia	*Spilocuscus maculatus*	LC	1.48
Diprotodontia	*Spilocuscus papuensis*	VU	1.36
Diprotodontia	*Spilocuscus rufoniger*	CR	1.48
Diprotodontia	*Spilocuscus wilsoni*	CR	1.42
Diprotodontia	*Strigocuscus celebensis*	VU	1.44
Diprotodontia	*Strigocuscus pelengensis*	LC	1.42
Diprotodontia	*Tarsipes rostratus*	LC	1.50
Diprotodontia	*Thylogale billardierii*	LC	1.37
Diprotodontia	*Thylogale browni*	VU	1.54
Diprotodontia	*Thylogale brunii*	VU	1.47
Diprotodontia	*Thylogale calabyi*	EN	1.53

Diprotodontia	*Thylogale lanatus*	EN	1.41
Diprotodontia	*Thylogale stigmatica*	LC	1.57
Diprotodontia	*Thylogale thetis*	LC	1.73
Diprotodontia	*Trichosurus caninus*	LC	1.66
Diprotodontia	*Trichosurus cunninghami*	LC	1.72
Diprotodontia	*Trichosurus vulpecula*	LC	1.68
Diprotodontia	*Vombatus ursinus*	LC	1.64
Diprotodontia	*Wallabia bicolor*	LC	1.70
Diprotodontia	*Wyulda squamicaudata*	DD	1.52
Eulipotyphla	*Anourosorex assamensis*	LC	1.97
Eulipotyphla	*Anourosorex schmidi*	DD	2.57
Eulipotyphla	*Anourosorex squamipes*	LC	2.02
Eulipotyphla	*Anourosorex yamashinai*	LC	1.51
Eulipotyphla	*Atelerix albiventris*	LC	1.93
Eulipotyphla	*Atelerix algirus*	LC	1.77
Eulipotyphla	*Atelerix frontalis*	LC	2.14
Eulipotyphla	*Atelerix sclateri*	LC	1.79
Eulipotyphla	*Blarina brevicauda*	LC	2.62
Eulipotyphla	*Blarina carolinensis*	LC	1.99
Eulipotyphla	*Blarina hylophaga*	LC	2.25
Eulipotyphla	*Blarinella griselda*	LC	2.06
Eulipotyphla	*Blarinella quadraticauda*	NT	2.21
Eulipotyphla	*Blarinella wardi*	LC	1.95
Eulipotyphla	*Chimarrogale hantu*	NT	1.51
Eulipotyphla	*Chimarrogale himalayica*	LC	2.05
Eulipotyphla	*Chimarrogale phaeura*	EN	1.35
Eulipotyphla	*Chimarrogale platycephalus*	LC	1.83
Eulipotyphla	*Chimarrogale styani*	LC	2.29
Eulipotyphla	*Chimarrogale sumatrana*	DD	1.34
Eulipotyphla	*Chodsigoa caovansunga*	DD	1.93
Eulipotyphla	*Chodsigoa hypsibia*	LC	2.23
Eulipotyphla	*Chodsigoa lamula*	LC	2.26
Eulipotyphla	*Chodsigoa parca*	LC	1.97
Eulipotyphla	*Chodsigoa parva*	DD	1.92
Eulipotyphla	*Chodsigoa salenskii*	DD	2.10
Eulipotyphla	*Chodsigoa smithii*	NT	2.15
Eulipotyphla	*Chodsigoa sodalis*	DD	1.48
Eulipotyphla	*Condylura cristata*	LC	2.79
Eulipotyphla	*Congosorex phillipsorum*	CR	1.85
Eulipotyphla	*Congosorex polli*	DD	1.97
Eulipotyphla	*Congosorex verheyeni*	LC	1.86
Eulipotyphla	*Crocidura aleksandrisi*	LC	1.60
Eulipotyphla	*Crocidura allex*	VU	1.78

Eulipotyphla	*Crocidura andamanensis*	CR	1.36
Eulipotyphla	*Crocidura ansellorum*	EN	2.05
Eulipotyphla	*Crocidura arabica*	LC	1.94
Eulipotyphla	*Crocidura arispa*	LC	2.06
Eulipotyphla	*Crocidura armenica*	DD	2.18
Eulipotyphla	*Crocidura attenuata*	LC	1.88
Eulipotyphla	*Crocidura attila*	LC	1.90
Eulipotyphla	*Crocidura baileyi*	EN	1.96
Eulipotyphla	*Crocidura baluensis*	VU	1.35
Eulipotyphla	*Crocidura batesi*	LC	1.70
Eulipotyphla	*Crocidura beatus*	LC	1.44
Eulipotyphla	*Crocidura beccarii*	LC	1.44
Eulipotyphla	*Crocidura bottegi*	DD	1.86
Eulipotyphla	*Crocidura bottegoides*	EN	1.90
Eulipotyphla	*Crocidura brunnea*	LC	1.44
Eulipotyphla	*Crocidura buettikoferi*	NT	1.70
Eulipotyphla	*Crocidura caliginea*	LC	1.95
Eulipotyphla	*Crocidura canariensis*	EN	1.04
Eulipotyphla	*Crocidura caspica*	DD	2.20
Eulipotyphla	*Crocidura cinderella*	LC	2.03
Eulipotyphla	*Crocidura congobelgica*	LC	1.95
Eulipotyphla	*Crocidura crenata*	LC	1.72
Eulipotyphla	*Crocidura crossei*	LC	1.82
Eulipotyphla	*Crocidura cyanea*	LC	2.02
Eulipotyphla	*Crocidura denti*	LC	1.87
Eulipotyphla	*Crocidura desperata*	EN	1.86
Eulipotyphla	*Crocidura dolichura*	LC	1.85
Eulipotyphla	*Crocidura douceti*	DD	1.75
Eulipotyphla	*Crocidura dsinezumi*	LC	1.84
Eulipotyphla	*Crocidura eisentrauti*	VU	1.58
Eulipotyphla	*Crocidura elgonius*	LC	1.79
Eulipotyphla	*Crocidura elongata*	LC	1.45
Eulipotyphla	*Crocidura erica*	DD	1.74
Eulipotyphla	*Crocidura fischeri*	DD	1.78
Eulipotyphla	*Crocidura flavescens*	LC	1.88
Eulipotyphla	*Crocidura floweri*	DD	1.54
Eulipotyphla	*Crocidura foetida*	LC	1.54
Eulipotyphla	*Crocidura foxi*	LC	1.93
Eulipotyphla	*Crocidura fuliginosa*	LC	1.82
Eulipotyphla	*Crocidura fulvastra*	LC	2.02
Eulipotyphla	*Crocidura fumosa*	VU	1.81
Eulipotyphla	*Crocidura fuscomurina*	LC	2.00
Eulipotyphla	*Crocidura glassi*	VU	1.92

Eulipotyphla	*Crocidura gmelini*	LC	2.43
Eulipotyphla	*Crocidura goliath*	LC	1.75
Eulipotyphla	*Crocidura grandiceps*	NT	1.78
Eulipotyphla	*Crocidura grandis*	DD	1.36
Eulipotyphla	*Crocidura grassei*	LC	1.76
Eulipotyphla	*Crocidura grayi*	LC	1.38
Eulipotyphla	*Crocidura greenwoodi*	LC	1.77
Eulipotyphla	*Crocidura harenna*	CR	1.88
Eulipotyphla	*Crocidura hikmiya*	EN	1.41
Eulipotyphla	*Crocidura hildegardeae*	LC	1.89
Eulipotyphla	*Crocidura hilliana*	DD	1.64
Eulipotyphla	*Crocidura hirta*	LC	2.06
Eulipotyphla	*Crocidura hispida*	VU	1.37
Eulipotyphla	*Crocidura horsfieldii*	DD	1.92
Eulipotyphla	*Crocidura hutanis*	LC	1.44
Eulipotyphla	*Crocidura indochinensis*	LC	1.83
Eulipotyphla	*Crocidura jacksoni*	LC	1.86
Eulipotyphla	*Crocidura jenkinsi*	CR	1.36
Eulipotyphla	*Crocidura jouvenetae*	LC	1.74
Eulipotyphla	*Crocidura katinka*	DD	1.87
Eulipotyphla	*Crocidura kivuana*	VU	1.96
Eulipotyphla	*Crocidura lamottei*	LC	1.89
Eulipotyphla	*Crocidura lanosa*	EN	1.96
Eulipotyphla	*Crocidura lasiura*	LC	2.39
Eulipotyphla	*Crocidura latona*	LC	1.94
Eulipotyphla	*Crocidura lea*	LC	1.44
Eulipotyphla	*Crocidura lepidura*	LC	1.52
Eulipotyphla	*Crocidura leucodon*	LC	2.06
Eulipotyphla	*Crocidura levicula*	LC	1.48
Eulipotyphla	*Crocidura littoralis*	LC	1.91
Eulipotyphla	*Crocidura longipes*	DD	1.98
Eulipotyphla	*Crocidura lucina*	VU	1.90
Eulipotyphla	*Crocidura ludia*	LC	1.92
Eulipotyphla	*Crocidura luna*	LC	1.93
Eulipotyphla	*Crocidura lusitania*	LC	2.08
Eulipotyphla	*Crocidura macarthuri*	LC	1.79
Eulipotyphla	*Crocidura macmillani*	VU	1.91
Eulipotyphla	*Crocidura macowi*	DD	1.82
Eulipotyphla	*Crocidura malayana*	LC	1.51
Eulipotyphla	*Crocidura manengubae*	VU	1.86
Eulipotyphla	*Crocidura maquassiensis*	LC	2.12
Eulipotyphla	*Crocidura mariquensis*	LC	2.11
Eulipotyphla	*Crocidura maurisca*	LC	1.91

Eulipotyphla	*Crocidura maxi*	LC	1.41
Eulipotyphla	*Crocidura mindorus*	DD	1.39
Eulipotyphla	*Crocidura miya*	EN	1.41
Eulipotyphla	*Crocidura monax*	LC	1.80
Eulipotyphla	*Crocidura monticola*	LC	1.49
Eulipotyphla	*Crocidura montis*	LC	1.81
Eulipotyphla	*Crocidura muricauda*	LC	1.77
Eulipotyphla	*Crocidura musseri*	DD	1.47
Eulipotyphla	*Crocidura mutesae*	DD	1.90
Eulipotyphla	*Crocidura nana*	LC	1.92
Eulipotyphla	*Crocidura nanilla*	LC	1.82
Eulipotyphla	*Crocidura negligens*	LC	1.51
Eulipotyphla	*Crocidura negrina*	EN	1.36
Eulipotyphla	*Crocidura nicobarica*	CR	1.34
Eulipotyphla	*Crocidura nigeriae*	LC	1.77
Eulipotyphla	*Crocidura nigricans*	LC	1.75
Eulipotyphla	*Crocidura nigripes*	LC	1.43
Eulipotyphla	*Crocidura nigrofusca*	LC	1.94
Eulipotyphla	*Crocidura nimbae*	NT	1.81
Eulipotyphla	*Crocidura niobe*	NT	1.96
Eulipotyphla	*Crocidura obscurior*	LC	1.76
Eulipotyphla	*Crocidura olivieri*	LC	1.95
Eulipotyphla	*Crocidura orientalis*	VU	1.50
Eulipotyphla	*Crocidura orii*	EN	1.47
Eulipotyphla	*Crocidura pachyura*	LC	1.63
Eulipotyphla	*Crocidura palawanensis*	LC	1.33
Eulipotyphla	*Crocidura paradoxura*	LC	1.44
Eulipotyphla	*Crocidura parvipes*	LC	1.93
Eulipotyphla	*Crocidura pasha*	LC	2.13
Eulipotyphla	*Crocidura pergrisea*	DD	2.62
Eulipotyphla	*Crocidura phaeura*	EN	1.90
Eulipotyphla	*Crocidura picea*	EN	1.87
Eulipotyphla	*Crocidura pitmani*	DD	2.01
Eulipotyphla	*Crocidura planiceps*	DD	1.95
Eulipotyphla	*Crocidura poensis*	LC	1.81
Eulipotyphla	*Crocidura polia*	DD	1.94
Eulipotyphla	*Crocidura pullata*	DD	2.62
Eulipotyphla	*Crocidura raineyi*	DD	1.84
Eulipotyphla	*Crocidura ramona*	LC	1.64
Eulipotyphla	*Crocidura rapax*	DD	1.86
Eulipotyphla	*Crocidura religiosa*	DD	1.58
Eulipotyphla	*Crocidura rhoditis*	LC	1.43
Eulipotyphla	*Crocidura roosevelti*	LC	1.95

Eulipotyphla	*Crocidura russula*	LC	1.72
Eulipotyphla	*Crocidura selina*	DD	1.91
Eulipotyphla	*Crocidura serezkyensis*	LC	2.29
Eulipotyphla	*Crocidura shantungensis*	LC	2.27
Eulipotyphla	*Crocidura sibirica*	LC	2.61
Eulipotyphla	*Crocidura sicula*	LC	1.62
Eulipotyphla	*Crocidura silacea*	LC	2.13
Eulipotyphla	*Crocidura smithii*	LC	1.90
Eulipotyphla	*Crocidura somalica*	LC	1.89
Eulipotyphla	*Crocidura stenocephala*	EN	1.96
Eulipotyphla	*Crocidura suaveolens*	LC	2.33
Eulipotyphla	*Crocidura susiana*	DD	2.38
Eulipotyphla	*Crocidura tanakae*	LC	1.52
Eulipotyphla	*Crocidura tansaniana*	EN	1.77
Eulipotyphla	*Crocidura tarella*	EN	1.96
Eulipotyphla	*Crocidura tarfayensis*	DD	1.31
Eulipotyphla	*Crocidura telfordi*	EN	1.83
Eulipotyphla	*Crocidura tenuis*	DD	1.37
Eulipotyphla	*Crocidura thalia*	LC	1.91
Eulipotyphla	*Crocidura theresae*	LC	1.82
Eulipotyphla	*Crocidura thomensis*	EN	1.43
Eulipotyphla	*Crocidura trichura*	CR	1.35
Eulipotyphla	*Crocidura turba*	LC	1.89
Eulipotyphla	*Crocidura ultima*	DD	1.84
Eulipotyphla	*Crocidura usambarae*	EN	1.77
Eulipotyphla	*Crocidura viaria*	LC	1.97
Eulipotyphla	*Crocidura virgata*	DD	1.78
Eulipotyphla	*Crocidura voi*	LC	1.96
Eulipotyphla	*Crocidura vorax*	LC	1.91
Eulipotyphla	*Crocidura vosmaeri*	DD	1.59
Eulipotyphla	*Crocidura watasei*	LC	1.41
Eulipotyphla	*Crocidura whitakeri*	LC	1.78
Eulipotyphla	*Crocidura wimmeri*	CR	1.81
Eulipotyphla	*Crocidura wuchihensis*	DD	1.63
Eulipotyphla	*Crocidura xantippe*	LC	1.78
Eulipotyphla	*Crocidura yankariensis*	LC	1.92
Eulipotyphla	*Crocidura zaphiri*	DD	1.82
Eulipotyphla	*Crocidura zarudnyi*	LC	2.42
Eulipotyphla	*Crocidura zimmeri*	DD	1.99
Eulipotyphla	*Crocidura zimmermanni*	VU	1.60
Eulipotyphla	*Cryptotis alticola*	DD	1.91
Eulipotyphla	*Cryptotis brachyonyx*	DD	1.73
Eulipotyphla	*Cryptotis colombiana*	LC	1.80

Eulipotyphla	*Cryptotis endersi*	EN	1.63
Eulipotyphla	*Cryptotis equatoris*	LC	1.60
Eulipotyphla	*Cryptotis goldmani*	LC	1.91
Eulipotyphla	*Cryptotis goodwini*	LC	1.87
Eulipotyphla	*Cryptotis gracilis*	VU	1.63
Eulipotyphla	*Cryptotis griseoventris*	VU	1.86
Eulipotyphla	*Cryptotis hondurensis*	DD	1.68
Eulipotyphla	*Cryptotis magna*	VU	1.93
Eulipotyphla	*Cryptotis mayensis*	LC	1.58
Eulipotyphla	*Cryptotis medellinia*	LC	1.75
Eulipotyphla	*Cryptotis mera*	EN	1.44
Eulipotyphla	*Cryptotis meridensis*	LC	2.11
Eulipotyphla	*Cryptotis merriami*	LC	1.84
Eulipotyphla	*Cryptotis mexicana*	LC	1.89
Eulipotyphla	*Cryptotis montivaga*	LC	1.57
Eulipotyphla	*Cryptotis nelsoni*	CR	1.88
Eulipotyphla	*Cryptotis nigrescens*	LC	1.60
Eulipotyphla	*Cryptotis obscura*	VU	1.91
Eulipotyphla	*Cryptotis orophila*	DD	1.77
Eulipotyphla	*Cryptotis parva*	LC	2.15
Eulipotyphla	*Cryptotis peregrina*	DD	1.94
Eulipotyphla	*Cryptotis peruviensis*	DD	1.48
Eulipotyphla	*Cryptotis phillipsii*	VU	1.85
Eulipotyphla	*Cryptotis squamipes*	LC	1.51
Eulipotyphla	*Cryptotis tamensis*	LC	2.00
Eulipotyphla	*Cryptotis thomasi*	LC	1.79
Eulipotyphla	*Cryptotis tropicalis*	DD	1.87
Eulipotyphla	*Desmana moschata*	VU	2.75
Eulipotyphla	*Diplomesodon pulchellum*	LC	2.41
Eulipotyphla	*Dymecodon pilirostris*	LC	1.84
Eulipotyphla	*Echinosorex gymnura*	LC	1.52
Eulipotyphla	*Episoriculus caudatus*	LC	2.12
Eulipotyphla	*Episoriculus fumidus*	LC	1.47
Eulipotyphla	*Episoriculus leucops*	LC	2.32
Eulipotyphla	*Episoriculus macrurus*	LC	2.06
Eulipotyphla	*Erinaceus amurensis*	LC	2.30
Eulipotyphla	*Erinaceus concolor*	LC	2.10
Eulipotyphla	*Erinaceus europaeus*	LC	2.07
Eulipotyphla	*Erinaceus roumanicus*	LC	2.56
Eulipotyphla	*Euroscaptor grandis*	LC	1.98
Eulipotyphla	*Euroscaptor klossi*	LC	1.78
Eulipotyphla	*Euroscaptor longirostris*	LC	2.05
Eulipotyphla	*Euroscaptor micrura*	LC	2.12

Eulipotyphla	*Euroscaptor mizura*	LC	1.85
Eulipotyphla	*Euroscaptor parvidens*	DD	1.78
Eulipotyphla	*Feroculus feroculus*	EN	1.41
Eulipotyphla	*Galemys pyrenaicus*	VU	1.47
Eulipotyphla	*Hemiechinus auritus*	LC	2.45
Eulipotyphla	*Hemiechinus collaris*	LC	2.04
Eulipotyphla	*Hylomys megalotis*	DD	1.64
Eulipotyphla	*Hylomys parvus*	VU	1.47
Eulipotyphla	*Hylomys suillus*	LC	1.65
Eulipotyphla	*Megasorex gigas*	LC	1.72
Eulipotyphla	*Mesechinus dauuricus*	LC	2.51
Eulipotyphla	*Mesechinus hughi*	LC	2.15
Eulipotyphla	*Mogera etigo*	EN	1.86
Eulipotyphla	*Mogera imaizumii*	LC	1.87
Eulipotyphla	*Mogera insularis*	LC	1.95
Eulipotyphla	*Mogera robusta*	LC	2.47
Eulipotyphla	*Mogera tokudae*	NT	1.86
Eulipotyphla	*Mogera uchidai*	DD	1.62
Eulipotyphla	*Mogera wogura*	LC	1.80
Eulipotyphla	*Myosorex babaulti*	NT	1.95
Eulipotyphla	*Myosorex blarina*	EN	1.97
Eulipotyphla	*Myosorex cafer*	LC	2.02
Eulipotyphla	*Myosorex eisentrauti*	CR	1.58
Eulipotyphla	*Myosorex geata*	EN	1.82
Eulipotyphla	*Myosorex kihaulei*	EN	1.85
Eulipotyphla	*Myosorex longicaudatus*	VU	1.76
Eulipotyphla	*Myosorex okuensis*	EN	1.87
Eulipotyphla	*Myosorex rumpii*	EN	1.83
Eulipotyphla	*Myosorex schalleri*	DD	1.96
Eulipotyphla	*Myosorex sclateri*	NT	1.86
Eulipotyphla	*Myosorex tenuis*	DD	2.15
Eulipotyphla	*Myosorex varius*	LC	1.92
Eulipotyphla	*Myosorex zinki*	VU	1.81
Eulipotyphla	*Nectogale elegans*	LC	2.25
Eulipotyphla	*Neohylomys hainanensis*	EN	1.56
Eulipotyphla	*Neomys anomalus*	LC	2.04
Eulipotyphla	*Neomys fodiens*	LC	2.60
Eulipotyphla	*Neomys teres*	LC	2.10
Eulipotyphla	*Neotetracus sinensis*	LC	2.03
Eulipotyphla	*Neurotrichus gibbsii*	LC	1.87
Eulipotyphla	*Notiosorex cockrumi*	LC	1.87
Eulipotyphla	*Notiosorex crawfordi*	LC	2.00
Eulipotyphla	*Notiosorex evotis*	LC	1.76

Eulipotyphla	*Notiosorex villai*	VU	1.92
Eulipotyphla	*Paracrocidura graueri*	DD	1.94
Eulipotyphla	*Paracrocidura maxima*	NT	1.96
Eulipotyphla	*Paracrocidura schoutedeni*	LC	1.73
Eulipotyphla	*Paraechinus aethiopicus*	LC	2.16
Eulipotyphla	*Paraechinus hypomelas*	LC	2.32
Eulipotyphla	*Paraechinus micropus*	LC	2.08
Eulipotyphla	*Paraechinus nudiventris*	LC	1.57
Eulipotyphla	*Parascalops breweri*	LC	2.58
Eulipotyphla	*Parascaptor leucura*	LC	2.05
Eulipotyphla	*Podogymnura aureospinula*	EN	1.48
Eulipotyphla	*Podogymnura truei*	LC	1.47
Eulipotyphla	*Ruwenzorisorex suncoides*	VU	1.96
Eulipotyphla	*Scalopus aquaticus*	LC	2.22
Eulipotyphla	*Scapanulus oweni*	LC	2.20
Eulipotyphla	*Scapanus latimanus*	LC	1.80
Eulipotyphla	*Scapanus orarius*	LC	2.03
Eulipotyphla	*Scapanus townsendii*	LC	1.87
Eulipotyphla	*Scaptochirus moschatus*	LC	2.27
Eulipotyphla	*Scaptonyx fusicaudus*	LC	2.03
Eulipotyphla	*Scutisorex somereni*	LC	1.94
Eulipotyphla	*Solenodon cubanus*	EN	1.43
Eulipotyphla	*Solenodon paradoxus*	EN	1.36
Eulipotyphla	*Solisorex pearsoni*	EN	1.41
Eulipotyphla	*Sorex alaskanus*	DD	2.67
Eulipotyphla	*Sorex alpinus*	NT	2.03
Eulipotyphla	*Sorex antinorii*	DD	1.93
Eulipotyphla	*Sorex araneus*	LC	2.83
Eulipotyphla	*Sorex arcticus*	LC	3.03
Eulipotyphla	*Sorex arizonae*	LC	2.00
Eulipotyphla	*Sorex arunchi*	DD	2.04
Eulipotyphla	*Sorex asper*	LC	2.45
Eulipotyphla	*Sorex bairdi*	LC	1.96
Eulipotyphla	*Sorex bedfordiae*	LC	2.16
Eulipotyphla	*Sorex bendirii*	LC	1.87
Eulipotyphla	*Sorex buchariensis*	LC	2.33
Eulipotyphla	*Sorex caecutiens*	LC	3.18
Eulipotyphla	*Sorex camtschatica*	LC	3.21
Eulipotyphla	*Sorex cansulus*	DD	2.27
Eulipotyphla	*Sorex cinereus*	LC	2.95
Eulipotyphla	*Sorex coronatus*	LC	1.67
Eulipotyphla	*Sorex cylindricauda*	LC	2.18
Eulipotyphla	*Sorex daphaenodon*	LC	3.02

Eulipotyphla	*Sorex dispar*	LC	2.53
Eulipotyphla	*Sorex emarginatus*	LC	1.87
Eulipotyphla	*Sorex excelsus*	LC	2.35
Eulipotyphla	*Sorex fumeus*	LC	2.63
Eulipotyphla	*Sorex gracillimus*	LC	2.69
Eulipotyphla	*Sorex granarius*	LC	1.36
Eulipotyphla	*Sorex haydeni*	LC	2.58
Eulipotyphla	*Sorex hosonoi*	LC	1.84
Eulipotyphla	*Sorex hoyi*	LC	2.96
Eulipotyphla	*Sorex isodon*	LC	3.06
Eulipotyphla	*Sorex ixtlanensis*	DD	1.88
Eulipotyphla	*Sorex jacksoni*	LC	3.81
Eulipotyphla	*Sorex kozlovi*	DD	2.52
Eulipotyphla	*Sorex leucogaster*	DD	2.57
Eulipotyphla	*Sorex longirostris*	LC	2.13
Eulipotyphla	*Sorex lyelli*	LC	1.90
Eulipotyphla	*Sorex macrodon*	VU	1.83
Eulipotyphla	*Sorex maritimensis*	LC	2.66
Eulipotyphla	*Sorex mediopua*	LC	1.81
Eulipotyphla	*Sorex merriami*	LC	2.33
Eulipotyphla	*Sorex milleri*	VU	1.93
Eulipotyphla	*Sorex minutissimus*	LC	3.16
Eulipotyphla	*Sorex minutus*	LC	2.70
Eulipotyphla	*Sorex mirabilis*	DD	2.50
Eulipotyphla	*Sorex monticolus*	LC	2.87
Eulipotyphla	*Sorex nanus*	LC	2.37
Eulipotyphla	*Sorex neomexicanus*	DD	2.20
Eulipotyphla	*Sorex oreopolus*	LC	1.91
Eulipotyphla	*Sorex orizabae*	LC	1.89
Eulipotyphla	*Sorex ornatus*	LC	1.67
Eulipotyphla	*Sorex pacificus*	LC	1.79
Eulipotyphla	*Sorex palustris*	LC	2.73
Eulipotyphla	*Sorex planiceps*	LC	2.59
Eulipotyphla	*Sorex portenkoi*	DD	4.11
Eulipotyphla	*Sorex preblei*	LC	2.35
Eulipotyphla	*Sorex pribilofensis*	EN	2.58
Eulipotyphla	*Sorex raddei*	LC	2.04
Eulipotyphla	*Sorex roboratus*	LC	3.25
Eulipotyphla	*Sorex rohweri*	LC	1.95
Eulipotyphla	*Sorex samniticus*	LC	1.91
Eulipotyphla	*Sorex satunini*	LC	2.02
Eulipotyphla	*Sorex saussurei*	LC	1.81
Eulipotyphla	*Sorex sclateri*	CR	1.88

Eulipotyphla	*Sorex shinto*	LC	1.87
Eulipotyphla	*Sorex sinalis*	DD	2.24
Eulipotyphla	*Sorex sonomae*	LC	1.76
Eulipotyphla	*Sorex stizodon*	CR	1.88
Eulipotyphla	*Sorex tenellus*	LC	2.14
Eulipotyphla	*Sorex thibetanus*	DD	2.35
Eulipotyphla	*Sorex trowbridgii*	LC	1.86
Eulipotyphla	*Sorex tundrensis*	LC	3.29
Eulipotyphla	*Sorex ugyunak*	LC	3.87
Eulipotyphla	*Sorex unguiculatus*	LC	2.64
Eulipotyphla	*Sorex vagrans*	LC	2.19
Eulipotyphla	*Sorex ventralis*	LC	1.92
Eulipotyphla	*Sorex veraecrucis*	LC	1.87
Eulipotyphla	*Sorex veraepacis*	LC	1.88
Eulipotyphla	*Sorex volnuchini*	LC	2.04
Eulipotyphla	*Sorex yukonicus*	LC	3.48
Eulipotyphla	*Soriculus nigrescens*	LC	2.49
Eulipotyphla	*Suncus aequatorius*	CR	1.81
Eulipotyphla	*Suncus ater*	DD	1.35
Eulipotyphla	*Suncus dayi*	EN	1.45
Eulipotyphla	*Suncus etruscus*	LC	1.85
Eulipotyphla	*Suncus fellowesgordoni*	EN	1.41
Eulipotyphla	*Suncus hosei*	DD	1.38
Eulipotyphla	*Suncus infinitesimus*	LC	1.94
Eulipotyphla	*Suncus lixus*	LC	2.11
Eulipotyphla	*Suncus madagascariensis*	LC	1.58
Eulipotyphla	*Suncus malayanus*	DD	1.51
Eulipotyphla	*Suncus megalura*	LC	1.90
Eulipotyphla	*Suncus mertensi*	EN	1.34
Eulipotyphla	*Suncus montanus*	VU	1.46
Eulipotyphla	*Suncus murinus*	LC	1.81
Eulipotyphla	*Suncus remyi*	LC	1.79
Eulipotyphla	*Suncus stoliczkanus*	LC	2.05
Eulipotyphla	*Suncus varilla*	LC	2.03
Eulipotyphla	*Suncus zeylanicus*	EN	1.43
Eulipotyphla	*Surdisorex norae*	VU	1.83
Eulipotyphla	*Surdisorex polulus*	VU	1.84
Eulipotyphla	*Sylvisorex camerunensis*	VU	1.87
Eulipotyphla	*Sylvisorex granti*	LC	1.88
Eulipotyphla	*Sylvisorex howelli*	EN	1.78
Eulipotyphla	*Sylvisorex isabellae*	EN	1.84
Eulipotyphla	*Sylvisorex johnstoni*	LC	1.77
Eulipotyphla	*Sylvisorex konganensis*	DD	1.86

Eulipotyphla	*Sylvisorex lunaris*	VU	1.95
Eulipotyphla	*Sylvisorex morio*	EN	1.58
Eulipotyphla	*Sylvisorex ollula*	LC	1.86
Eulipotyphla	*Sylvisorex oriundus*	DD	1.95
Eulipotyphla	*Sylvisorex pluvialis*	DD	1.87
Eulipotyphla	*Sylvisorex vulcanorum*	NT	1.95
Eulipotyphla	*Talpa altaica*	LC	3.02
Eulipotyphla	*Talpa caeca*	LC	1.96
Eulipotyphla	*Talpa caucasica*	LC	1.95
Eulipotyphla	*Talpa davidiana*	DD	2.35
Eulipotyphla	*Talpa europaea*	LC	2.40
Eulipotyphla	*Talpa levantis*	LC	2.09
Eulipotyphla	*Talpa occidentalis*	LC	1.65
Eulipotyphla	*Talpa romana*	LC	1.88
Eulipotyphla	*Talpa stankovici*	LC	2.05
Eulipotyphla	*Uropsilus andersoni*	DD	2.07
Eulipotyphla	*Uropsilus gracilis*	LC	2.04
Eulipotyphla	*Uropsilus investigator*	DD	2.21
Eulipotyphla	*Uropsilus soricipes*	LC	2.17
Eulipotyphla	*Urotrichus talpoides*	LC	1.84
Hyracoidea	*Dendrohyrax arboreus*	LC	1.95
Hyracoidea	*Dendrohyrax dorsalis*	LC	1.84
Hyracoidea	*Dendrohyrax validus*	LC	1.80
Hyracoidea	*Heterohyrax brucei*	LC	1.92
Hyracoidea	*Procavia capensis*	LC	2.00
Lagomorpha	*Brachylagus idahoensis*	LC	2.30
Lagomorpha	*Bunolagus monticularis*	CR	1.85
Lagomorpha	*Caprolagus hispidus*	EN	2.10
Lagomorpha	*Lepus alleni*	LC	1.85
Lagomorpha	*Lepus americanus*	LC	2.97
Lagomorpha	*Lepus arcticus*	LC	3.62
Lagomorpha	*Lepus brachyurus*	LC	1.84
Lagomorpha	*Lepus californicus*	LC	2.10
Lagomorpha	*Lepus callotis*	NT	1.91
Lagomorpha	*Lepus capensis*	LC	2.06
Lagomorpha	*Lepus castroviejoi*	VU	1.39
Lagomorpha	*Lepus comus*	LC	1.97
Lagomorpha	*Lepus coreanus*	LC	2.17
Lagomorpha	*Lepus corsicanus*	VU	1.77
Lagomorpha	*Lepus europaeus*	LC	2.38
Lagomorpha	*Lepus fagani*	DD	1.92
Lagomorpha	*Lepus flavigularis*	EN	1.88
Lagomorpha	*Lepus granatensis*	LC	1.72

Lagomorpha	*Lepus habessinicus*	LC	1.88
Lagomorpha	*Lepus hainanus*	VU	1.58
Lagomorpha	*Lepus insularis*	NT	1.52
Lagomorpha	*Lepus mandshuricus*	LC	2.56
Lagomorpha	*Lepus microtis*	LC	1.99
Lagomorpha	*Lepus nigricollis*	LC	1.94
Lagomorpha	*Lepus oiostolus*	LC	2.45
Lagomorpha	*Lepus othus*	LC	3.48
Lagomorpha	*Lepus peguensis*	LC	1.72
Lagomorpha	*Lepus saxatilis*	LC	2.01
Lagomorpha	*Lepus sinensis*	LC	1.94
Lagomorpha	*Lepus starcki*	LC	1.93
Lagomorpha	*Lepus tibetanus*	LC	2.55
Lagomorpha	*Lepus timidus*	LC	3.18
Lagomorpha	*Lepus tolai*	LC	2.37
Lagomorpha	*Lepus townsendii*	LC	2.48
Lagomorpha	*Lepus yarkandensis*	NT	2.42
Lagomorpha	*Nesolagus netscheri*	VU	1.41
Lagomorpha	*Nesolagus timminsi*	DD	1.62
Lagomorpha	*Ochotona alpina*	LC	2.58
Lagomorpha	*Ochotona argentata*	CR	2.49
Lagomorpha	*Ochotona cansus*	LC	2.33
Lagomorpha	*Ochotona collaris*	LC	3.17
Lagomorpha	*Ochotona curzoniae*	LC	2.47
Lagomorpha	*Ochotona dauurica*	LC	2.45
Lagomorpha	*Ochotona erythrotis*	LC	2.35
Lagomorpha	*Ochotona forresti*	LC	2.37
Lagomorpha	*Ochotona gaoligongensis*	DD	2.08
Lagomorpha	*Ochotona gloveri*	LC	2.40
Lagomorpha	*Ochotona himalayana*	LC	2.56
Lagomorpha	*Ochotona hoffmanni*	EN	2.51
Lagomorpha	*Ochotona huangensis*	LC	2.21
Lagomorpha	*Ochotona hyperborea*	LC	3.24
Lagomorpha	*Ochotona iliensis*	EN	2.49
Lagomorpha	*Ochotona koslowi*	EN	2.36
Lagomorpha	*Ochotona ladacensis*	LC	2.47
Lagomorpha	*Ochotona macrotis*	LC	2.43
Lagomorpha	*Ochotona muliensis*	DD	2.33
Lagomorpha	*Ochotona nigritia*	DD	1.92
Lagomorpha	*Ochotona nubrica*	LC	2.59
Lagomorpha	*Ochotona pallasi*	LC	2.58
Lagomorpha	*Ochotona princeps*	LC	2.33
Lagomorpha	*Ochotona pusilla*	LC	2.77

Lagomorpha	*Ochotona roylei*	LC	2.56
Lagomorpha	*Ochotona rufescens*	LC	2.37
Lagomorpha	*Ochotona rutila*	LC	2.35
Lagomorpha	*Ochotona thibetana*	LC	2.36
Lagomorpha	*Ochotona thomasi*	LC	2.35
Lagomorpha	*Ochotona turuchanensis*	LC	3.21
Lagomorpha	*Oryctolagus cuniculus*	NT	1.66
Lagomorpha	*Pentalagus furnessi*	EN	1.46
Lagomorpha	*Poelagus marjorita*	LC	1.93
Lagomorpha	*Pronolagus crassicaudatus*	LC	1.99
Lagomorpha	*Pronolagus randensis*	LC	2.08
Lagomorpha	*Pronolagus rupestris*	LC	1.95
Lagomorpha	*Pronolagus saundersiae*	LC	1.98
Lagomorpha	*Romerolagus diazi*	EN	1.95
Lagomorpha	*Sylvilagus aquaticus*	LC	2.05
Lagomorpha	*Sylvilagus audubonii*	LC	2.11
Lagomorpha	*Sylvilagus bachmani*	LC	1.63
Lagomorpha	*Sylvilagus brasiliensis*	LC	2.00
Lagomorpha	*Sylvilagus cognatus*	DD	2.19
Lagomorpha	*Sylvilagus cunicularius*	LC	1.80
Lagomorpha	*Sylvilagus dicei*	DD	1.63
Lagomorpha	*Sylvilagus floridanus*	LC	2.17
Lagomorpha	*Sylvilagus graysoni*	EN	1.58
Lagomorpha	*Sylvilagus insonus*	EN	1.82
Lagomorpha	*Sylvilagus mansuetus*	CR	1.52
Lagomorpha	*Sylvilagus nuttallii*	LC	2.34
Lagomorpha	*Sylvilagus obscurus*	NT	2.24
Lagomorpha	*Sylvilagus palustris*	LC	1.86
Lagomorpha	*Sylvilagus robustus*	EN	2.14
Lagomorpha	*Sylvilagus transitionalis*	VU	2.65
Lagomorpha	*Sylvilagus varynaensis*	DD	2.07
Macroscelidea	*Elephantulus brachyrhynchus*	LC	2.03
Macroscelidea	*Elephantulus edwardii*	LC	1.73
Macroscelidea	*Elephantulus fuscipes*	DD	1.94
Macroscelidea	*Elephantulus fuscus*	DD	2.00
Macroscelidea	*Elephantulus intufi*	LC	2.08
Macroscelidea	*Elephantulus myurus*	LC	2.17
Macroscelidea	*Elephantulus pilicaudus*	DD	1.80
Macroscelidea	*Elephantulus revoilii*	DD	1.83
Macroscelidea	*Elephantulus rozeti*	LC	1.82
Macroscelidea	*Elephantulus rufescens*	LC	1.83
Macroscelidea	*Elephantulus rupestris*	LC	1.87
Macroscelidea	*Macroscelides proboscideus*	LC	1.87

Macroscelidea	*Petrodromus tetradactylus*	LC	1.94
Macroscelidea	*Rhynchocyon chrysopygus*	EN	1.69
Macroscelidea	*Rhynchocyon cirnei*	NT	1.91
Macroscelidea	*Rhynchocyon petersi*	VU	1.77
Macroscelidea	*Rhynchocyon udzungwensis*	VU	1.83
Microbiotheria	*Dromiciops gliroides*	NT	1.30
Monotremata	*Ornithorhynchus anatinus*	LC	1.67
Monotremata	*Tachyglossus aculeatus*	LC	1.77
Monotremata	*Zaglossus attenboroughi*	CR	1.39
Monotremata	*Zaglossus bartoni*	CR	1.53
Monotremata	*Zaglossus bruijnii*	CR	1.43
Notoryctemorphia	*Notoryctes caurinus*	DD	1.91
Notoryctemorphia	*Notoryctes typhlops*	DD	1.88
Paucituberculata	*Caenolestes caniventer*	NT	1.56
Paucituberculata	*Caenolestes condorensis*	VU	1.75
Paucituberculata	*Caenolestes convelatus*	VU	1.49
Paucituberculata	*Caenolestes fuliginosus*	LC	1.70
Paucituberculata	*Lestoros inca*	LC	2.00
Paucituberculata	*Rhyncholestes raphanurus*	NT	1.20
Peramelemorphia	*Echymipera clara*	LC	1.47
Peramelemorphia	*Echymipera davidi*	EN	1.35
Peramelemorphia	*Echymipera echinista*	DD	1.57
Peramelemorphia	*Echymipera kalubu*	LC	1.48
Peramelemorphia	*Echymipera rufescens*	LC	1.48
Peramelemorphia	*Isoodon auratus*	VU	1.49
Peramelemorphia	*Isoodon macrourus*	LC	1.60
Peramelemorphia	*Isoodon obesulus*	LC	1.41
Peramelemorphia	*Macrotis lagotis*	VU	1.94
Peramelemorphia	*Microperoryctes aplini*	DD	1.47
Peramelemorphia	*Microperoryctes longicauda*	LC	1.52
Peramelemorphia	*Microperoryctes murina*	DD	1.45
Peramelemorphia	*Microperoryctes papuensis*	LC	1.43
Peramelemorphia	*Perameles bougainville*	EN	1.38
Peramelemorphia	*Perameles gunnii*	NT	1.42
Peramelemorphia	*Perameles nasuta*	LC	1.65
Peramelemorphia	*Peroryctes broadbenti*	EN	1.38
Peramelemorphia	*Peroryctes raffrayana*	LC	1.50
Peramelemorphia	*Rhynchomeles prattorum*	EN	1.36
Perissodactyla	*Ceratotherium simum*	NT	2.03
Perissodactyla	*Dicerorhinus sumatrensis*	CR	1.46
Perissodactyla	*Diceros bicornis*	CR	1.95
Perissodactyla	*Equus africanus*	CR	1.97
Perissodactyla	*Equus grevyi*	EN	1.84

Perissodactyla	*Equus hemionus*	EN	2.51
Perissodactyla	*Equus kiang*	LC	2.47
Perissodactyla	*Equus quagga*	LC	2.03
Perissodactyla	*Equus zebra*	VU	1.86
Perissodactyla	*Rhinoceros sondaicus*	CR	1.40
Perissodactyla	*Rhinoceros unicornis*	VU	2.10
Perissodactyla	*Tapirus bairdii*	EN	1.74
Perissodactyla	*Tapirus indicus*	EN	1.55
Perissodactyla	*Tapirus pinchaque*	EN	1.60
Perissodactyla	*Tapirus terrestris*	VU	2.08
Pholidota	*Manis crassicaudata*	EN	1.90
Pholidota	*Manis culionensis*	EN	1.33
Pholidota	*Manis javanica*	CR	1.57
Pholidota	*Manis pentadactyla*	CR	1.96
Pholidota	*Phataginus tetradactyla*	VU	1.83
Pholidota	*Phataginus tricuspis*	VU	1.88
Pholidota	*Smutsia gigantea*	VU	1.84
Pholidota	*Smutsia temminckii*	VU	2.03
Pilosa	*Bradypus pygmaeus*	CR	1.43
Pilosa	*Bradypus torquatus*	VU	1.71
Pilosa	*Bradypus tridactylus*	LC	2.00
Pilosa	*Bradypus variegatus*	LC	1.99
Pilosa	*Choloepus didactylus*	LC	2.01
Pilosa	*Choloepus hoffmanni*	LC	1.94
Pilosa	*Cyclopes didactylus*	LC	1.99
Pilosa	*Myrmecophaga tridactyla*	VU	2.04
Pilosa	*Tamandua mexicana*	LC	1.69
Pilosa	*Tamandua tetradactyla*	LC	2.03
Primates	*Allenopithecus nigroviridis*	LC	1.90
Primates	*Allocebus trichotis*	VU	1.61
Primates	*Alouatta arctoidea*	LC	1.87
Primates	*Alouatta belzebul*	VU	1.95
Primates	*Alouatta caraya*	LC	2.13
Primates	*Alouatta discolor*	VU	2.19
Primates	*Alouatta guariba*	LC	1.89
Primates	*Alouatta juara*	LC	1.92
Primates	*Alouatta macconnelli*	LC	2.03
Primates	*Alouatta nigerrima*	LC	2.19
Primates	*Alouatta palliata*	LC	1.60
Primates	*Alouatta pigra*	EN	1.72
Primates	*Alouatta puruensis*	LC	2.18
Primates	*Alouatta sara*	LC	2.17
Primates	*Alouatta seniculus*	LC	1.92

Primates	*Alouatta ululata*	EN	1.63
Primates	*Aotus azarae*	LC	2.13
Primates	*Aotus brumbacki*	VU	1.91
Primates	*Aotus griseimembra*	VU	1.75
Primates	*Aotus jorgehernandezi*	DD	1.46
Primates	*Aotus lemurinus*	VU	1.72
Primates	*Aotus miconax*	VU	1.79
Primates	*Aotus nancymaae*	LC	1.99
Primates	*Aotus nigriceps*	LC	2.17
Primates	*Aotus trivirgatus*	LC	2.13
Primates	*Aotus vociferans*	LC	1.92
Primates	*Aotus zonalis*	DD	1.44
Primates	*Arctocebus aureus*	LC	1.73
Primates	*Arctocebus calabarensis*	LC	1.76
Primates	*Ateles belzebuth*	EN	1.95
Primates	*Ateles chamek*	EN	2.17
Primates	*Ateles fusciceps*	CR	1.48
Primates	*Ateles geoffroyi*	EN	1.73
Primates	*Ateles hybridus*	CR	1.86
Primates	*Ateles marginatus*	EN	2.20
Primates	*Ateles paniscus*	VU	2.05
Primates	*Avahi betsileo*	EN	1.78
Primates	*Avahi cleesei*	EN	1.41
Primates	*Avahi laniger*	VU	1.62
Primates	*Avahi meridionalis*	EN	1.76
Primates	*Avahi mooreorum*	EN	1.62
Primates	*Avahi occidentalis*	EN	1.47
Primates	*Avahi peyrierasi*	VU	1.80
Primates	*Avahi ramanantsoavanai*	VU	1.76
Primates	*Avahi unicolor*	EN	1.39
Primates	*Brachyteles arachnoides*	EN	1.89
Primates	*Brachyteles hypoxanthus*	CR	1.85
Primates	*Cacajao ayresi*	VU	2.09
Primates	*Cacajao calvus*	VU	2.04
Primates	*Cacajao hosomi*	VU	2.00
Primates	*Cacajao melanocephalus*	LC	1.99
Primates	*Callibella humilis*	VU	2.21
Primates	*Callicebus aureipalatii*	LC	2.08
Primates	*Callicebus baptista*	LC	2.18
Primates	*Callicebus barbarabrownae*	CR	1.80
Primates	*Callicebus bernhardi*	LC	2.22
Primates	*Callicebus brunneus*	LC	2.19
Primates	*Callicebus caligatus*	LC	2.19

Primates	*Callicebus caquetensis*	CR	1.83
Primates	*Callicebus cinerascens*	LC	2.22
Primates	*Callicebus coimbrai*	EN	1.64
Primates	*Callicebus cupreus*	LC	2.08
Primates	*Callicebus discolor*	LC	1.85
Primates	*Callicebus donacophilus*	LC	2.25
Primates	*Callicebus dubius*	LC	2.17
Primates	*Callicebus hoffmannsi*	LC	2.16
Primates	*Callicebus lucifer*	LC	1.92
Primates	*Callicebus lugens*	LC	2.01
Primates	*Callicebus medemi*	VU	1.74
Primates	*Callicebus melanochir*	VU	1.79
Primates	*Callicebus modestus*	EN	2.28
Primates	*Callicebus moloch*	LC	2.16
Primates	*Callicebus nigrifrons*	NT	2.04
Primates	*Callicebus oenanthe*	CR	1.81
Primates	*Callicebus olallae*	EN	2.29
Primates	*Callicebus ornatus*	VU	1.75
Primates	*Callicebus pallescens*	LC	2.20
Primates	*Callicebus personatus*	VU	1.85
Primates	*Callicebus purinus*	LC	2.11
Primates	*Callicebus regulus*	LC	2.04
Primates	*Callicebus stephennashi*	DD	2.16
Primates	*Callicebus torquatus*	LC	2.03
Primates	*Callimico goeldii*	VU	2.04
Primates	*Callithrix aurita*	VU	1.87
Primates	*Callithrix flaviceps*	EN	1.79
Primates	*Callithrix geoffroyi*	LC	1.85
Primates	*Callithrix jacchus*	LC	1.82
Primates	*Callithrix kuhlii*	NT	1.81
Primates	*Callithrix penicillata*	LC	2.10
Primates	*Cebuella pygmaea*	LC	2.03
Primates	*Cebus albifrons*	LC	2.02
Primates	*Cebus apella*	LC	2.10
Primates	*Cebus capucinus*	LC	1.56
Primates	*Cebus cay*	LC	2.17
Primates	*Cebus flavius*	CR	1.67
Primates	*Cebus kaapori*	CR	1.74
Primates	*Cebus libidinosus*	LC	2.06
Primates	*Cebus macrocephalus*	LC	2.02
Primates	*Cebus nigritus*	NT	1.95
Primates	*Cebus olivaceus*	LC	2.02
Primates	*Cebus robustus*	EN	1.85

Primates	*Cebus xanthosternos*	CR	1.85
Primates	*Cercocebus agilis*	LC	1.90
Primates	*Cercocebus atys*	VU	1.73
Primates	*Cercocebus chrysogaster*	DD	1.91
Primates	*Cercocebus galeritus*	EN	1.70
Primates	*Cercocebus sanjei*	EN	1.83
Primates	*Cercocebus torquatus*	VU	1.64
Primates	*Cercopithecus ascanius*	LC	1.93
Primates	*Cercopithecus campbelli*	LC	1.76
Primates	*Cercopithecus cephus*	LC	1.74
Primates	*Cercopithecus diana*	VU	1.74
Primates	*Cercopithecus dryas*	CR	1.90
Primates	*Cercopithecus erythrogaster*	VU	1.72
Primates	*Cercopithecus erythrotis*	VU	1.74
Primates	*Cercopithecus hamlyni*	VU	1.94
Primates	*Cercopithecus lhoesti*	VU	1.95
Primates	*Cercopithecus mitis*	LC	1.93
Primates	*Cercopithecus mona*	LC	1.83
Primates	*Cercopithecus neglectus*	LC	1.88
Primates	*Cercopithecus nictitans*	LC	1.78
Primates	*Cercopithecus petaurista*	LC	1.76
Primates	*Cercopithecus pogonias*	LC	1.85
Primates	*Cercopithecus preussi*	EN	1.83
Primates	*Cercopithecus sclateri*	VU	1.70
Primates	*Cercopithecus solatus*	VU	1.71
Primates	*Cheirogaleus crossleyi*	DD	1.55
Primates	*Cheirogaleus major*	DD	1.74
Primates	*Cheirogaleus medius*	LC	1.51
Primates	*Cheirogaleus minusculus*	DD	1.80
Primates	*Cheirogaleus sibreei*	CR	1.75
Primates	*Chiropotes albinasus*	EN	2.21
Primates	*Chiropotes chiropotes*	LC	2.09
Primates	*Chiropotes satanas*	CR	1.77
Primates	*Chiropotes utahickae*	EN	2.09
Primates	*Chlorocebus aethiops*	LC	1.97
Primates	*Chlorocebus cynosuros*	LC	1.98
Primates	*Chlorocebus djamdjamensis*	VU	1.88
Primates	*Chlorocebus pygerythrus*	LC	1.95
Primates	*Chlorocebus sabaeus*	LC	1.93
Primates	*Chlorocebus tantalus*	LC	1.96
Primates	*Colobus angolensis*	LC	1.93
Primates	*Colobus guereza*	LC	1.91
Primates	*Colobus polykomos*	VU	1.71

Primates	*Colobus satanas*	VU	1.65
Primates	*Colobus vellerosus*	VU	1.86
Primates	*Daubentonia madagascariensis*	EN	1.61
Primates	*Erythrocebus patas*	LC	2.00
Primates	*Eulemur albifrons*	EN	1.60
Primates	*Eulemur cinereiceps*	CR	1.80
Primates	*Eulemur collaris*	EN	1.76
Primates	*Eulemur coronatus*	EN	1.39
Primates	*Eulemur flavifrons*	CR	1.38
Primates	*Eulemur fulvus*	NT	1.57
Primates	*Eulemur macaco*	VU	1.39
Primates	*Eulemur mongoz*	CR	1.47
Primates	*Eulemur rubriventer*	VU	1.60
Primates	*Eulemur rufifrons*	NT	1.56
Primates	*Eulemur rufus*	VU	1.44
Primates	*Eulemur sanfordi*	EN	1.39
Primates	*Euoticus elegantulus*	LC	1.73
Primates	*Euoticus pallidus*	LC	1.73
Primates	*Galago gallarum*	LC	1.80
Primates	*Galago matschiei*	LC	1.95
Primates	*Galago moholi*	LC	2.04
Primates	*Galago senegalensis*	LC	1.95
Primates	*Galagoides cocos*	LC	1.67
Primates	*Galagoides demidovii*	LC	1.86
Primates	*Galagoides granti*	LC	1.89
Primates	*Galagoides nyasae*	DD	1.98
Primates	*Galagoides orinus*	NT	1.83
Primates	*Galagoides rondoensis*	CR	1.81
Primates	*Galagoides thomasi*	LC	1.86
Primates	*Galagoides zanzibaricus*	LC	1.78
Primates	*Gorilla beringei*	EN	1.94
Primates	*Gorilla gorilla*	CR	1.72
Primates	*Hapalemur alaotrensis*	CR	1.67
Primates	*Hapalemur aureus*	CR	1.80
Primates	*Hapalemur griseus*	VU	1.55
Primates	*Hapalemur meridionalis*	VU	1.76
Primates	*Hapalemur occidentalis*	VU	1.56
Primates	*Hoolock hoolock*	EN	1.84
Primates	*Hoolock leuconedys*	VU	1.88
Primates	*Hylobates agilis*	EN	1.51
Primates	*Hylobates albibarbis*	EN	1.57
Primates	*Hylobates klossii*	EN	1.33
Primates	*Hylobates lar*	EN	1.64

Primates	*Hylobates moloch*	EN	1.47
Primates	*Hylobates muelleri*	EN	1.53
Primates	*Hylobates pileatus*	EN	1.64
Primates	*Indri indri*	CR	1.64
Primates	*Lagothrix cana*	EN	2.15
Primates	*Lagothrix lagotricha*	VU	1.91
Primates	*Lagothrix lugens*	CR	1.77
Primates	*Lagothrix poeppigii*	VU	1.97
Primates	*Lemur catta*	EN	1.59
Primates	*Leontopithecus caissara*	CR	1.98
Primates	*Leontopithecus chrysomelas*	EN	1.77
Primates	*Leontopithecus chrysopygus*	EN	2.05
Primates	*Leontopithecus rosalia*	EN	1.80
Primates	*Lepilemur aeeclis*	VU	1.47
Primates	*Lepilemur ahmansonorum*	EN	1.47
Primates	*Lepilemur ankaranensis*	EN	1.39
Primates	*Lepilemur betsileo*	EN	1.75
Primates	*Lepilemur dorsalis*	VU	1.39
Primates	*Lepilemur edwardsi*	EN	1.47
Primates	*Lepilemur fleuretae*	CR	1.76
Primates	*Lepilemur grewcockorum*	EN	1.53
Primates	*Lepilemur hollandorum*	EN	1.62
Primates	*Lepilemur hubbardorum*	EN	1.49
Primates	*Lepilemur jamesorum*	CR	1.80
Primates	*Lepilemur leucopus*	EN	1.76
Primates	*Lepilemur microdon*	EN	1.80
Primates	*Lepilemur milanoii*	EN	1.39
Primates	*Lepilemur mittermeieri*	EN	1.39
Primates	*Lepilemur mustelinus*	NT	1.66
Primates	*Lepilemur otto*	EN	1.47
Primates	*Lepilemur petteri*	VU	1.58
Primates	*Lepilemur randrianasoloi*	EN	1.41
Primates	*Lepilemur ruficaudatus*	VU	1.49
Primates	*Lepilemur sahamalazensis*	CR	1.38
Primates	*Lepilemur scottorum*	EN	1.62
Primates	*Lepilemur seali*	VU	1.56
Primates	*Lepilemur septentrionalis*	CR	1.39
Primates	*Lepilemur tymerlachsoni*	CR	1.39
Primates	*Lepilemur wrightae*	EN	1.76
Primates	*Lophocebus albigena*	LC	1.84
Primates	*Lophocebus aterrimus*	NT	1.92
Primates	*Loris lydekkerianus*	LC	1.53
Primates	*Loris tardigradus*	EN	1.41

Primates	*Macaca arctoides*	VU	1.87
Primates	*Macaca assamensis*	NT	2.05
Primates	*Macaca cyclopis*	LC	1.51
Primates	*Macaca fascicularis*	LC	1.53
Primates	*Macaca fuscata*	LC	1.82
Primates	*Macaca hecki*	VU	1.39
Primates	*Macaca leonina*	VU	1.78
Primates	*Macaca maura*	EN	1.37
Primates	*Macaca mulatta*	LC	2.07
Primates	*Macaca munzala*	EN	2.59
Primates	*Macaca nemestrina*	VU	1.52
Primates	*Macaca nigra*	CR	1.38
Primates	*Macaca nigrescens*	VU	1.37
Primates	*Macaca ochreata*	VU	1.48
Primates	*Macaca pagensis*	CR	1.33
Primates	*Macaca radiata*	LC	1.61
Primates	*Macaca siberu*	VU	1.33
Primates	*Macaca silenus*	EN	1.47
Primates	*Macaca sinica*	EN	1.45
Primates	*Macaca sylvanus*	EN	1.83
Primates	*Macaca thibetana*	NT	2.08
Primates	*Macaca tonkeana*	VU	1.47
Primates	*Mandrillus leucophaeus*	EN	1.75
Primates	*Mandrillus sphinx*	VU	1.62
Primates	*Mico acariensis*	DD	2.22
Primates	*Mico argentatus*	LC	2.09
Primates	*Mico chrysoleucus*	DD	2.21
Primates	*Mico emiliae*	DD	2.25
Primates	*Mico humeralifer*	DD	2.16
Primates	*Mico intermedius*	LC	2.24
Primates	*Mico leucippe*	VU	2.16
Primates	*Mico manicorensis*	LC	2.22
Primates	*Mico marcai*	DD	2.24
Primates	*Mico mauesi*	LC	2.18
Primates	*Mico melanurus*	LC	2.29
Primates	*Mico nigriceps*	DD	2.18
Primates	*Mico rondoni*	VU	2.20
Primates	*Mico saterei*	LC	2.18
Primates	*Microcebus arnholdi*	EN	1.39
Primates	*Microcebus berthae*	EN	1.41
Primates	*Microcebus bongolavensis*	EN	1.47
Primates	*Microcebus danfossi*	EN	1.49
Primates	*Microcebus gerpi*	CR	1.67

Primates	*Microcebus griseorufus*	LC	1.58
Primates	*Microcebus jollyae*	EN	1.70
Primates	*Microcebus lehilahytsara*	VU	1.67
Primates	*Microcebus macarthurii*	EN	1.62
Primates	*Microcebus mamiratra*	CR	1.39
Primates	*Microcebus margotmarshae*	EN	1.39
Primates	*Microcebus marohita*	CR	1.67
Primates	*Microcebus mittermeieri*	EN	1.58
Primates	*Microcebus murinus*	LC	1.49
Primates	*Microcebus myoxinus*	VU	1.42
Primates	*Microcebus ravelobensis*	EN	1.47
Primates	*Microcebus rufus*	VU	1.80
Primates	*Microcebus sambiranensis*	EN	1.39
Primates	*Microcebus simmonsi*	EN	1.67
Primates	*Microcebus tavaratra*	VU	1.39
Primates	*Miopithecus ogouensis*	LC	1.66
Primates	*Miopithecus talapoin*	LC	1.78
Primates	*Mirza coquereli*	EN	1.51
Primates	*Mirza zaza*	EN	1.39
Primates	*Nasalis larvatus*	EN	1.56
Primates	*Nomascus concolor*	CR	1.90
Primates	*Nomascus gabriellae*	EN	1.60
Primates	*Nomascus hainanus*	CR	1.68
Primates	*Nomascus leucogenys*	CR	1.81
Primates	*Nomascus nasutus*	CR	1.93
Primates	*Nomascus siki*	EN	1.67
Primates	*Nycticebus bengalensis*	VU	1.79
Primates	*Nycticebus coucang*	VU	1.50
Primates	*Nycticebus javanicus*	CR	1.47
Primates	*Nycticebus menagensis*	VU	1.54
Primates	*Nycticebus pygmaeus*	VU	1.74
Primates	*Oreonax flavicauda*	CR	1.81
Primates	*Otolemur crassicaudatus*	LC	1.95
Primates	*Otolemur garnettii*	LC	1.81
Primates	*Pan paniscus*	EN	1.92
Primates	*Pan troglodytes*	EN	1.85
Primates	*Papio anubis*	LC	1.96
Primates	*Papio cynocephalus*	LC	1.91
Primates	*Papio hamadryas*	LC	1.97
Primates	*Papio papio*	NT	1.80
Primates	*Papio ursinus*	LC	2.06
Primates	*Perodicticus potto*	LC	1.86
Primates	*Phaner electromontis*	EN	1.39

Primates	*Phaner furcifer*	VU	1.63
Primates	*Phaner pallescens*	EN	1.47
Primates	*Phaner parienti*	EN	1.39
Primates	*Pithecia aequatorialis*	LC	1.87
Primates	*Pithecia albicans*	VU	2.14
Primates	*Pithecia irrorata*	LC	2.18
Primates	*Pithecia monachus*	LC	1.97
Primates	*Pithecia pithecia*	LC	2.01
Primates	*Pongo abelii*	CR	1.40
Primates	*Pongo pygmaeus*	EN	1.55
Primates	*Presbytis chrysomelas*	CR	1.47
Primates	*Presbytis comata*	EN	1.46
Primates	*Presbytis femoralis*	NT	1.53
Primates	*Presbytis frontata*	VU	1.59
Primates	*Presbytis hosei*	VU	1.49
Primates	*Presbytis melalophos*	EN	1.51
Primates	*Presbytis natunae*	VU	1.34
Primates	*Presbytis potenziani*	EN	1.33
Primates	*Presbytis rubicunda*	LC	1.55
Primates	*Presbytis siamensis*	NT	1.54
Primates	*Presbytis thomasi*	VU	1.39
Primates	*Procolobus badius*	EN	1.67
Primates	*Procolobus gordonorum*	EN	1.84
Primates	*Procolobus kirkii*	EN	1.59
Primates	*Procolobus pennantii*	CR	1.78
Primates	*Procolobus preussi*	CR	1.75
Primates	*Procolobus rufomitratus*	LC	1.93
Primates	*Procolobus verus*	NT	1.77
Primates	*Prolemur simus*	CR	1.74
Primates	*Propithecus candidus*	CR	1.46
Primates	*Propithecus coquereli*	EN	1.50
Primates	*Propithecus coronatus*	EN	1.62
Primates	*Propithecus deckenii*	EN	1.45
Primates	*Propithecus diadema*	CR	1.66
Primates	*Propithecus edwardsi*	EN	1.80
Primates	*Propithecus perrieri*	CR	1.39
Primates	*Propithecus tattersalli*	CR	1.39
Primates	*Propithecus verreauxi*	EN	1.55
Primates	*Pygathrix cinerea*	CR	1.58
Primates	*Pygathrix nemaeus*	EN	1.62
Primates	*Pygathrix nigripes*	EN	1.58
Primates	*Rhinopithecus avunculus*	CR	1.93
Primates	*Rhinopithecus bieti*	EN	2.29

Primates	*Rhinopithecus brelichi*	EN	2.00
Primates	*Rhinopithecus roxellana*	EN	2.18
Primates	*Rhinopithecus strykeri*	CR	1.91
Primates	*Rungwecebus kipunji*	CR	1.91
Primates	*Saguinus bicolor*	EN	2.13
Primates	*Saguinus fuscicollis*	LC	2.04
Primates	*Saguinus geoffroyi*	LC	1.44
Primates	*Saguinus imperator*	LC	2.17
Primates	*Saguinus inustus*	LC	1.96
Primates	*Saguinus labiatus*	LC	2.15
Primates	*Saguinus leucopus*	EN	1.78
Primates	*Saguinus martinsi*	LC	2.18
Primates	*Saguinus melanoleucus*	LC	2.14
Primates	*Saguinus midas*	LC	2.02
Primates	*Saguinus mystax*	LC	2.07
Primates	*Saguinus niger*	VU	1.89
Primates	*Saguinus nigricollis*	LC	1.84
Primates	*Saguinus oedipus*	CR	1.61
Primates	*Saguinus tripartitus*	NT	1.85
Primates	*Saimiri boliviensis*	LC	2.11
Primates	*Saimiri oerstedii*	VU	1.61
Primates	*Saimiri sciureus*	LC	2.01
Primates	*Saimiri ustus*	NT	2.21
Primates	*Saimiri vanzolinii*	VU	2.00
Primates	*Sciurocheirus alleni*	LC	1.73
Primates	*Sciurocheirus gabonensis*	LC	1.75
Primates	*Semnopithecus ajax*	EN	2.37
Primates	*Semnopithecus dussumieri*	LC	1.87
Primates	*Semnopithecus entellus*	LC	1.90
Primates	*Semnopithecus hector*	NT	2.28
Primates	*Semnopithecus hypoleucos*	VU	1.47
Primates	*Semnopithecus priam*	NT	1.58
Primates	*Semnopithecus schistaceus*	LC	2.49
Primates	*Simias concolor*	CR	1.33
Primates	*Symphalangus syndactylus*	EN	1.48
Primates	*Tarsius bancanus*	VU	1.54
Primates	*Tarsius dentatus*	VU	1.48
Primates	*Tarsius lariang*	DD	1.47
Primates	*Tarsius pelengensis*	EN	1.49
Primates	*Tarsius pumilus*	DD	1.46
Primates	*Tarsius sangirensis*	EN	1.33
Primates	*Tarsius syrichta*	NT	1.45
Primates	*Tarsius tarsier*	VU	1.43

Primates	*Tarsius tumpara*	CR	1.33
Primates	*Tarsius wallacei*	DD	1.44
Primates	*Theropithecus gelada*	LC	1.97
Primates	*Trachypithecus auratus*	VU	1.44
Primates	*Trachypithecus barbei*	DD	1.58
Primates	*Trachypithecus cristatus*	NT	1.52
Primates	*Trachypithecus delacouri*	CR	1.84
Primates	*Trachypithecus francoisi*	EN	1.93
Primates	*Trachypithecus geei*	EN	1.99
Primates	*Trachypithecus germaini*	EN	1.61
Primates	*Trachypithecus hatinhensis*	EN	1.64
Primates	*Trachypithecus johnii*	VU	1.48
Primates	*Trachypithecus laotum*	VU	1.64
Primates	*Trachypithecus obscurus*	NT	1.53
Primates	*Trachypithecus phayrei*	EN	1.78
Primates	*Trachypithecus pileatus*	VU	1.91
Primates	*Trachypithecus poliocephalus*	CR	1.88
Primates	*Trachypithecus shortridgei*	EN	2.17
Primates	*Trachypithecus vetulus*	EN	1.45
Primates	*Varecia rubra*	CR	1.62
Primates	*Varecia variegata*	CR	1.67
Proboscidea	*Elephas maximus*	EN	1.71
Proboscidea	*Loxodonta africana*	VU	1.93
Rodentia	*Abditomys latidens*	DD	1.39
Rodentia	*Abeomelomys sevia*	LC	1.54
Rodentia	*Abrawayaomys ruschii*	LC	1.96
Rodentia	*Abrocoma bennettii*	LC	1.40
Rodentia	*Abrocoma boliviensis*	CR	2.12
Rodentia	*Abrocoma budini*	DD	1.91
Rodentia	*Abrocoma cinerea*	LC	2.16
Rodentia	*Abrocoma famatina*	DD	1.91
Rodentia	*Abrocoma shistacea*	DD	1.81
Rodentia	*Abrocoma uspallata*	DD	1.81
Rodentia	*Abrocoma vaccarum*	DD	1.81
Rodentia	*Abrothrix andinus*	LC	2.06
Rodentia	*Abrothrix hershkovitzi*	LC	1.01
Rodentia	*Abrothrix illuteus*	NT	2.33
Rodentia	*Abrothrix jelskii*	LC	2.04
Rodentia	*Abrothrix lanosus*	LC	1.16
Rodentia	*Abrothrix longipilis*	LC	1.37
Rodentia	*Abrothrix markhami*	LC	1.03
Rodentia	*Abrothrix olivaceus*	LC	1.40
Rodentia	*Abrothrix sanborni*	NT	1.25

Rodentia	*Acomys airensis*	LC	2.24
Rodentia	*Acomys cahirinus*	LC	2.01
Rodentia	*Acomys cilicicus*	DD	2.13
Rodentia	*Acomys cineraceus*	LC	1.99
Rodentia	*Acomys dimidiatus*	LC	2.13
Rodentia	*Acomys ignitus*	LC	1.78
Rodentia	*Acomys johannis*	LC	2.03
Rodentia	*Acomys kempi*	LC	1.80
Rodentia	*Acomys louisae*	LC	1.81
Rodentia	*Acomys minous*	DD	1.60
Rodentia	*Acomys mullah*	LC	1.95
Rodentia	*Acomys percivali*	LC	1.86
Rodentia	*Acomys russatus*	LC	2.04
Rodentia	*Acomys seurati*	LC	2.30
Rodentia	*Acomys spinosissimus*	LC	2.03
Rodentia	*Acomys subspinosus*	LC	1.51
Rodentia	*Acomys wilsoni*	LC	1.82
Rodentia	*Aconaemys fuscus*	LC	1.38
Rodentia	*Aconaemys porteri*	DD	1.38
Rodentia	*Aconaemys sagei*	DD	1.39
Rodentia	*Aegialomys galapagoensis*	VU	1.57
Rodentia	*Aegialomys xanthaeolus*	LC	1.61
Rodentia	*Aepeomys lugens*	LC	2.11
Rodentia	*Aepeomys reigi*	VU	2.08
Rodentia	*Aeretes melanopterus*	NT	2.28
Rodentia	*Aeromys tephromelas*	DD	1.50
Rodentia	*Aeromys thomasi*	DD	1.50
Rodentia	*Aethomys bocagei*	LC	1.66
Rodentia	*Aethomys chrysophilus*	LC	2.02
Rodentia	*Aethomys granti*	LC	1.80
Rodentia	*Aethomys hindei*	LC	1.90
Rodentia	*Aethomys ineptus*	LC	2.13
Rodentia	*Aethomys kaiseri*	LC	1.94
Rodentia	*Aethomys namaquensis*	LC	2.07
Rodentia	*Aethomys nyikae*	LC	2.01
Rodentia	*Aethomys silindensis*	DD	2.11
Rodentia	*Aethomys stannarius*	DD	1.96
Rodentia	*Aethomys thomasi*	LC	1.87
Rodentia	*Akodon aerosus*	LC	1.89
Rodentia	*Akodon affinis*	LC	1.58
Rodentia	*Akodon albiventer*	LC	2.14
Rodentia	*Akodon aliquantulus*	DD	2.34
Rodentia	*Akodon azarae*	LC	1.52

Rodentia	*Akodon bogotensis*	LC	1.91
Rodentia	*Akodon boliviensis*	LC	2.10
Rodentia	*Akodon budini*	LC	2.18
Rodentia	*Akodon cursor*	LC	1.88
Rodentia	*Akodon dayi*	LC	2.13
Rodentia	*Akodon dolores*	LC	1.64
Rodentia	*Akodon fumeus*	LC	2.09
Rodentia	*Akodon iniscatus*	LC	1.52
Rodentia	*Akodon juninensis*	LC	1.84
Rodentia	*Akodon kofordi*	LC	2.03
Rodentia	*Akodon latebricola*	VU	1.60
Rodentia	*Akodon leucolimnaeus*	DD	2.10
Rodentia	*Akodon lindberghi*	DD	2.02
Rodentia	*Akodon lutescens*	LC	2.18
Rodentia	*Akodon mimus*	LC	2.08
Rodentia	*Akodon molinae*	LC	1.51
Rodentia	*Akodon mollis*	LC	1.68
Rodentia	*Akodon montensis*	LC	1.96
Rodentia	*Akodon mystax*	DD	1.73
Rodentia	*Akodon neocenus*	DD	1.53
Rodentia	*Akodon oenos*	DD	1.81
Rodentia	*Akodon orophilus*	LC	1.80
Rodentia	*Akodon paranaensis*	LC	1.82
Rodentia	*Akodon pervalens*	DD	2.14
Rodentia	*Akodon philipmyersi*	DD	1.95
Rodentia	*Akodon reigi*	LC	1.53
Rodentia	*Akodon sanctipaulensis*	DD	1.98
Rodentia	*Akodon serrensis*	LC	1.91
Rodentia	*Akodon siberiae*	NT	2.09
Rodentia	*Akodon simulator*	LC	2.19
Rodentia	*Akodon spegazzinii*	LC	2.31
Rodentia	*Akodon subfuscus*	LC	2.02
Rodentia	*Akodon surdus*	VU	1.96
Rodentia	*Akodon sylvanus*	LC	2.25
Rodentia	*Akodon toba*	LC	2.04
Rodentia	*Akodon torques*	LC	1.97
Rodentia	*Akodon varius*	DD	2.14
Rodentia	*Allactaga balikunica*	LC	2.58
Rodentia	*Allactaga bullata*	LC	2.53
Rodentia	*Allactaga elater*	LC	2.39
Rodentia	*Allactaga euphratica*	NT	2.17
Rodentia	*Allactaga firouzi*	DD	2.45
Rodentia	*Allactaga hotsoni*	LC	2.39

Rodentia	*Allactaga major*	LC	2.63
Rodentia	*Allactaga severtzovi*	LC	2.35
Rodentia	*Allactaga sibirica*	LC	2.52
Rodentia	*Allactaga tetradactyla*	VU	1.60
Rodentia	*Allactaga vinogradovi*	NT	2.34
Rodentia	*Allactaga williamsi*	LC	2.20
Rodentia	*Allactodipus bobrinskii*	LC	2.53
Rodentia	*Allocricetulus curtatus*	LC	2.49
Rodentia	*Allocricetulus eversmanni*	LC	2.75
Rodentia	*Alticola albicaudus*	DD	2.56
Rodentia	*Alticola argentatus*	LC	2.48
Rodentia	*Alticola barakshin*	LC	2.56
Rodentia	*Alticola lemminus*	LC	3.58
Rodentia	*Alticola macrotis*	LC	2.58
Rodentia	*Alticola montosa*	VU	2.62
Rodentia	*Alticola olchonensis*	DD	2.73
Rodentia	*Alticola roylei*	NT	2.43
Rodentia	*Alticola semicanus*	LC	2.48
Rodentia	*Alticola stoliczkanus*	LC	2.47
Rodentia	*Alticola strelzowi*	LC	2.64
Rodentia	*Alticola tuvinicus*	LC	2.53
Rodentia	*Ammodillus imbellis*	DD	1.81
Rodentia	*Ammospermophilus harrisii*	LC	1.95
Rodentia	*Ammospermophilus interpres*	LC	2.11
Rodentia	*Ammospermophilus leucurus*	LC	2.16
Rodentia	*Ammospermophilus nelsoni*	EN	1.69
Rodentia	*Amphinectomys savamis*	DD	2.04
Rodentia	*Andalgalomys olrogi*	LC	1.87
Rodentia	*Andalgalomys pearsoni*	LC	2.18
Rodentia	*Andinomys edax*	LC	2.23
Rodentia	*Anisomys imitator*	LC	1.51
Rodentia	*Anomalurus beecrofti*	LC	1.84
Rodentia	*Anomalurus derbianus*	LC	1.88
Rodentia	*Anomalurus pelii*	DD	1.81
Rodentia	*Anomalurus pusillus*	LC	1.84
Rodentia	*Anonymomys mindorensis*	DD	1.39
Rodentia	*Anotomys leander*	VU	1.57
Rodentia	*Aplodontia rufa*	LC	1.92
Rodentia	*Apodemus agrarius*	LC	2.51
Rodentia	*Apodemus alpicola*	LC	1.93
Rodentia	*Apodemus argenteus*	LC	1.91
Rodentia	*Apodemus chevrieri*	LC	2.06
Rodentia	*Apodemus draco*	LC	2.07

Rodentia	*Apodemus epimelas*	LC	2.03
Rodentia	*Apodemus flavicollis*	LC	2.26
Rodentia	*Apodemus gurkha*	EN	2.47
Rodentia	*Apodemus hyrcanicus*	NT	2.12
Rodentia	*Apodemus latronum*	LC	2.29
Rodentia	*Apodemus mystacinus*	LC	2.01
Rodentia	*Apodemus pallipes*	LC	2.47
Rodentia	*Apodemus peninsulae*	LC	2.60
Rodentia	*Apodemus ponticus*	LC	2.09
Rodentia	*Apodemus rusiges*	LC	2.59
Rodentia	*Apodemus semotus*	LC	1.51
Rodentia	*Apodemus speciosus*	LC	1.91
Rodentia	*Apodemus sylvaticus*	LC	1.93
Rodentia	*Apodemus uralensis*	LC	2.60
Rodentia	*Apodemus witherbyi*	LC	2.10
Rodentia	*Apomys abrae*	DD	1.35
Rodentia	*Apomys camiguinensis*	VU	1.48
Rodentia	*Apomys datae*	LC	1.35
Rodentia	*Apomys gracilirostris*	DD	1.39
Rodentia	*Apomys hylocetes*	LC	1.48
Rodentia	*Apomys insignis*	LC	1.45
Rodentia	*Apomys littoralis*	DD	1.47
Rodentia	*Apomys microdon*	LC	1.39
Rodentia	*Apomys musculus*	LC	1.39
Rodentia	*Apomys sacobianus*	DD	1.33
Rodentia	*Arborimus albipes*	LC	1.75
Rodentia	*Arborimus longicaudus*	NT	1.75
Rodentia	*Arborimus pomo*	NT	1.68
Rodentia	*Archboldomys luzonensis*	VU	1.46
Rodentia	*Arvicanthis abyssinicus*	LC	1.97
Rodentia	*Arvicanthis ansorgei*	LC	1.98
Rodentia	*Arvicanthis blicki*	NT	1.89
Rodentia	*Arvicanthis nairobae*	LC	1.80
Rodentia	*Arvicanthis neumanni*	LC	1.85
Rodentia	*Arvicanthis niloticus*	LC	1.99
Rodentia	*Arvicanthis rufinus*	LC	1.85
Rodentia	*Arvicola amphibius*	LC	2.75
Rodentia	*Arvicola sapidus*	VU	1.64
Rodentia	*Arvicola scherman*	LC	1.92
Rodentia	*Atherurus africanus*	LC	1.84
Rodentia	*Atherurus macrourus*	LC	1.79
Rodentia	*Atlantoxerus getulus*	LC	1.83
Rodentia	*Auliscomys boliviensis*	LC	2.07

Rodentia	*Auliscomys pictus*	LC	1.94
Rodentia	*Auliscomys sublimis*	LC	2.11
Rodentia	*Baiomys musculus*	LC	1.82
Rodentia	*Baiomys taylori*	LC	1.95
Rodentia	*Baiyankamys habbema*	DD	1.49
Rodentia	*Baiyankamys shawmayeri*	LC	1.57
Rodentia	*Bandicota bengalensis*	LC	1.93
Rodentia	*Bandicota indica*	LC	1.84
Rodentia	*Bandicota savilei*	LC	1.70
Rodentia	*Bathyergus janetta*	LC	1.63
Rodentia	*Bathyergus suillus*	LC	1.43
Rodentia	*Batomys dentatus*	DD	1.32
Rodentia	*Batomys granti*	NT	1.36
Rodentia	*Batomys russatus*	EN	1.48
Rodentia	*Batomys salomonseni*	LC	1.47
Rodentia	*Beamys hindei*	LC	1.87
Rodentia	*Belomys pearsonii*	DD	1.93
Rodentia	*Berylmys berdmorei*	LC	1.71
Rodentia	*Berylmys bowersi*	LC	1.88
Rodentia	*Berylmys mackenziei*	DD	1.90
Rodentia	*Berylmys manipulus*	DD	1.93
Rodentia	*Bibimys chacoensis*	LC	1.93
Rodentia	*Bibimys labiosus*	LC	1.98
Rodentia	*Bibimys torresi*	NT	1.45
Rodentia	*Biswamoyopterus biswasi*	CR	2.39
Rodentia	*Blanfordimys afghanus*	LC	2.40
Rodentia	*Blanfordimys bucharensis*	LC	2.32
Rodentia	*Blarinomys breviceps*	LC	1.90
Rodentia	*Brachiones przewalskii*	LC	2.45
Rodentia	*Brachytarsomys albicauda*	LC	1.67
Rodentia	*Brachytarsomys villosa*	EN	1.39
Rodentia	*Brachyuromys betsileoensis*	LC	1.72
Rodentia	*Brachyuromys ramirohitra*	LC	1.69
Rodentia	*Brucepattersonius albinasus*	DD	1.72
Rodentia	*Brucepattersonius griserufescens*	DD	1.74
Rodentia	*Brucepattersonius guarani*	DD	1.95
Rodentia	*Brucepattersonius igniventris*	DD	1.98
Rodentia	*Brucepattersonius iheringi*	LC	1.76
Rodentia	*Brucepattersonius misionensis*	DD	1.95
Rodentia	*Brucepattersonius paradisus*	DD	1.95
Rodentia	*Brucepattersonius soricinus*	DD	1.89
Rodentia	*Bullimus bagobus*	LC	1.45
Rodentia	*Bullimus gamay*	VU	1.48

Rodentia	*Bullimus luzonicus*	LC	1.39
Rodentia	*Bunomys andrewsi*	LC	1.45
Rodentia	*Bunomys chrysocomus*	LC	1.44
Rodentia	*Bunomys coelestis*	CR	1.37
Rodentia	*Bunomys fratrorum*	VU	1.38
Rodentia	*Bunomys penitus*	NT	1.46
Rodentia	*Bunomys prolatus*	EN	1.49
Rodentia	*Callistomys pictus*	EN	1.54
Rodentia	*Callosciurus adamsi*	VU	1.37
Rodentia	*Callosciurus albescens*	DD	1.39
Rodentia	*Callosciurus baluensis*	LC	1.43
Rodentia	*Callosciurus caniceps*	LC	1.65
Rodentia	*Callosciurus erythraeus*	LC	1.93
Rodentia	*Callosciurus finlaysonii*	LC	1.69
Rodentia	*Callosciurus inornatus*	LC	1.85
Rodentia	*Callosciurus melanogaster*	VU	1.33
Rodentia	*Callosciurus nigrovittatus*	NT	1.49
Rodentia	*Callosciurus notatus*	LC	1.51
Rodentia	*Callosciurus orestes*	LC	1.46
Rodentia	*Callosciurus phayrei*	LC	1.83
Rodentia	*Callosciurus prevostii*	LC	1.52
Rodentia	*Callosciurus pygerythrus*	LC	1.94
Rodentia	*Callosciurus quinquestriatus*	NT	1.96
Rodentia	*Calomys boliviae*	LC	2.15
Rodentia	*Calomys callidus*	LC	1.68
Rodentia	*Calomys callosus*	LC	2.09
Rodentia	*Calomys expulsus*	LC	1.93
Rodentia	*Calomys fecundus*	LC	2.14
Rodentia	*Calomys hummelincki*	LC	1.86
Rodentia	*Calomys laucha*	LC	1.67
Rodentia	*Calomys lepidus*	LC	2.09
Rodentia	*Calomys musculinus*	LC	1.70
Rodentia	*Calomys sorellus*	LC	1.91
Rodentia	*Calomys tener*	LC	2.13
Rodentia	*Calomys tocantinsi*	LC	2.18
Rodentia	*Calomys venustus*	LC	1.46
Rodentia	*Calomyscus bailwardi*	LC	2.39
Rodentia	*Calomyscus baluchi*	LC	2.48
Rodentia	*Calomyscus elburzensis*	LC	2.21
Rodentia	*Calomyscus grandis*	DD	2.00
Rodentia	*Calomyscus hotsoni*	LC	2.29
Rodentia	*Calomyscus mystax*	LC	2.20
Rodentia	*Calomyscus tsolovi*	DD	1.61

Rodentia	*Calomyscus urartensis*	LC	2.23
Rodentia	*Cannomys badius*	LC	1.79
Rodentia	*Cansumys canus*	LC	2.28
Rodentia	*Capromys pilorides*	LC	1.40
Rodentia	*Cardiocranius paradoxus*	DD	2.52
Rodentia	*Carpomys melanurus*	DD	1.33
Rodentia	*Carpomys phaeurus*	LC	1.37
Rodentia	*Carterodon sulcidens*	DD	2.09
Rodentia	*Caryomys eva*	LC	2.21
Rodentia	*Caryomys inez*	LC	2.17
Rodentia	*Castor canadensis*	LC	2.68
Rodentia	*Castor fiber*	LC	2.69
Rodentia	*Cavia aperea*	LC	1.96
Rodentia	*Cavia fulgida*	LC	1.82
Rodentia	*Cavia intermedia*	CR	1.76
Rodentia	*Cavia magna*	LC	1.62
Rodentia	*Cavia tschudii*	LC	2.01
Rodentia	*Cerradomys andersoni*	DD	2.30
Rodentia	*Cerradomys maracajuensis*	LC	2.21
Rodentia	*Cerradomys marinhus*	DD	1.98
Rodentia	*Cerradomys scotti*	LC	2.22
Rodentia	*Cerradomys subflavus*	LC	1.89
Rodentia	*Chaetocauda sichuanensis*	DD	2.16
Rodentia	*Chaetodipus arenarius*	LC	1.40
Rodentia	*Chaetodipus artus*	LC	1.84
Rodentia	*Chaetodipus baileyi*	LC	1.90
Rodentia	*Chaetodipus californicus*	LC	1.62
Rodentia	*Chaetodipus dalquesti*	VU	1.22
Rodentia	*Chaetodipus eremicus*	LC	2.07
Rodentia	*Chaetodipus fallax*	LC	1.51
Rodentia	*Chaetodipus formosus*	LC	2.11
Rodentia	*Chaetodipus goldmani*	NT	1.90
Rodentia	*Chaetodipus hispidus*	LC	2.13
Rodentia	*Chaetodipus intermedius*	LC	2.08
Rodentia	*Chaetodipus lineatus*	DD	1.93
Rodentia	*Chaetodipus nelsoni*	LC	2.02
Rodentia	*Chaetodipus penicillatus*	LC	1.92
Rodentia	*Chaetodipus pernix*	LC	1.82
Rodentia	*Chaetodipus rudinoris*	LC	1.48
Rodentia	*Chaetodipus spinatus*	LC	1.53
Rodentia	*Chaetomys subspinosus*	VU	1.74
Rodentia	*Chelemys delfini*	DD	1.14
Rodentia	*Chelemys macronyx*	LC	1.37

Rodentia	*Chelemys megalonyx*	NT	1.32
Rodentia	*Chibchanomys orcesi*	DD	1.44
Rodentia	*Chibchanomys trichotis*	DD	1.89
Rodentia	*Chilomys instans*	LC	1.71
Rodentia	*Chinchilla chinchilla*	CR	2.07
Rodentia	*Chinchilla lanigera*	CR	1.27
Rodentia	*Chinchillula sahamae*	LC	2.03
Rodentia	*Chionomys gud*	LC	2.00
Rodentia	*Chionomys nivalis*	LC	2.02
Rodentia	*Chionomys roberti*	LC	1.96
Rodentia	*Chiromyscus chiropus*	LC	1.78
Rodentia	*Chiropodomys calamianensis*	DD	1.33
Rodentia	*Chiropodomys gliroides*	LC	1.74
Rodentia	*Chiropodomys karlkoopmani*	EN	1.33
Rodentia	*Chiropodomys major*	DD	1.41
Rodentia	*Chiropodomys muroides*	DD	1.44
Rodentia	*Chiropodomys pusillus*	DD	1.54
Rodentia	*Chiruromys forbesi*	LC	1.43
Rodentia	*Chiruromys lamia*	LC	1.40
Rodentia	*Chiruromys vates*	LC	1.57
Rodentia	*Chrotomys gonzalesi*	NT	1.46
Rodentia	*Chrotomys mindorensis*	NT	1.37
Rodentia	*Chrotomys sibuyanensis*	DD	1.36
Rodentia	*Chrotomys silaceus*	LC	1.37
Rodentia	*Chrotomys whiteheadi*	LC	1.36
Rodentia	*Clyomys bishopi*	DD	1.95
Rodentia	*Clyomys laticeps*	LC	2.11
Rodentia	*Coccymys albidens*	DD	1.49
Rodentia	*Coccymys ruemmleri*	LC	1.54
Rodentia	*Coendou bicolor*	LC	1.92
Rodentia	*Coendou nycthemera*	DD	2.07
Rodentia	*Coendou prehensilis*	LC	2.06
Rodentia	*Coendou quichua*	DD	1.57
Rodentia	*Coendou rothschildi*	LC	1.46
Rodentia	*Coendou sanctamartae*	DD	1.39
Rodentia	*Colomys goslingi*	LC	1.89
Rodentia	*Conilurus penicillatus*	NT	1.47
Rodentia	*Crateromys australis*	CR	1.48
Rodentia	*Crateromys heaneyi*	EN	1.36
Rodentia	*Crateromys paulus*	DD	1.36
Rodentia	*Crateromys schadenbergi*	EN	1.36
Rodentia	*Cratogeomys castanops*	LC	2.09
Rodentia	*Cratogeomys fulvescens*	LC	1.80

Rodentia	*Cratogeomys fumosus*	LC	1.91
Rodentia	*Cratogeomys goldmani*	LC	1.97
Rodentia	*Cratogeomys merriami*	LC	1.94
Rodentia	*Cratogeomys perotensis*	LC	1.81
Rodentia	*Cratogeomys planiceps*	LC	1.95
Rodentia	*Cremnomys cutchicus*	LC	1.92
Rodentia	*Cremnomys elvira*	CR	1.54
Rodentia	*Cricetomys emini*	LC	1.85
Rodentia	*Cricetomys gambianus*	LC	1.95
Rodentia	*Cricetulus alticola*	LC	2.59
Rodentia	*Cricetulus barabensis*	LC	2.49
Rodentia	*Cricetulus kamensis*	LC	2.47
Rodentia	*Cricetulus lama*	LC	2.58
Rodentia	*Cricetulus longicaudatus*	LC	2.45
Rodentia	*Cricetulus migratorius*	LC	2.41
Rodentia	*Cricetulus sokolovi*	LC	2.49
Rodentia	*Cricetulus tibetanus*	LC	2.42
Rodentia	*Cricetus cricetus*	LC	2.62
Rodentia	*Crossomys moncktoni*	LC	1.55
Rodentia	*Crunomys celebensis*	DD	1.47
Rodentia	*Crunomys fallax*	DD	1.39
Rodentia	*Crunomys melanius*	VU	1.46
Rodentia	*Crunomys suncoides*	DD	1.48
Rodentia	*Cryptomys hottentotus*	LC	1.98
Rodentia	*Ctenodactylus gundi*	LC	2.05
Rodentia	*Ctenodactylus vali*	DD	2.17
Rodentia	*Ctenomys argentinus*	NT	1.85
Rodentia	*Ctenomys australis*	EN	1.33
Rodentia	*Ctenomys azarae*	VU	1.54
Rodentia	*Ctenomys bergi*	VU	1.77
Rodentia	*Ctenomys boliviensis*	LC	2.31
Rodentia	*Ctenomys bonettoi*	EN	1.75
Rodentia	*Ctenomys brasiliensis*	DD	1.84
Rodentia	*Ctenomys budini*	DD	2.19
Rodentia	*Ctenomys colburni*	DD	1.27
Rodentia	*Ctenomys coludo*	DD	2.13
Rodentia	*Ctenomys conoveri*	LC	2.12
Rodentia	*Ctenomys coyhaiquensis*	DD	1.27
Rodentia	*Ctenomys dorbignyi*	NT	1.81
Rodentia	*Ctenomys dorsalis*	DD	2.11
Rodentia	*Ctenomys emilianus*	NT	1.53
Rodentia	*Ctenomys famosus*	DD	1.91
Rodentia	*Ctenomys flamarioni*	EN	1.50

Rodentia	*Ctenomys fochi*	DD	1.95
Rodentia	*Ctenomys fodax*	DD	1.27
Rodentia	*Ctenomys frater*	LC	2.14
Rodentia	*Ctenomys fulvus*	LC	1.95
Rodentia	*Ctenomys goodfellowi*	LC	2.32
Rodentia	*Ctenomys haigi*	LC	1.41
Rodentia	*Ctenomys johannis*	DD	1.81
Rodentia	*Ctenomys juris*	DD	2.32
Rodentia	*Ctenomys knighti*	DD	2.33
Rodentia	*Ctenomys lami*	VU	1.75
Rodentia	*Ctenomys latro*	VU	2.26
Rodentia	*Ctenomys leucodon*	LC	2.07
Rodentia	*Ctenomys lewisi*	LC	2.35
Rodentia	*Ctenomys magellanicus*	VU	1.20
Rodentia	*Ctenomys maulinus*	LC	1.38
Rodentia	*Ctenomys mendocinus*	LC	1.67
Rodentia	*Ctenomys minutus*	DD	2.26
Rodentia	*Ctenomys occultus*	EN	2.34
Rodentia	*Ctenomys opimus*	LC	2.15
Rodentia	*Ctenomys osvaldoreigi*	CR	1.72
Rodentia	*Ctenomys pearsoni*	NT	1.38
Rodentia	*Ctenomys perrensi*	LC	1.72
Rodentia	*Ctenomys peruanus*	LC	2.07
Rodentia	*Ctenomys pilarensis*	EN	1.90
Rodentia	*Ctenomys pontifex*	DD	1.78
Rodentia	*Ctenomys porteousi*	NT	1.32
Rodentia	*Ctenomys pundti*	VU	1.45
Rodentia	*Ctenomys rionegrensis*	EN	1.47
Rodentia	*Ctenomys roigi*	CR	1.90
Rodentia	*Ctenomys saltarius*	DD	2.32
Rodentia	*Ctenomys scagliai*	DD	2.34
Rodentia	*Ctenomys sericeus*	DD	1.25
Rodentia	*Ctenomys sociabilis*	CR	1.34
Rodentia	*Ctenomys steinbachi*	LC	2.18
Rodentia	*Ctenomys sylvanus*	DD	2.29
Rodentia	*Ctenomys talarum*	LC	1.35
Rodentia	*Ctenomys torquatus*	LC	1.62
Rodentia	*Ctenomys tuconax*	DD	2.34
Rodentia	*Ctenomys tucumanus*	DD	2.34
Rodentia	*Ctenomys tulduco*	DD	1.81
Rodentia	*Ctenomys validus*	DD	1.81
Rodentia	*Ctenomys viperinus*	DD	2.34
Rodentia	*Ctenomys yolandae*	DD	1.70

Rodentia	*Cuniculus paca*	LC	2.02
Rodentia	*Cuniculus taczanowskii*	NT	1.80
Rodentia	*Cuscomys ashaninka*	DD	2.02
Rodentia	*Cynomys gunnisoni*	LC	2.29
Rodentia	*Cynomys leucurus*	LC	2.44
Rodentia	*Cynomys ludovicianus*	LC	2.26
Rodentia	*Cynomys mexicanus*	EN	1.93
Rodentia	*Cynomys parvidens*	EN	2.37
Rodentia	*Dacnomys millardi*	DD	2.02
Rodentia	*Dactylomys boliviensis*	LC	2.12
Rodentia	*Dactylomys dactylinus*	LC	2.12
Rodentia	*Dactylomys peruanus*	DD	2.07
Rodentia	*Dasymys foxi*	DD	1.92
Rodentia	*Dasymys incomtus*	LC	1.97
Rodentia	*Dasymys montanus*	EN	1.97
Rodentia	*Dasymys nudipes*	DD	1.93
Rodentia	*Dasymys rufulus*	LC	1.85
Rodentia	*Dasyprocta azarae*	DD	2.07
Rodentia	*Dasyprocta coibae*	VU	1.40
Rodentia	*Dasyprocta cristata*	DD	1.92
Rodentia	*Dasyprocta fuliginosa*	LC	2.00
Rodentia	*Dasyprocta guamara*	NT	1.54
Rodentia	*Dasyprocta kalinowskii*	DD	2.02
Rodentia	*Dasyprocta leporina*	LC	2.01
Rodentia	*Dasyprocta mexicana*	CR	1.88
Rodentia	*Dasyprocta prymnolopha*	LC	1.84
Rodentia	*Dasyprocta punctata*	LC	1.89
Rodentia	*Dasyprocta ruatanica*	EN	1.37
Rodentia	*Delanymys brooksi*	VU	1.96
Rodentia	*Delomys collinus*	LC	1.91
Rodentia	*Delomys dorsalis*	LC	1.89
Rodentia	*Delomys sublineatus*	LC	1.85
Rodentia	*Deltamys kempi*	LC	1.53
Rodentia	*Dendromus insignis*	LC	1.88
Rodentia	*Dendromus kahuziensis*	CR	1.96
Rodentia	*Dendromus kivu*	LC	1.96
Rodentia	*Dendromus lovati*	LC	1.93
Rodentia	*Dendromus melanotis*	LC	2.11
Rodentia	*Dendromus mesomelas*	LC	1.94
Rodentia	*Dendromus messorius*	LC	1.91
Rodentia	*Dendromus mystacalis*	LC	2.01
Rodentia	*Dendromus nyikae*	LC	2.04
Rodentia	*Dendromus oreas*	VU	1.61

Rodentia	*Dendromus vernayi*	DD	2.00
Rodentia	*Dendroprionomys rousseloti*	DD	1.81
Rodentia	*Deomys ferrugineus*	LC	1.81
Rodentia	*Dephomys defua*	LC	1.76
Rodentia	*Desmodilliscus braueri*	LC	2.13
Rodentia	*Desmodillus auricularis*	LC	2.07
Rodentia	*Desmomys harringtoni*	LC	1.93
Rodentia	*Desmomys yaldeni*	EN	1.92
Rodentia	*Dicrostonyx groenlandicus*	LC	3.83
Rodentia	*Dicrostonyx hudsonius*	LC	3.41
Rodentia	*Dicrostonyx nelsoni*	LC	3.43
Rodentia	*Dicrostonyx nunatakensis*	LC	3.33
Rodentia	*Dicrostonyx richardsoni*	LC	3.46
Rodentia	*Dicrostonyx torquatus*	LC	4.18
Rodentia	*Dicrostonyx unalascensis*	DD	2.19
Rodentia	*Dicrostonyx vinogradovi*	DD	4.94
Rodentia	*Dinaromys bogdanovi*	VU	2.07
Rodentia	*Dinomys branickii*	VU	1.98
Rodentia	*Diomys crumpi*	DD	1.92
Rodentia	*Diplomys caniceps*	DD	1.80
Rodentia	*Diplomys labilis*	LC	1.43
Rodentia	*Diplothrix legata*	EN	1.44
Rodentia	*Dipodomys agilis*	LC	1.65
Rodentia	*Dipodomys californicus*	LC	1.80
Rodentia	*Dipodomys compactus*	LC	1.95
Rodentia	*Dipodomys deserti*	LC	1.98
Rodentia	*Dipodomys elator*	VU	2.11
Rodentia	*Dipodomys gravipes*	CR	1.35
Rodentia	*Dipodomys heermanni*	LC	1.72
Rodentia	*Dipodomys ingens*	EN	1.72
Rodentia	*Dipodomys insularis*	CR	1.52
Rodentia	*Dipodomys margaritae*	CR	1.52
Rodentia	*Dipodomys merriami*	LC	1.97
Rodentia	*Dipodomys microps*	LC	2.23
Rodentia	*Dipodomys nelsoni*	LC	2.05
Rodentia	*Dipodomys nitratoides*	VU	1.74
Rodentia	*Dipodomys ordii*	LC	2.22
Rodentia	*Dipodomys panamintinus*	LC	1.91
Rodentia	*Dipodomys phillipsii*	LC	1.92
Rodentia	*Dipodomys simulans*	LC	1.53
Rodentia	*Dipodomys spectabilis*	NT	2.10
Rodentia	*Dipodomys stephensi*	EN	1.84
Rodentia	*Dipodomys venustus*	LC	1.51

Rodentia	*Dipus sagitta*	LC	2.46
Rodentia	*Dolichotis patagonum*	NT	1.62
Rodentia	*Dolichotis salinicola*	LC	1.99
Rodentia	*Dremomys everetti*	LC	1.47
Rodentia	*Dremomys gularis*	LC	1.93
Rodentia	*Dremomys lokriah*	LC	2.21
Rodentia	*Dremomys pernyi*	LC	2.02
Rodentia	*Dremomys pyrrhomerus*	LC	1.93
Rodentia	*Dremomys rufigenis*	LC	1.80
Rodentia	*Dryomys laniger*	DD	2.11
Rodentia	*Dryomys niethammeri*	VU	2.53
Rodentia	*Dryomys nitedula*	LC	2.30
Rodentia	*Echimys chrysurus*	LC	1.98
Rodentia	*Echimys saturnus*	DD	1.80
Rodentia	*Echimys vieirai*	DD	2.16
Rodentia	*Echinoprocta rufescens*	LC	1.68
Rodentia	*Echiothrix centrosa*	VU	1.41
Rodentia	*Echiothrix leucura*	EN	1.38
Rodentia	*Eligmodontia moreni*	LC	2.02
Rodentia	*Eligmodontia morgani*	LC	1.38
Rodentia	*Eligmodontia puerulus*	LC	2.13
Rodentia	*Eligmodontia typus*	LC	1.53
Rodentia	*Eliomys melanurus*	LC	1.80
Rodentia	*Eliomys munbyanus*	LC	1.81
Rodentia	*Eliomys quercinus*	NT	2.03
Rodentia	*Eliurus antsingy*	DD	1.42
Rodentia	*Eliurus danieli*	DD	1.80
Rodentia	*Eliurus ellermani*	DD	1.65
Rodentia	*Eliurus grandidieri*	LC	1.58
Rodentia	*Eliurus majori*	LC	1.69
Rodentia	*Eliurus minor*	LC	1.60
Rodentia	*Eliurus myoxinus*	LC	1.51
Rodentia	*Eliurus penicillatus*	EN	1.75
Rodentia	*Eliurus petteri*	VU	1.66
Rodentia	*Eliurus tanala*	LC	1.65
Rodentia	*Eliurus webbi*	LC	1.65
Rodentia	*Ellobius alaicus*	DD	2.44
Rodentia	*Ellobius fuscocapillus*	LC	2.31
Rodentia	*Ellobius lutescens*	LC	2.34
Rodentia	*Ellobius talpinus*	LC	2.59
Rodentia	*Ellobius tancrei*	LC	2.49
Rodentia	*Eoglaucomys fimbriatus*	LC	2.55
Rodentia	*Eolagurus luteus*	LC	2.61

Rodentia	*Eolagurus przewalskii*	LC	2.50
Rodentia	*Eospalax fontanierii*	LC	2.30
Rodentia	*Eospalax rothschildi*	LC	2.15
Rodentia	*Eospalax smithii*	LC	2.26
Rodentia	*Eothenomys cachinus*	LC	1.98
Rodentia	*Eothenomys chinensis*	LC	2.11
Rodentia	*Eothenomys custos*	LC	2.16
Rodentia	*Eothenomys melanogaster*	LC	2.04
Rodentia	*Eothenomys miletus*	LC	1.97
Rodentia	*Eothenomys olitor*	LC	1.98
Rodentia	*Eothenomys proditor*	LC	2.13
Rodentia	*Eothenomys wardi*	NT	2.30
Rodentia	*Eozapus setchuanus*	LC	2.33
Rodentia	*Epixerus ebii*	LC	1.69
Rodentia	*Eremodipus lichtensteini*	LC	2.35
Rodentia	*Eremoryzomys polius*	DD	1.76
Rodentia	*Erethizon dorsatum*	LC	2.76
Rodentia	*Eropeplus canus*	VU	1.47
Rodentia	*Euchoreutes naso*	LC	2.48
Rodentia	*Euneomys chinchilloides*	DD	1.16
Rodentia	*Euneomys fossor*	DD	2.00
Rodentia	*Euneomys mordax*	LC	1.48
Rodentia	*Euneomys petersoni*	LC	1.42
Rodentia	*Eupetaurus cinereus*	EN	2.57
Rodentia	*Euryoryzomys emmonsae*	DD	2.11
Rodentia	*Euryoryzomys lamia*	EN	2.11
Rodentia	*Euryoryzomys legatus*	LC	2.13
Rodentia	*Euryoryzomys macconnelli*	LC	2.01
Rodentia	*Euryoryzomys nitidus*	LC	2.14
Rodentia	*Euryoryzomys russatus*	LC	1.95
Rodentia	*Euryzygomatomys spinosus*	LC	1.89
Rodentia	*Exilisciurus concinnus*	LC	1.45
Rodentia	*Exilisciurus exilis*	DD	1.54
Rodentia	*Exilisciurus whiteheadi*	LC	1.49
Rodentia	*Felovia vae*	DD	1.98
Rodentia	*Fukomys anselli*	NT	2.13
Rodentia	*Fukomys bocagei*	LC	1.97
Rodentia	*Fukomys damarensis*	LC	2.29
Rodentia	*Fukomys darlingi*	LC	2.12
Rodentia	*Fukomys foxi*	DD	1.92
Rodentia	*Fukomys kafuensis*	VU	2.12
Rodentia	*Fukomys mechowi*	LC	1.99
Rodentia	*Fukomys ochraceocinereus*	LC	1.94

Rodentia	*Fukomys zechi*	LC	1.92
Rodentia	*Funambulus layardi*	VU	1.42
Rodentia	*Funambulus palmarum*	LC	1.75
Rodentia	*Funambulus pennantii*	LC	2.05
Rodentia	*Funambulus sublineatus*	VU	1.46
Rodentia	*Funambulus tristriatus*	LC	1.53
Rodentia	*Funisciurus anerythrus*	LC	1.91
Rodentia	*Funisciurus bayonii*	DD	1.94
Rodentia	*Funisciurus carruthersi*	LC	1.96
Rodentia	*Funisciurus congicus*	LC	1.88
Rodentia	*Funisciurus duchaillui*	DD	1.72
Rodentia	*Funisciurus isabella*	LC	1.76
Rodentia	*Funisciurus lemniscatus*	LC	1.68
Rodentia	*Funisciurus leucogenys*	LC	1.75
Rodentia	*Funisciurus pyrropus*	LC	1.81
Rodentia	*Funisciurus substriatus*	DD	1.93
Rodentia	*Galea flavidens*	LC	2.08
Rodentia	*Galea monasteriensis*	DD	2.04
Rodentia	*Galea musteloides*	LC	1.88
Rodentia	*Galea spixii*	LC	2.07
Rodentia	*Galenomys garleppi*	DD	2.04
Rodentia	*Geocapromys brownii*	VU	1.32
Rodentia	*Geocapromys ingrahami*	VU	1.30
Rodentia	*Geomys arenarius*	NT	2.17
Rodentia	*Geomys attwateri*	LC	1.92
Rodentia	*Geomys breviceps*	LC	2.02
Rodentia	*Geomys bursarius*	LC	2.37
Rodentia	*Geomys knoxjonesi*	LC	2.04
Rodentia	*Geomys personatus*	LC	1.92
Rodentia	*Geomys pinetis*	LC	1.84
Rodentia	*Geomys texensis*	LC	2.04
Rodentia	*Geomys tropicalis*	CR	1.78
Rodentia	*Georychus capensis*	LC	1.65
Rodentia	*Geoxus valdivianus*	LC	1.30
Rodentia	*Gerbilliscus afra*	LC	1.51
Rodentia	*Gerbilliscus boehmi*	LC	1.99
Rodentia	*Gerbilliscus brantsii*	LC	2.22
Rodentia	*Gerbilliscus gambiana*	LC	1.90
Rodentia	*Gerbilliscus guineae*	LC	1.92
Rodentia	*Gerbilliscus inclusus*	LC	1.90
Rodentia	*Gerbilliscus kempi*	LC	1.93
Rodentia	*Gerbilliscus leucogaster*	LC	2.05
Rodentia	*Gerbilliscus nigricaudus*	LC	1.80

Rodentia	*Gerbilliscus phillipsi*	LC	1.88
Rodentia	*Gerbilliscus robustus*	LC	1.93
Rodentia	*Gerbilliscus validus*	LC	1.97
Rodentia	*Gerbillurus paeba*	LC	2.07
Rodentia	*Gerbillurus setzeri*	LC	1.59
Rodentia	*Gerbillurus tytonis*	LC	1.62
Rodentia	*Gerbillurus vallinus*	LC	1.94
Rodentia	*Gerbillus acticola*	DD	1.86
Rodentia	*Gerbillus amoenus*	LC	1.96
Rodentia	*Gerbillus andersoni*	LC	1.60
Rodentia	*Gerbillus aquilus*	LC	2.36
Rodentia	*Gerbillus bottai*	DD	2.13
Rodentia	*Gerbillus brockmani*	DD	1.85
Rodentia	*Gerbillus campestris*	LC	1.91
Rodentia	*Gerbillus cheesmani*	LC	2.24
Rodentia	*Gerbillus cosensis*	DD	1.83
Rodentia	*Gerbillus dasyurus*	LC	2.09
Rodentia	*Gerbillus dunni*	LC	1.85
Rodentia	*Gerbillus famulus*	LC	1.89
Rodentia	*Gerbillus floweri*	LC	1.77
Rodentia	*Gerbillus gerbillus*	LC	2.10
Rodentia	*Gerbillus gleadowi*	LC	2.20
Rodentia	*Gerbillus grobbeni*	DD	1.68
Rodentia	*Gerbillus harwoodi*	LC	1.82
Rodentia	*Gerbillus henleyi*	LC	2.10
Rodentia	*Gerbillus hesperinus*	EN	1.08
Rodentia	*Gerbillus hoogstraali*	VU	1.19
Rodentia	*Gerbillus jamesi*	DD	1.65
Rodentia	*Gerbillus juliani*	LC	1.85
Rodentia	*Gerbillus latastei*	LC	1.90
Rodentia	*Gerbillus lowei*	DD	2.06
Rodentia	*Gerbillus mackillingini*	LC	2.18
Rodentia	*Gerbillus maghrebi*	LC	1.44
Rodentia	*Gerbillus mesopotamiae*	LC	2.28
Rodentia	*Gerbillus muriculus*	DD	2.19
Rodentia	*Gerbillus nancillus*	DD	2.14
Rodentia	*Gerbillus nanus*	LC	2.21
Rodentia	*Gerbillus nigeriae*	LC	1.42
Rodentia	*Gerbillus occiduus*	DD	1.16
Rodentia	*Gerbillus percivali*	DD	1.81
Rodentia	*Gerbillus perpallidus*	LC	1.55
Rodentia	*Gerbillus poecilops*	LC	1.88
Rodentia	*Gerbillus principulus*	DD	2.19

Rodentia	*Gerbillus pulvinatus*	LC	1.89
Rodentia	*Gerbillus pusillus*	LC	1.84
Rodentia	*Gerbillus pyramidum*	LC	2.12
Rodentia	*Gerbillus rosalinda*	LC	2.07
Rodentia	*Gerbillus rupicola*	LC	2.21
Rodentia	*Gerbillus simoni*	LC	1.94
Rodentia	*Gerbillus somalicus*	DD	1.89
Rodentia	*Gerbillus stigmonyx*	DD	2.14
Rodentia	*Gerbillus tarabuli*	LC	2.13
Rodentia	*Gerbillus watersi*	LC	2.16
Rodentia	*Glaucomys sabrinus*	LC	2.93
Rodentia	*Glaucomys volans*	LC	2.28
Rodentia	*Glirulus japonicus*	LC	1.85
Rodentia	*Glis glis*	LC	2.09
Rodentia	*Glyphotes simus*	DD	1.43
Rodentia	*Golunda ellioti*	LC	1.94
Rodentia	*Grammomys aridulus*	DD	2.04
Rodentia	*Grammomys buntingi*	DD	1.73
Rodentia	*Grammomys caniceps*	DD	1.74
Rodentia	*Grammomys cometes*	LC	1.98
Rodentia	*Grammomys dolichurus*	LC	1.94
Rodentia	*Grammomys dryas*	NT	1.96
Rodentia	*Grammomys gigas*	EN	1.84
Rodentia	*Grammomys ibeanus*	LC	1.87
Rodentia	*Grammomys kuru*	LC	1.83
Rodentia	*Grammomys macmillani*	LC	1.90
Rodentia	*Grammomys minnae*	VU	1.87
Rodentia	*Graomys centralis*	DD	1.91
Rodentia	*Graomys domorum*	LC	2.14
Rodentia	*Graomys edithae*	DD	2.31
Rodentia	*Graomys griseoflavus*	LC	1.84
Rodentia	*Graphiurus angolensis*	DD	1.87
Rodentia	*Graphiurus christyi*	LC	1.95
Rodentia	*Graphiurus crassicaudatus*	DD	1.74
Rodentia	*Graphiurus johnstoni*	DD	1.98
Rodentia	*Graphiurus kelleni*	LC	1.95
Rodentia	*Graphiurus lorraineus*	LC	1.87
Rodentia	*Graphiurus microtis*	LC	2.10
Rodentia	*Graphiurus monardi*	DD	2.04
Rodentia	*Graphiurus murinus*	LC	1.95
Rodentia	*Graphiurus nagtglasii*	LC	1.76
Rodentia	*Graphiurus ocularis*	LC	1.75
Rodentia	*Graphiurus platyops*	LC	2.17

Rodentia	*Graphiurus rupicola*	LC	1.91
Rodentia	*Graphiurus surdus*	DD	1.65
Rodentia	*Gymnuromys roberti*	LC	1.68
Rodentia	*Habromys chinanteco*	CR	1.94
Rodentia	*Habromys delicatulus*	CR	1.95
Rodentia	*Habromys ixtlani*	CR	1.94
Rodentia	*Habromys lepturus*	CR	1.94
Rodentia	*Habromys lophurus*	NT	1.85
Rodentia	*Habromys schmidlyi*	CR	1.82
Rodentia	*Habromys simulatus*	EN	1.85
Rodentia	*Hadromys humei*	EN	1.92
Rodentia	*Hadromys yunnanensis*	DD	1.89
Rodentia	*Haeromys margarettae*	DD	1.50
Rodentia	*Haeromys minahassae*	VU	1.42
Rodentia	*Haeromys pusillus*	VU	1.49
Rodentia	*Handleyomys alfaroi*	LC	1.75
Rodentia	*Handleyomys chapmani*	LC	1.89
Rodentia	*Handleyomys fuscatus*	LC	1.58
Rodentia	*Handleyomys intectus*	LC	1.79
Rodentia	*Handleyomys melanotis*	LC	1.70
Rodentia	*Handleyomys rhabdops*	VU	1.87
Rodentia	*Handleyomys rostratus*	LC	1.78
Rodentia	*Handleyomys saturatior*	NT	1.89
Rodentia	*Hapalomys delacouri*	VU	1.87
Rodentia	*Hapalomys longicaudatus*	EN	1.55
Rodentia	*Heimyscus fumosus*	LC	1.76
Rodentia	*Heliophobius argenteocinereus*	LC	1.90
Rodentia	*Heliosciurus gambianus*	LC	1.95
Rodentia	*Heliosciurus mutabilis*	LC	1.93
Rodentia	*Heliosciurus punctatus*	DD	1.74
Rodentia	*Heliosciurus rufobrachium*	LC	1.83
Rodentia	*Heliosciurus ruwenzorii*	LC	1.96
Rodentia	*Heliosciurus undulatus*	DD	1.76
Rodentia	*Heterocephalus glaber*	LC	1.83
Rodentia	*Heteromys anomalus*	LC	1.73
Rodentia	*Heteromys australis*	LC	1.54
Rodentia	*Heteromys desmarestianus*	LC	1.76
Rodentia	*Heteromys gaumeri*	LC	1.59
Rodentia	*Heteromys nelsoni*	EN	1.85
Rodentia	*Heteromys oasicus*	EN	1.24
Rodentia	*Heteromys oresterus*	LC	1.63
Rodentia	*Heteromys teleus*	VU	1.40
Rodentia	*Hodomys alleni*	LC	1.75

Rodentia	*Holochilus brasiliensis*	LC	1.81
Rodentia	*Holochilus chacarius*	LC	1.92
Rodentia	*Holochilus sciureus*	LC	2.06
Rodentia	*Hoplomys gymnurus*	LC	1.54
Rodentia	*Hybomys badius*	EN	1.85
Rodentia	*Hybomys basilii*	EN	1.58
Rodentia	*Hybomys lunaris*	VU	1.97
Rodentia	*Hybomys planifrons*	LC	1.72
Rodentia	*Hybomys trivirgatus*	LC	1.76
Rodentia	*Hybomys univittatus*	LC	1.85
Rodentia	*Hydrochoerus hydrochaeris*	LC	2.03
Rodentia	*Hydrochoerus isthmius*	DD	1.60
Rodentia	*Hydromys chrysogaster*	LC	1.67
Rodentia	*Hydromys hussoni*	DD	1.45
Rodentia	*Hydromys neobritannicus*	DD	1.34
Rodentia	*Hydromys ziegleri*	DD	1.33
Rodentia	*Hylaeamys acritus*	DD	2.32
Rodentia	*Hylaeamys laticeps*	NT	1.81
Rodentia	*Hylaeamys megacephalus*	LC	2.11
Rodentia	*Hylaeamys oniscus*	VU	1.64
Rodentia	*Hylaeamys perenensis*	LC	2.04
Rodentia	*Hylaeamys tatei*	DD	1.73
Rodentia	*Hylaeamys yunganus*	LC	2.08
Rodentia	*Hylomyscus aeta*	LC	1.83
Rodentia	*Hylomyscus alleni*	LC	1.76
Rodentia	*Hylomyscus baeri*	EN	1.82
Rodentia	*Hylomyscus carillus*	LC	1.83
Rodentia	*Hylomyscus denniae*	LC	1.91
Rodentia	*Hylomyscus grandis*	CR	1.87
Rodentia	*Hylomyscus parvus*	LC	1.82
Rodentia	*Hylomyscus stella*	LC	1.85
Rodentia	*Hylopetes alboniger*	LC	1.92
Rodentia	*Hylopetes bartelsi*	DD	1.50
Rodentia	*Hylopetes lepidus*	DD	1.44
Rodentia	*Hylopetes nigripes*	NT	1.33
Rodentia	*Hylopetes phayrei*	LC	1.79
Rodentia	*Hylopetes platyurus*	DD	1.50
Rodentia	*Hylopetes sipora*	EN	1.33
Rodentia	*Hylopetes spadiceus*	LC	1.54
Rodentia	*Hylopetes winstoni*	DD	1.40
Rodentia	*Hyomys dammermani*	DD	1.51
Rodentia	*Hyomys goliath*	LC	1.53
Rodentia	*Hyosciurus heinrichi*	LC	1.46

Rodentia	*Hyosciurus ileile*	VU	1.38
Rodentia	*Hyperacrius fertilis*	NT	2.61
Rodentia	*Hyperacrius wynnei*	LC	2.62
Rodentia	*Hypogeomys antimena*	EN	1.41
Rodentia	*Hystrix africaeaustralis*	LC	2.01
Rodentia	*Hystrix brachyura*	LC	1.81
Rodentia	*Hystrix crassispinis*	LC	1.54
Rodentia	*Hystrix cristata*	LC	1.86
Rodentia	*Hystrix indica*	LC	2.17
Rodentia	*Hystrix javanica*	LC	1.42
Rodentia	*Hystrix pumila*	VU	1.33
Rodentia	*Hystrix sumatrae*	LC	1.50
Rodentia	*Ichthyomys hydrobates*	NT	1.80
Rodentia	*Ichthyomys pittieri*	VU	1.65
Rodentia	*Ichthyomys stolzmanni*	DD	1.91
Rodentia	*Ichthyomys tweedii*	DD	1.46
Rodentia	*Idiurus macrotis*	LC	1.85
Rodentia	*Idiurus zenkeri*	LC	1.87
Rodentia	*Iomys horsfieldii*	LC	1.49
Rodentia	*Iomys sipora*	EN	1.33
Rodentia	*Irenomys tarsalis*	LC	1.28
Rodentia	*Isothrix barbarabrownae*	DD	1.98
Rodentia	*Isothrix bistriata*	LC	2.13
Rodentia	*Isothrix negrensis*	LC	2.08
Rodentia	*Isothrix pagurus*	LC	2.16
Rodentia	*Isothrix sinnamariensis*	LC	1.80
Rodentia	*Isthmomys flavidus*	NT	1.55
Rodentia	*Isthmomys pirrensis*	LC	1.44
Rodentia	*Jaculus blanfordi*	LC	2.34
Rodentia	*Jaculus jaculus*	LC	2.12
Rodentia	*Jaculus orientalis*	LC	1.81
Rodentia	*Juliomys pictipes*	LC	1.96
Rodentia	*Juliomys rimofrons*	VU	1.89
Rodentia	*Juscelinomys guaporensis*	DD	2.26
Rodentia	*Juscelinomys huanchacae*	DD	2.26
Rodentia	*Kadarsanomys sodyi*	VU	1.46
Rodentia	*Kannabateomys amblyonyx*	LC	1.93
Rodentia	*Kerodon acrobata*	DD	1.98
Rodentia	*Kerodon rupestris*	LC	1.87
Rodentia	*Komodomys rintjanus*	VU	1.34
Rodentia	*Kunsia fronto*	EN	1.78
Rodentia	*Kunsia tomentosus*	LC	2.29
Rodentia	*Lagidium peruanum*	LC	1.89

Rodentia	*Lagidium viscacia*	LC	2.06
Rodentia	*Lagidium wolffsohni*	DD	1.24
Rodentia	*Lagostomus maximus*	LC	1.72
Rodentia	*Lagurus lagurus*	LC	2.67
Rodentia	*Lamottemys okuensis*	EN	1.87
Rodentia	*Laonastes aenigmamus*	EN	1.64
Rodentia	*Lariscus hosei*	NT	1.46
Rodentia	*Lariscus insignis*	LC	1.52
Rodentia	*Lariscus niobe*	DD	1.43
Rodentia	*Lariscus obscurus*	NT	1.33
Rodentia	*Lasiopodomys brandtii*	LC	2.47
Rodentia	*Lasiopodomys fuscus*	LC	2.39
Rodentia	*Lasiopodomys mandarinus*	LC	2.26
Rodentia	*Leggadina forresti*	LC	1.89
Rodentia	*Leggadina lakedownensis*	LC	1.71
Rodentia	*Leimacomys buettneri*	DD	1.91
Rodentia	*Lemmiscus curtatus*	LC	2.37
Rodentia	*Lemmus amurensis*	LC	3.06
Rodentia	*Lemmus lemmus*	LC	2.78
Rodentia	*Lemmus portenkoi*	DD	4.94
Rodentia	*Lemmus sibiricus*	LC	4.25
Rodentia	*Lemmus trimucronatus*	LC	3.66
Rodentia	*Lemniscomys barbarus*	LC	1.56
Rodentia	*Lemniscomys bellieri*	LC	1.96
Rodentia	*Lemniscomys griselda*	LC	1.98
Rodentia	*Lemniscomys hoogstraali*	DD	1.96
Rodentia	*Lemniscomys linulus*	LC	2.03
Rodentia	*Lemniscomys macculus*	LC	1.91
Rodentia	*Lemniscomys mittendorfi*	VU	1.87
Rodentia	*Lemniscomys rosalia*	LC	2.10
Rodentia	*Lemniscomys roseveari*	DD	2.12
Rodentia	*Lemniscomys striatus*	LC	1.88
Rodentia	*Lemniscomys zebra*	LC	1.94
Rodentia	*Lenomys meyeri*	LC	1.42
Rodentia	*Lenothrix canus*	LC	1.48
Rodentia	*Lenoxus apicalis*	LC	2.07
Rodentia	*Leopoldamys ciliatus*	LC	1.46
Rodentia	*Leopoldamys edwardsi*	LC	1.96
Rodentia	*Leopoldamys milleti*	LC	1.58
Rodentia	*Leopoldamys neilli*	DD	1.71
Rodentia	*Leopoldamys sabanus*	LC	1.60
Rodentia	*Leopoldamys siporanus*	EN	1.33
Rodentia	*Leporillus conditor*	VU	1.33

Rodentia	*Leptomys elegans*	LC	1.50
Rodentia	*Leptomys ernstmayri*	LC	1.52
Rodentia	*Leptomys signatus*	LC	1.60
Rodentia	*Limnomys bryophilus*	LC	1.48
Rodentia	*Limnomys sibuanus*	LC	1.43
Rodentia	*Liomys adspersus*	LC	1.45
Rodentia	*Liomys irroratus*	LC	1.91
Rodentia	*Liomys pictus*	LC	1.80
Rodentia	*Liomys salvini*	LC	1.79
Rodentia	*Liomys spectabilis*	EN	1.87
Rodentia	*Lonchothrix emiliae*	LC	2.15
Rodentia	*Lophiomys imhausi*	LC	1.96
Rodentia	*Lophuromys brevicaudus*	NT	1.90
Rodentia	*Lophuromys chrysopus*	LC	1.89
Rodentia	*Lophuromys cinereus*	DD	1.96
Rodentia	*Lophuromys dieterleni*	EN	1.87
Rodentia	*Lophuromys eisentrauti*	EN	1.87
Rodentia	*Lophuromys flavopunctatus*	LC	1.94
Rodentia	*Lophuromys huttereri*	LC	1.91
Rodentia	*Lophuromys luteogaster*	LC	1.95
Rodentia	*Lophuromys medicaudatus*	VU	1.96
Rodentia	*Lophuromys melanonyx*	VU	1.88
Rodentia	*Lophuromys nudicaudus*	LC	1.69
Rodentia	*Lophuromys rahmi*	EN	1.96
Rodentia	*Lophuromys roseveari*	LC	1.58
Rodentia	*Lophuromys sikapusi*	LC	1.82
Rodentia	*Lophuromys woosnami*	LC	1.95
Rodentia	*Lorentzimys nouhuysi*	LC	1.52
Rodentia	*Loxodontomys micropus*	LC	1.34
Rodentia	*Loxodontomys pikumche*	LC	1.35
Rodentia	*Lundomys molitor*	LC	1.59
Rodentia	*Macrotarsomys bastardi*	LC	1.54
Rodentia	*Macrotarsomys ingens*	EN	1.47
Rodentia	*Macrotarsomys petteri*	DD	1.48
Rodentia	*Macruromys elegans*	DD	1.45
Rodentia	*Macruromys major*	LC	1.53
Rodentia	*Madromys blanfordi*	LC	1.77
Rodentia	*Makalata didelphoides*	LC	2.04
Rodentia	*Makalata macrura*	LC	2.05
Rodentia	*Makalata rhipidura*	DD	2.01
Rodentia	*Malacomys cansdalei*	LC	1.80
Rodentia	*Malacomys edwardsi*	LC	1.74
Rodentia	*Malacomys longipes*	LC	1.83

Rodentia	*Malacothrix typica*	LC	2.06
Rodentia	*Mallomys aroaensis*	LC	1.54
Rodentia	*Mallomys gunung*	EN	1.47
Rodentia	*Mallomys istapantap*	LC	1.54
Rodentia	*Mallomys rothschildi*	LC	1.53
Rodentia	*Mammelomys lanosus*	LC	1.53
Rodentia	*Mammelomys rattoides*	LC	1.47
Rodentia	*Margaretamys beccarii*	VU	1.39
Rodentia	*Margaretamys elegans*	NT	1.47
Rodentia	*Margaretamys parvus*	DD	1.47
Rodentia	*Marmota baibacina*	LC	2.63
Rodentia	*Marmota bobak*	LC	2.78
Rodentia	*Marmota broweri*	LC	4.13
Rodentia	*Marmota caligata*	LC	3.11
Rodentia	*Marmota camtschatica*	LC	3.23
Rodentia	*Marmota caudata*	LC	2.48
Rodentia	*Marmota flaviventris*	LC	2.33
Rodentia	*Marmota himalayana*	LC	2.42
Rodentia	*Marmota marmota*	LC	1.93
Rodentia	*Marmota menzbieri*	VU	2.30
Rodentia	*Marmota monax*	LC	2.80
Rodentia	*Marmota olympus*	LC	1.97
Rodentia	*Marmota sibirica*	EN	2.51
Rodentia	*Marmota vancouverensis*	CR	1.79
Rodentia	*Massoutiera mzabi*	LC	2.26
Rodentia	*Mastacomys fuscus*	NT	1.47
Rodentia	*Mastomys awashensis*	VU	1.99
Rodentia	*Mastomys coucha*	LC	2.15
Rodentia	*Mastomys erythroleucus*	LC	1.95
Rodentia	*Mastomys huberti*	LC	2.01
Rodentia	*Mastomys kollmannspergeri*	LC	2.07
Rodentia	*Mastomys natalensis*	LC	1.94
Rodentia	*Mastomys pernanus*	DD	1.80
Rodentia	*Mastomys shortridgei*	LC	2.24
Rodentia	*Maxomys alticola*	LC	1.35
Rodentia	*Maxomys baeodon*	DD	1.40
Rodentia	*Maxomys bartelsii*	LC	1.48
Rodentia	*Maxomys dollmani*	DD	1.47
Rodentia	*Maxomys hellwaldii*	LC	1.44
Rodentia	*Maxomys hylomyoides*	DD	1.35
Rodentia	*Maxomys inas*	LC	1.52
Rodentia	*Maxomys inflatus*	VU	1.45
Rodentia	*Maxomys moi*	LC	1.58

Rodentia	*Maxomys musschenbroekii*	LC	1.44
Rodentia	*Maxomys ochraceiventer*	DD	1.54
Rodentia	*Maxomys pagensis*	EN	1.33
Rodentia	*Maxomys panglima*	LC	1.33
Rodentia	*Maxomys rajah*	VU	1.52
Rodentia	*Maxomys surifer*	LC	1.59
Rodentia	*Maxomys wattsi*	EN	1.49
Rodentia	*Maxomys whiteheadi*	VU	1.52
Rodentia	*Megadendromus nikolausi*	DD	1.90
Rodentia	*Megadontomys cryophilus*	EN	1.94
Rodentia	*Megadontomys nelsoni*	EN	1.80
Rodentia	*Megadontomys thomasi*	EN	1.82
Rodentia	*Melanomys caliginosus*	LC	1.61
Rodentia	*Melanomys robustulus*	LC	1.72
Rodentia	*Melanomys zunigae*	CR	1.57
Rodentia	*Melasmothrix naso*	DD	1.47
Rodentia	*Melomys aerosus*	EN	1.36
Rodentia	*Melomys arcium*	DD	1.29
Rodentia	*Melomys bannisteri*	EN	1.34
Rodentia	*Melomys bougainville*	DD	1.33
Rodentia	*Melomys burtoni*	LC	1.53
Rodentia	*Melomys capensis*	LC	1.37
Rodentia	*Melomys caurinus*	EN	1.33
Rodentia	*Melomys cervinipes*	LC	1.62
Rodentia	*Melomys cooperae*	DD	1.31
Rodentia	*Melomys dollmani*	LC	1.58
Rodentia	*Melomys fraterculus*	CR	1.36
Rodentia	*Melomys frigicola*	LC	1.49
Rodentia	*Melomys fulgens*	DD	1.36
Rodentia	*Melomys howi*	DD	1.31
Rodentia	*Melomys leucogaster*	LC	1.52
Rodentia	*Melomys lutillus*	LC	1.50
Rodentia	*Melomys matambuai*	EN	1.33
Rodentia	*Melomys obiensis*	LC	1.36
Rodentia	*Melomys paveli*	DD	1.36
Rodentia	*Melomys rubicola*	CR	1.34
Rodentia	*Melomys rufescens*	LC	1.48
Rodentia	*Melomys talaudium*	EN	1.33
Rodentia	*Menetes berdmorei*	LC	1.68
Rodentia	*Meriones arimalius*	LC	2.26
Rodentia	*Meriones chengi*	LC	2.62
Rodentia	*Meriones crassus*	LC	2.13
Rodentia	*Meriones dahli*	EN	2.21

Rodentia	*Meriones grandis*	LC	1.81
Rodentia	*Meriones hurrianae*	LC	2.17
Rodentia	*Meriones libycus*	LC	2.25
Rodentia	*Meriones meridianus*	LC	2.41
Rodentia	*Meriones persicus*	LC	2.35
Rodentia	*Meriones rex*	LC	1.99
Rodentia	*Meriones sacramenti*	VU	1.64
Rodentia	*Meriones shawi*	LC	1.85
Rodentia	*Meriones tamariscinus*	LC	2.49
Rodentia	*Meriones tristrami*	LC	2.11
Rodentia	*Meriones unguiculatus*	LC	2.51
Rodentia	*Meriones vinogradovi*	LC	2.34
Rodentia	*Meriones zarudnyi*	DD	2.27
Rodentia	*Mesembriomys gouldii*	NT	1.52
Rodentia	*Mesembriomys macrurus*	LC	1.48
Rodentia	*Mesocapromys angelcabrerai*	EN	1.40
Rodentia	*Mesocapromys auritus*	EN	1.35
Rodentia	*Mesocapromys nanus*	CR	1.35
Rodentia	*Mesocricetus auratus*	VU	2.19
Rodentia	*Mesocricetus brandti*	NT	2.14
Rodentia	*Mesocricetus newtoni*	NT	2.16
Rodentia	*Mesocricetus raddei*	LC	2.13
Rodentia	*Mesomys hispidus*	LC	2.05
Rodentia	*Mesomys leniceps*	DD	1.80
Rodentia	*Mesomys occultus*	LC	2.09
Rodentia	*Mesomys stimulax*	LC	2.02
Rodentia	*Microakodontomys transitorius*	EN	2.10
Rodentia	*Microcavia australis*	LC	1.65
Rodentia	*Microcavia niata*	LC	2.16
Rodentia	*Microcavia shiptoni*	NT	2.33
Rodentia	*Microdillus peeli*	LC	1.78
Rodentia	*Microdipodops megacephalus*	LC	2.22
Rodentia	*Microdipodops pallidus*	LC	2.13
Rodentia	*Microhydromys richardsoni*	DD	1.55
Rodentia	*Micromys minutus*	LC	2.48
Rodentia	*Microryzomys altissimus*	LC	1.73
Rodentia	*Microryzomys minutus*	LC	1.82
Rodentia	*Microsciurus alfari*	LC	1.60
Rodentia	*Microsciurus flaviventer*	DD	1.97
Rodentia	*Microsciurus mimulus*	LC	1.45
Rodentia	*Microsciurus santanderensis*	DD	1.73
Rodentia	*Microtus abbreviatus*	LC	3.09
Rodentia	*Microtus agrestis*	LC	2.79

Rodentia	*Microtus anatolicus*	DD	2.05
Rodentia	*Microtus arvalis*	LC	2.42
Rodentia	*Microtus bavaricus*	CR	1.94
Rodentia	*Microtus brachycercus*	LC	1.87
Rodentia	*Microtus breweri*	VU	2.56
Rodentia	*Microtus cabrerae*	NT	1.69
Rodentia	*Microtus californicus*	LC	1.72
Rodentia	*Microtus canicaudus*	LC	1.85
Rodentia	*Microtus chrotorrhinus*	LC	2.85
Rodentia	*Microtus clarkei*	LC	2.03
Rodentia	*Microtus daghestanicus*	LC	2.07
Rodentia	*Microtus dogramacii*	LC	2.02
Rodentia	*Microtus duodecimcostatus*	LC	1.77
Rodentia	*Microtus evoronensis*	DD	2.70
Rodentia	*Microtus felteni*	DD	2.11
Rodentia	*Microtus fortis*	LC	2.38
Rodentia	*Microtus gerbei*	LC	1.62
Rodentia	*Microtus gregalis*	LC	2.99
Rodentia	*Microtus guatemalensis*	NT	1.85
Rodentia	*Microtus guentheri*	LC	2.01
Rodentia	*Microtus hyperboreus*	LC	3.69
Rodentia	*Microtus ilaeus*	LC	2.39
Rodentia	*Microtus irani*	DD	2.29
Rodentia	*Microtus kikuchii*	NT	1.42
Rodentia	*Microtus levis*	LC	2.53
Rodentia	*Microtus liechtensteini*	LC	2.06
Rodentia	*Microtus limnophilus*	LC	2.40
Rodentia	*Microtus longicaudus*	LC	2.51
Rodentia	*Microtus lusitanicus*	LC	1.46
Rodentia	*Microtus majori*	LC	2.03
Rodentia	*Microtus maximowiczii*	LC	2.58
Rodentia	*Microtus mexicanus*	LC	2.04
Rodentia	*Microtus middendorffii*	LC	4.17
Rodentia	*Microtus miurus*	LC	3.51
Rodentia	*Microtus mongolicus*	LC	2.55
Rodentia	*Microtus montanus*	LC	2.29
Rodentia	*Microtus montebelli*	LC	1.85
Rodentia	*Microtus mujanensis*	DD	2.82
Rodentia	*Microtus multiplex*	LC	1.92
Rodentia	*Microtus nasarovi*	DD	2.21
Rodentia	*Microtus oaxacensis*	EN	1.94
Rodentia	*Microtus ochrogaster*	LC	2.48
Rodentia	*Microtus oeconomus*	LC	3.26

Rodentia	*Microtus oregoni*	LC	1.88
Rodentia	*Microtus paradoxus*	LC	2.21
Rodentia	*Microtus pennsylvanicus*	LC	2.92
Rodentia	*Microtus pinetorum*	LC	2.29
Rodentia	*Microtus qazvinensis*	DD	2.28
Rodentia	*Microtus quasiater*	NT	1.86
Rodentia	*Microtus richardsoni*	LC	2.35
Rodentia	*Microtus sachalinensis*	NT	2.98
Rodentia	*Microtus savii*	LC	1.90
Rodentia	*Microtus schelkovnikovi*	NT	2.21
Rodentia	*Microtus schidlovskii*	LC	2.08
Rodentia	*Microtus socialis*	LC	2.39
Rodentia	*Microtus subterraneus*	LC	2.15
Rodentia	*Microtus tatricus*	LC	2.15
Rodentia	*Microtus thomasi*	LC	1.98
Rodentia	*Microtus townsendii*	LC	1.88
Rodentia	*Microtus transcaspicus*	LC	2.21
Rodentia	*Microtus umbrosus*	EN	1.94
Rodentia	*Microtus xanthognathus*	LC	3.33
Rodentia	*Millardia gleadowi*	LC	2.18
Rodentia	*Millardia kathleenae*	LC	1.79
Rodentia	*Millardia kondana*	CR	1.62
Rodentia	*Millardia meltada*	LC	1.88
Rodentia	*Mindomys hammondi*	EN	1.57
Rodentia	*Monticolomys koopmani*	LC	1.78
Rodentia	*Muriculus imberbis*	LC	1.94
Rodentia	*Mus baoulei*	LC	1.86
Rodentia	*Mus booduga*	LC	1.91
Rodentia	*Mus bufo*	LC	1.96
Rodentia	*Mus callewaerti*	LC	1.98
Rodentia	*Mus caroli*	LC	1.75
Rodentia	*Mus cervicolor*	LC	2.09
Rodentia	*Mus cookii*	LC	1.89
Rodentia	*Mus crociduroides*	DD	1.50
Rodentia	*Mus cypriacus*	LC	1.64
Rodentia	*Mus famulus*	EN	1.53
Rodentia	*Mus fernandoni*	EN	1.41
Rodentia	*Mus fragilicauda*	DD	1.68
Rodentia	*Mus goundae*	DD	1.98
Rodentia	*Mus haussa*	LC	2.06
Rodentia	*Mus indutus*	LC	2.22
Rodentia	*Mus macedonicus*	LC	2.09
Rodentia	*Mus mahomet*	LC	1.96

Rodentia	*Mus mattheyi*	LC	1.98
Rodentia	*Mus mayori*	VU	1.41
Rodentia	*Mus minutoides*	LC	2.02
Rodentia	*Mus musculoides*	LC	1.83
Rodentia	*Mus neavei*	DD	2.13
Rodentia	*Mus orangiae*	LC	2.23
Rodentia	*Mus oubanguii*	DD	1.97
Rodentia	*Mus pahari*	LC	1.89
Rodentia	*Mus phillipsi*	LC	1.80
Rodentia	*Mus platythrix*	LC	1.68
Rodentia	*Mus saxicola*	LC	1.84
Rodentia	*Mus setulosus*	LC	1.82
Rodentia	*Mus setzeri*	LC	2.29
Rodentia	*Mus shortridgei*	LC	1.79
Rodentia	*Mus sorella*	LC	1.95
Rodentia	*Mus spicilegus*	LC	2.24
Rodentia	*Mus spretus*	LC	1.73
Rodentia	*Mus tenellus*	LC	1.94
Rodentia	*Mus terricolor*	LC	1.93
Rodentia	*Mus triton*	LC	1.96
Rodentia	*Mus vulcani*	VU	1.50
Rodentia	*Muscardinus avellanarius*	LC	2.10
Rodentia	*Mylomys dybowskii*	LC	1.92
Rodentia	*Mylomys rex*	DD	1.87
Rodentia	*Myocastor coypus*	LC	1.66
Rodentia	*Myodes andersoni*	LC	1.87
Rodentia	*Myodes californicus*	LC	1.80
Rodentia	*Myodes centralis*	LC	2.41
Rodentia	*Myodes gapperi*	LC	2.82
Rodentia	*Myodes glareolus*	LC	2.57
Rodentia	*Myodes regulus*	LC	2.10
Rodentia	*Myodes rex*	LC	2.14
Rodentia	*Myodes rufocanus*	LC	3.16
Rodentia	*Myodes rutilus*	LC	3.27
Rodentia	*Myodes shanseius*	LC	2.25
Rodentia	*Myodes smithii*	LC	1.83
Rodentia	*Myomimus personatus*	DD	2.20
Rodentia	*Myomimus roachi*	VU	2.07
Rodentia	*Myomimus setzeri*	DD	2.35
Rodentia	*Myomyscus angolensis*	LC	1.80
Rodentia	*Myomyscus brockmani*	LC	1.91
Rodentia	*Myomyscus verreauxii*	LC	1.54
Rodentia	*Myomyscus yemeni*	LC	1.96

Rodentia	*Myoprocta acouchy*	LC	2.03
Rodentia	*Myoprocta pratti*	LC	2.00
Rodentia	*Myopus schisticolor*	LC	3.17
Rodentia	*Myosciurus pumilio*	LC	1.64
Rodentia	*Myospalax aspalax*	LC	2.46
Rodentia	*Myospalax myospalax*	LC	2.82
Rodentia	*Myospalax psilurus*	LC	2.45
Rodentia	*Mysateles gundlachi*	EN	1.35
Rodentia	*Mysateles melanurus*	VU	1.45
Rodentia	*Mysateles meridionalis*	CR	1.35
Rodentia	*Mysateles prehensilis*	NT	1.40
Rodentia	*Mystromys albicaudatus*	EN	2.04
Rodentia	*Nannosciurus melanotis*	LC	1.53
Rodentia	*Napaeozapus insignis*	LC	2.83
Rodentia	*Neacomys dubosti*	LC	1.89
Rodentia	*Neacomys guianae*	LC	1.97
Rodentia	*Neacomys minutus*	LC	2.07
Rodentia	*Neacomys musseri*	LC	2.09
Rodentia	*Neacomys paracou*	LC	2.00
Rodentia	*Neacomys pictus*	DD	1.43
Rodentia	*Neacomys spinosus*	LC	2.11
Rodentia	*Neacomys tenuipes*	LC	1.72
Rodentia	*Necromys amoenus*	LC	2.05
Rodentia	*Necromys benefactus*	LC	1.44
Rodentia	*Necromys lactens*	LC	2.21
Rodentia	*Necromys lasiurus*	LC	2.05
Rodentia	*Necromys lenguarum*	LC	2.21
Rodentia	*Necromys obscurus*	NT	1.35
Rodentia	*Necromys punctulatus*	DD	1.57
Rodentia	*Necromys temchuki*	LC	1.89
Rodentia	*Necromys urichi*	LC	2.03
Rodentia	*Nectomys apicalis*	LC	2.06
Rodentia	*Nectomys magdalenae*	DD	1.77
Rodentia	*Nectomys palmipes*	LC	1.84
Rodentia	*Nectomys rattus*	LC	2.05
Rodentia	*Nectomys squamipes*	LC	1.95
Rodentia	*Nelsonia goldmani*	EN	1.87
Rodentia	*Nelsonia neotomodon*	NT	1.84
Rodentia	*Neodon forresti*	DD	2.37
Rodentia	*Neodon irene*	LC	2.32
Rodentia	*Neodon juldaschi*	LC	2.51
Rodentia	*Neodon sikimensis*	LC	2.53
Rodentia	*Neofiber alleni*	LC	1.62

Rodentia	*Neotoma albigula*	LC	2.05
Rodentia	*Neotoma angustapalata*	EN	1.92
Rodentia	*Neotoma bryanti*	EN	1.35
Rodentia	*Neotoma chrysomelas*	LC	1.77
Rodentia	*Neotoma cinerea*	LC	2.43
Rodentia	*Neotoma devia*	LC	2.03
Rodentia	*Neotoma floridana*	LC	2.08
Rodentia	*Neotoma fuscipes*	LC	1.77
Rodentia	*Neotoma goldmani*	LC	2.00
Rodentia	*Neotoma lepida*	LC	2.04
Rodentia	*Neotoma leucodon*	LC	2.06
Rodentia	*Neotoma macrotis*	LC	1.73
Rodentia	*Neotoma magister*	NT	2.26
Rodentia	*Neotoma mexicana*	LC	2.04
Rodentia	*Neotoma micropus*	LC	2.08
Rodentia	*Neotoma nelsoni*	CR	1.80
Rodentia	*Neotoma palatina*	VU	1.89
Rodentia	*Neotoma phenax*	NT	1.82
Rodentia	*Neotoma stephensi*	LC	2.23
Rodentia	*Neotomodon alstoni*	LC	1.90
Rodentia	*Neotomys ebriosus*	LC	2.07
Rodentia	*Nephelomys albigularis*	LC	1.67
Rodentia	*Nephelomys auriventer*	LC	1.74
Rodentia	*Nephelomys caracolus*	LC	1.51
Rodentia	*Nephelomys devius*	LC	1.62
Rodentia	*Nephelomys keaysi*	LC	2.06
Rodentia	*Nephelomys levipes*	LC	2.05
Rodentia	*Nephelomys meridensis*	LC	2.10
Rodentia	*Nesokia bunnii*	EN	2.30
Rodentia	*Nesokia indica*	LC	2.34
Rodentia	*Nesomys audeberti*	LC	1.70
Rodentia	*Nesomys lambertoni*	EN	1.41
Rodentia	*Nesomys rufus*	LC	1.65
Rodentia	*Nesoromys ceramicus*	EN	1.36
Rodentia	*Nesoryzomys fernandinae*	VU	1.49
Rodentia	*Nesoryzomys narboroughi*	VU	1.49
Rodentia	*Nesoryzomys swarthi*	VU	1.49
Rodentia	*Neusticomys ferreirai*	DD	2.22
Rodentia	*Neusticomys monticolus*	LC	1.61
Rodentia	*Neusticomys mussoi*	EN	2.11
Rodentia	*Neusticomys oyapocki*	DD	1.74
Rodentia	*Neusticomys peruviensis*	LC	2.11
Rodentia	*Neusticomys venezuelae*	VU	2.08

Rodentia	*Niviventer andersoni*	LC	2.06
Rodentia	*Niviventer brahma*	LC	2.30
Rodentia	*Niviventer cameroni*	VU	1.51
Rodentia	*Niviventer confucianus*	LC	2.09
Rodentia	*Niviventer coninga*	LC	1.52
Rodentia	*Niviventer cremoriventer*	VU	1.53
Rodentia	*Niviventer culturatus*	NT	1.43
Rodentia	*Niviventer eha*	LC	2.38
Rodentia	*Niviventer excelsior*	LC	2.17
Rodentia	*Niviventer fraternus*	LC	1.44
Rodentia	*Niviventer fulvescens*	LC	1.85
Rodentia	*Niviventer hinpoon*	DD	1.72
Rodentia	*Niviventer langbianis*	LC	1.77
Rodentia	*Niviventer lepturus*	LC	1.48
Rodentia	*Niviventer niviventer*	LC	2.13
Rodentia	*Niviventer rapit*	LC	1.54
Rodentia	*Niviventer tenaster*	LC	1.74
Rodentia	*Notiomys edwardsii*	LC	1.42
Rodentia	*Notomys alexis*	LC	1.89
Rodentia	*Notomys aquilo*	EN	1.56
Rodentia	*Notomys cervinus*	VU	2.00
Rodentia	*Notomys fuscus*	VU	1.91
Rodentia	*Notomys mitchellii*	LC	1.58
Rodentia	*Nyctomys sumichrasti*	LC	1.76
Rodentia	*Ochrotomys nuttalli*	LC	2.07
Rodentia	*Octodon bridgesi*	VU	1.37
Rodentia	*Octodon degus*	LC	1.28
Rodentia	*Octodon lunatus*	NT	1.28
Rodentia	*Octodon pacificus*	CR	1.96
Rodentia	*Octodontomys gliroides*	LC	2.15
Rodentia	*Octomys mimax*	LC	1.88
Rodentia	*Oecomys auyantepui*	LC	2.05
Rodentia	*Oecomys bicolor*	LC	2.08
Rodentia	*Oecomys catherinae*	LC	1.93
Rodentia	*Oecomys cleberi*	DD	2.10
Rodentia	*Oecomys concolor*	LC	2.07
Rodentia	*Oecomys flavicans*	LC	1.83
Rodentia	*Oecomys mamorae*	LC	2.25
Rodentia	*Oecomys paricola*	DD	2.02
Rodentia	*Oecomys phaeotis*	LC	2.01
Rodentia	*Oecomys rex*	LC	1.87
Rodentia	*Oecomys roberti*	LC	2.16
Rodentia	*Oecomys rutilus*	LC	2.05

Rodentia	*Oecomys speciosus*	LC	1.83
Rodentia	*Oecomys superans*	LC	1.99
Rodentia	*Oecomys trinitatis*	LC	1.90
Rodentia	*Oenomys hypoxanthus*	LC	1.86
Rodentia	*Oenomys ornatus*	LC	1.82
Rodentia	*Olallamys albicauda*	DD	1.76
Rodentia	*Olallamys edax*	DD	2.11
Rodentia	*Oligoryzomys andinus*	LC	1.96
Rodentia	*Oligoryzomys arenalis*	LC	1.72
Rodentia	*Oligoryzomys brendae*	DD	2.34
Rodentia	*Oligoryzomys chacoensis*	LC	2.15
Rodentia	*Oligoryzomys delticola*	LC	1.61
Rodentia	*Oligoryzomys destructor*	LC	1.97
Rodentia	*Oligoryzomys eliurus*	LC	1.99
Rodentia	*Oligoryzomys flavescens*	LC	1.77
Rodentia	*Oligoryzomys fornesi*	LC	2.00
Rodentia	*Oligoryzomys fulvescens*	LC	1.85
Rodentia	*Oligoryzomys griseolus*	LC	1.87
Rodentia	*Oligoryzomys longicaudatus*	LC	1.30
Rodentia	*Oligoryzomys magellanicus*	LC	1.13
Rodentia	*Oligoryzomys microtis*	LC	2.19
Rodentia	*Oligoryzomys moojeni*	DD	2.04
Rodentia	*Oligoryzomys nigripes*	LC	1.92
Rodentia	*Oligoryzomys rupestris*	DD	1.93
Rodentia	*Oligoryzomys stramineus*	LC	1.91
Rodentia	*Oligoryzomys vegetus*	LC	1.63
Rodentia	*Ondatra zibethicus*	LC	2.73
Rodentia	*Onychomys arenicola*	LC	2.06
Rodentia	*Onychomys leucogaster*	LC	2.33
Rodentia	*Onychomys torridus*	LC	1.98
Rodentia	*Oreoryzomys balneator*	DD	1.67
Rodentia	*Orthogeomys cavator*	LC	1.63
Rodentia	*Orthogeomys cherriei*	LC	1.58
Rodentia	*Orthogeomys cuniculus*	DD	1.88
Rodentia	*Orthogeomys dariensis*	LC	1.43
Rodentia	*Orthogeomys grandis*	LC	1.84
Rodentia	*Orthogeomys heterodus*	LC	1.62
Rodentia	*Orthogeomys hispidus*	LC	1.78
Rodentia	*Orthogeomys lanius*	CR	1.80
Rodentia	*Orthogeomys matagalpae*	LC	1.72
Rodentia	*Orthogeomys thaeleri*	LC	1.46
Rodentia	*Orthogeomys underwoodi*	LC	1.60
Rodentia	*Oryzomys couesi*	LC	1.75

Rodentia	*Oryzomys dimidiatus*	LC	1.59
Rodentia	*Oryzomys gorgasi*	EN	1.24
Rodentia	*Oryzomys palustris*	LC	2.04
Rodentia	*Osgoodomys banderanus*	LC	1.73
Rodentia	*Otomys anchietae*	LC	1.89
Rodentia	*Otomys angoniensis*	LC	1.99
Rodentia	*Otomys barbouri*	EN	1.76
Rodentia	*Otomys burtoni*	EN	1.58
Rodentia	*Otomys cuanzensis*	LC	1.75
Rodentia	*Otomys denti*	LC	1.95
Rodentia	*Otomys irroratus*	LC	2.01
Rodentia	*Otomys lacustris*	VU	1.88
Rodentia	*Otomys laminatus*	LC	1.94
Rodentia	*Otomys occidentalis*	VU	1.88
Rodentia	*Otomys saundersiae*	LC	1.81
Rodentia	*Otomys sloggetti*	LC	2.12
Rodentia	*Otomys tropicalis*	LC	1.92
Rodentia	*Otomys typus*	LC	1.93
Rodentia	*Otomys unisulcatus*	LC	1.80
Rodentia	*Otonyctomys hatti*	LC	1.55
Rodentia	*Ototylomys phyllotis*	LC	1.72
Rodentia	*Oxymycterus akodontius*	DD	2.32
Rodentia	*Oxymycterus amazonicus*	LC	2.14
Rodentia	*Oxymycterus angularis*	LC	1.71
Rodentia	*Oxymycterus caparoae*	LC	1.89
Rodentia	*Oxymycterus dasytrichus*	LC	1.82
Rodentia	*Oxymycterus delator*	LC	2.01
Rodentia	*Oxymycterus hiska*	LC	2.07
Rodentia	*Oxymycterus hispidus*	LC	1.86
Rodentia	*Oxymycterus hucucha*	EN	2.13
Rodentia	*Oxymycterus inca*	LC	2.15
Rodentia	*Oxymycterus josei*	EN	1.36
Rodentia	*Oxymycterus nasutus*	LC	1.79
Rodentia	*Oxymycterus paramensis*	LC	2.14
Rodentia	*Oxymycterus quaestor*	LC	2.03
Rodentia	*Oxymycterus roberti*	LC	2.09
Rodentia	*Oxymycterus rufus*	LC	1.55
Rodentia	*Pachyuromys duprasi*	LC	1.99
Rodentia	*Palawanomys furvus*	DD	1.32
Rodentia	*Papagomys armandvillei*	NT	1.34
Rodentia	*Pappogeomys alcorni*	CR	1.87
Rodentia	*Pappogeomys bulleri*	LC	1.55
Rodentia	*Paradipus ctenodactylus*	LC	2.29

Rodentia	*Parahydromys asper*	LC	1.52
Rodentia	*Paraleptomys rufilatus*	EN	1.33
Rodentia	*Paraleptomys wilhelmina*	DD	1.49
Rodentia	*Paralomys gerbillus*	LC	1.49
Rodentia	*Paramelomys gressitti*	EN	1.53
Rodentia	*Paramelomys levipes*	LC	1.53
Rodentia	*Paramelomys lorentzii*	LC	1.51
Rodentia	*Paramelomys mollis*	LC	1.51
Rodentia	*Paramelomys moncktoni*	LC	1.47
Rodentia	*Paramelomys naso*	LC	1.45
Rodentia	*Paramelomys platyops*	LC	1.47
Rodentia	*Paramelomys rubex*	LC	1.51
Rodentia	*Paramelomys steini*	DD	1.45
Rodentia	*Paraxerus alexandri*	LC	1.95
Rodentia	*Paraxerus boehmi*	LC	1.95
Rodentia	*Paraxerus cepapi*	LC	2.10
Rodentia	*Paraxerus cooperi*	DD	1.84
Rodentia	*Paraxerus flavovittis*	LC	1.84
Rodentia	*Paraxerus lucifer*	DD	1.94
Rodentia	*Paraxerus ochraceus*	LC	1.80
Rodentia	*Paraxerus palliatus*	LC	1.86
Rodentia	*Paraxerus poensis*	LC	1.76
Rodentia	*Paraxerus vexillarius*	NT	1.85
Rodentia	*Paraxerus vincenti*	EN	1.90
Rodentia	*Parotomys brantsii*	LC	2.01
Rodentia	*Parotomys littledalei*	LC	1.88
Rodentia	*Paruromys dominator*	LC	1.44
Rodentia	*Pattonomys occasius*	DD	1.83
Rodentia	*Pattonomys semivillosus*	LC	1.71
Rodentia	*Paulamys naso*	EN	1.34
Rodentia	*Pearsonomys annectens*	VU	1.09
Rodentia	*Pectinator spekei*	LC	1.87
Rodentia	*Pedetes capensis*	LC	2.12
Rodentia	*Pedetes surdaster*	LC	1.83
Rodentia	*Pelomys campanae*	LC	1.82
Rodentia	*Pelomys fallax*	LC	2.00
Rodentia	*Pelomys hopkinsi*	DD	1.85
Rodentia	*Pelomys isseli*	DD	1.91
Rodentia	*Pelomys minor*	LC	2.00
Rodentia	*Perognathus alticolus*	EN	1.49
Rodentia	*Perognathus amplus*	LC	1.98
Rodentia	*Perognathus fasciatus*	LC	2.50
Rodentia	*Perognathus flavescens*	LC	2.33

Rodentia	*Perognathus flavus*	LC	2.13
Rodentia	*Perognathus inornatus*	LC	1.75
Rodentia	*Perognathus longimembris*	LC	2.06
Rodentia	*Perognathus merriami*	LC	2.03
Rodentia	*Perognathus parvus*	LC	2.27
Rodentia	*Peromyscus attwateri*	LC	2.12
Rodentia	*Peromyscus aztecus*	LC	1.89
Rodentia	*Peromyscus beatae*	LC	1.89
Rodentia	*Peromyscus boylii*	LC	2.18
Rodentia	*Peromyscus bullatus*	CR	1.80
Rodentia	*Peromyscus californicus*	LC	1.62
Rodentia	*Peromyscus caniceps*	CR	1.52
Rodentia	*Peromyscus crinitus*	LC	2.22
Rodentia	*Peromyscus dickeyi*	CR	1.81
Rodentia	*Peromyscus difficilis*	LC	1.97
Rodentia	*Peromyscus eremicus*	LC	2.01
Rodentia	*Peromyscus eva*	LC	1.34
Rodentia	*Peromyscus fraterculus*	LC	1.50
Rodentia	*Peromyscus furvus*	DD	1.86
Rodentia	*Peromyscus gossypinus*	LC	2.00
Rodentia	*Peromyscus grandis*	NT	1.89
Rodentia	*Peromyscus gratus*	LC	1.95
Rodentia	*Peromyscus guatemalensis*	LC	1.84
Rodentia	*Peromyscus gymnotis*	LC	1.81
Rodentia	*Peromyscus hooperi*	LC	2.07
Rodentia	*Peromyscus hylocetes*	LC	1.92
Rodentia	*Peromyscus interparietalis*	CR	1.36
Rodentia	*Peromyscus keeni*	LC	2.26
Rodentia	*Peromyscus leucopus*	LC	2.28
Rodentia	*Peromyscus levipes*	LC	1.91
Rodentia	*Peromyscus madrensis*	EN	1.64
Rodentia	*Peromyscus maniculatus*	LC	2.52
Rodentia	*Peromyscus mayensis*	CR	1.85
Rodentia	*Peromyscus megalops*	LC	1.89
Rodentia	*Peromyscus mekisturus*	CR	1.86
Rodentia	*Peromyscus melanocarpus*	EN	1.94
Rodentia	*Peromyscus melanophrys*	LC	1.92
Rodentia	*Peromyscus melanotis*	LC	1.93
Rodentia	*Peromyscus melanurus*	EN	1.87
Rodentia	*Peromyscus merriami*	LC	1.84
Rodentia	*Peromyscus mexicanus*	LC	1.84
Rodentia	*Peromyscus nasutus*	LC	2.19
Rodentia	*Peromyscus ochraventer*	EN	1.92

Rodentia	*Peromyscus pectoralis*	LC	2.00
Rodentia	*Peromyscus perfulvus*	LC	1.69
Rodentia	*Peromyscus polionotus*	LC	1.92
Rodentia	*Peromyscus polius*	NT	2.03
Rodentia	*Peromyscus pseudocrinitus*	CR	1.52
Rodentia	*Peromyscus sagax*	DD	1.87
Rodentia	*Peromyscus schmidlyi*	LC	1.91
Rodentia	*Peromyscus sejugis*	EN	1.52
Rodentia	*Peromyscus simulus*	VU	1.71
Rodentia	*Peromyscus slevini*	CR	1.52
Rodentia	*Peromyscus spicilegus*	LC	1.78
Rodentia	*Peromyscus stephani*	CR	1.36
Rodentia	*Peromyscus stirtoni*	LC	1.85
Rodentia	*Peromyscus truei*	LC	2.17
Rodentia	*Peromyscus winkelmanni*	EN	1.57
Rodentia	*Peromyscus yucatanicus*	LC	1.54
Rodentia	*Peromyscus zarhynchus*	VU	1.88
Rodentia	*Petaurillus emiliae*	DD	1.38
Rodentia	*Petaurillus hosei*	DD	1.36
Rodentia	*Petaurillus kinlochii*	DD	1.55
Rodentia	*Petaurista alborufus*	LC	1.96
Rodentia	*Petaurista elegans*	LC	1.83
Rodentia	*Petaurista leucogenys*	LC	1.84
Rodentia	*Petaurista magnificus*	LC	2.25
Rodentia	*Petaurista nobilis*	NT	2.43
Rodentia	*Petaurista petaurista*	LC	1.76
Rodentia	*Petaurista philippensis*	LC	1.86
Rodentia	*Petaurista xanthotis*	LC	2.35
Rodentia	*Petinomys crinitus*	LC	1.44
Rodentia	*Petinomys fuscocapillus*	NT	1.45
Rodentia	*Petinomys genibarbis*	VU	1.49
Rodentia	*Petinomys hageni*	DD	1.50
Rodentia	*Petinomys lugens*	EN	1.33
Rodentia	*Petinomys mindanensis*	LC	1.45
Rodentia	*Petinomys sagitta*	DD	1.44
Rodentia	*Petinomys setosus*	VU	1.50
Rodentia	*Petinomys vordermanni*	VU	1.52
Rodentia	*Petromus typicus*	LC	1.83
Rodentia	*Petromyscus barbouri*	LC	1.54
Rodentia	*Petromyscus collinus*	LC	1.80
Rodentia	*Petromyscus monticularis*	LC	1.97
Rodentia	*Petromyscus shortridgei*	LC	1.89
Rodentia	*Phaenomys ferrugineus*	VU	1.88

Rodentia	*Phaiomys leucurus*	LC	2.47
Rodentia	*Phenacomys intermedius*	LC	2.39
Rodentia	*Phenacomys ungava*	LC	3.10
Rodentia	*Phloeomys cumingi*	VU	1.44
Rodentia	*Phloeomys pallidus*	LC	1.38
Rodentia	*Phodopus campbelli*	LC	2.47
Rodentia	*Phodopus roborovskii*	LC	2.48
Rodentia	*Phodopus sungorus*	LC	2.88
Rodentia	*Phyllomys blainvillii*	LC	1.84
Rodentia	*Phyllomys brasiliensis*	EN	2.06
Rodentia	*Phyllomys dasythrix*	LC	1.81
Rodentia	*Phyllomys kerri*	DD	1.69
Rodentia	*Phyllomys lamarum*	DD	1.72
Rodentia	*Phyllomys lundi*	EN	1.89
Rodentia	*Phyllomys mantiqueirensis*	CR	2.05
Rodentia	*Phyllomys medius*	LC	1.93
Rodentia	*Phyllomys nigrispinus*	LC	1.97
Rodentia	*Phyllomys pattoni*	LC	1.81
Rodentia	*Phyllomys thomasi*	EN	1.78
Rodentia	*Phyllomys unicolor*	CR	1.80
Rodentia	*Phyllotis amicus*	LC	1.63
Rodentia	*Phyllotis andium*	LC	1.68
Rodentia	*Phyllotis anitae*	DD	2.34
Rodentia	*Phyllotis bonariensis*	NT	1.35
Rodentia	*Phyllotis caprinus*	LC	2.31
Rodentia	*Phyllotis darwini*	LC	1.33
Rodentia	*Phyllotis definitus*	EN	1.69
Rodentia	*Phyllotis haggardi*	LC	1.56
Rodentia	*Phyllotis limatus*	LC	1.85
Rodentia	*Phyllotis magister*	LC	1.92
Rodentia	*Phyllotis osgoodi*	DD	2.02
Rodentia	*Phyllotis osilae*	LC	2.14
Rodentia	*Phyllotis wolffsohni*	LC	2.15
Rodentia	*Phyllotis xanthopygus*	LC	1.82
Rodentia	*Pipanacoctomys aureus*	CR	2.34
Rodentia	*Pithecheir melanurus*	VU	1.50
Rodentia	*Pithecheir parvus*	DD	1.54
Rodentia	*Pithecheirops otion*	DD	1.43
Rodentia	*Plagiodontia aedium*	EN	1.38
Rodentia	*Platacanthomys lasiurus*	VU	1.48
Rodentia	*Podomys floridanus*	VU	1.58
Rodentia	*Podoxymys roraimae*	VU	1.93
Rodentia	*Pogonomelomys brassi*	LC	1.52

Rodentia	*Pogonomelomys bruijnii*	NT	1.42
Rodentia	*Pogonomelomys mayeri*	LC	1.50
Rodentia	*Pogonomys championi*	DD	1.60
Rodentia	*Pogonomys fergussoniensis*	EN	1.34
Rodentia	*Pogonomys loriae*	LC	1.54
Rodentia	*Pogonomys macrourus*	LC	1.49
Rodentia	*Pogonomys sylvestris*	LC	1.52
Rodentia	*Praomys daltoni*	LC	1.97
Rodentia	*Praomys degraaffi*	VU	1.96
Rodentia	*Praomys delectorum*	LC	1.90
Rodentia	*Praomys derooi*	LC	1.86
Rodentia	*Praomys hartwigi*	EN	1.87
Rodentia	*Praomys jacksoni*	LC	1.89
Rodentia	*Praomys lukolelae*	LC	1.95
Rodentia	*Praomys minor*	DD	2.02
Rodentia	*Praomys misonnei*	LC	1.95
Rodentia	*Praomys morio*	EN	1.58
Rodentia	*Praomys mutoni*	DD	1.90
Rodentia	*Praomys obscurus*	EN	1.88
Rodentia	*Praomys petteri*	LC	1.76
Rodentia	*Praomys rostratus*	LC	1.75
Rodentia	*Praomys tullbergi*	LC	1.74
Rodentia	*Praomys verschureni*	DD	1.94
Rodentia	*Prionomys batesi*	DD	1.81
Rodentia	*Proechimys brevicauda*	LC	2.06
Rodentia	*Proechimys canicollis*	LC	1.40
Rodentia	*Proechimys chrysaeolus*	DD	1.80
Rodentia	*Proechimys cuvieri*	LC	2.02
Rodentia	*Proechimys decumanus*	VU	1.45
Rodentia	*Proechimys echinothrix*	LC	2.07
Rodentia	*Proechimys gardneri*	DD	2.13
Rodentia	*Proechimys goeldii*	LC	2.14
Rodentia	*Proechimys guairae*	LC	1.83
Rodentia	*Proechimys guyannensis*	LC	2.03
Rodentia	*Proechimys hoplomyoides*	DD	2.10
Rodentia	*Proechimys kulinae*	DD	2.04
Rodentia	*Proechimys longicaudatus*	LC	2.24
Rodentia	*Proechimys magdalenae*	DD	1.74
Rodentia	*Proechimys mincae*	DD	1.21
Rodentia	*Proechimys oconnelli*	DD	1.93
Rodentia	*Proechimys pattoni*	LC	2.11
Rodentia	*Proechimys poliopus*	VU	2.11
Rodentia	*Proechimys quadruplicatus*	LC	1.99

Rodentia	*Proechimys roberti*	LC	2.06
Rodentia	*Proechimys semispinosus*	LC	1.50
Rodentia	*Proechimys simonsi*	LC	2.06
Rodentia	*Proechimys steerei*	LC	2.11
Rodentia	*Proechimys trinitatus*	DD	1.35
Rodentia	*Proechimys urichi*	LC	1.58
Rodentia	*Proedromys bedfordi*	VU	2.29
Rodentia	*Proedromys liangshanensis*	DD	2.07
Rodentia	*Prometheomys schaposchnikowi*	NT	1.94
Rodentia	*Prosciurillus abstrusus*	DD	1.49
Rodentia	*Prosciurillus leucomus*	DD	1.45
Rodentia	*Prosciurillus murinus*	DD	1.44
Rodentia	*Prosciurillus rosenbergii*	LC	1.33
Rodentia	*Prosciurillus weberi*	DD	1.42
Rodentia	*Protochromys fellowsi*	LC	1.55
Rodentia	*Protoxerus aubinnii*	DD	1.76
Rodentia	*Protoxerus stangeri*	LC	1.84
Rodentia	*Psammomys obesus*	LC	2.09
Rodentia	*Psammomys vexillaris*	DD	2.04
Rodentia	*Pseudohydromys ellermani*	LC	1.54
Rodentia	*Pseudohydromys fuscus*	LC	1.58
Rodentia	*Pseudohydromys germani*	DD	1.33
Rodentia	*Pseudohydromys murinus*	LC	1.54
Rodentia	*Pseudohydromys musseri*	DD	1.33
Rodentia	*Pseudohydromys occidentalis*	DD	1.51
Rodentia	*Pseudomys albocinereus*	LC	1.62
Rodentia	*Pseudomys apodemoides*	LC	1.51
Rodentia	*Pseudomys australis*	VU	1.81
Rodentia	*Pseudomys bolami*	LC	1.76
Rodentia	*Pseudomys calabyi*	VU	1.50
Rodentia	*Pseudomys chapmani*	LC	1.90
Rodentia	*Pseudomys delicatulus*	LC	1.65
Rodentia	*Pseudomys desertor*	LC	1.89
Rodentia	*Pseudomys fieldi*	VU	1.38
Rodentia	*Pseudomys fumeus*	EN	1.61
Rodentia	*Pseudomys gracilicaudatus*	LC	1.65
Rodentia	*Pseudomys hermannsburgensis*	LC	1.88
Rodentia	*Pseudomys higginsi*	LC	1.36
Rodentia	*Pseudomys johnsoni*	LC	1.78
Rodentia	*Pseudomys nanus*	LC	1.69
Rodentia	*Pseudomys novaehollandiae*	VU	1.69
Rodentia	*Pseudomys occidentalis*	LC	1.61
Rodentia	*Pseudomys oralis*	VU	1.68

Rodentia	*Pseudomys patrius*	LC	1.67
Rodentia	*Pseudomys pilligaensis*	DD	1.85
Rodentia	*Pseudomys shortridgei*	NT	1.57
Rodentia	*Pseudoryzomys simplex*	LC	2.12
Rodentia	*Pteromys momonga*	LC	1.86
Rodentia	*Pteromys volans*	LC	3.15
Rodentia	*Pteromyscus pulverulentus*	EN	1.45
Rodentia	*Punomys kofordi*	VU	2.07
Rodentia	*Punomys lemminus*	VU	2.03
Rodentia	*Pygeretmus platyurus*	LC	2.59
Rodentia	*Pygeretmus pumilio*	LC	2.51
Rodentia	*Pygeretmus zhitkovi*	NT	2.55
Rodentia	*Rattus adustus*	DD	1.34
Rodentia	*Rattus andamanensis*	LC	1.98
Rodentia	*Rattus annandalei*	LC	1.54
Rodentia	*Rattus arfakienis*	DD	1.47
Rodentia	*Rattus argentiventer*	LC	1.53
Rodentia	*Rattus arrogans*	LC	1.47
Rodentia	*Rattus baluensis*	LC	1.35
Rodentia	*Rattus blangorum*	DD	1.40
Rodentia	*Rattus bontanus*	DD	1.37
Rodentia	*Rattus burrus*	EN	1.35
Rodentia	*Rattus colletti*	LC	1.54
Rodentia	*Rattus elaphinus*	NT	1.38
Rodentia	*Rattus enganus*	DD	1.34
Rodentia	*Rattus everetti*	LC	1.42
Rodentia	*Rattus exulans*	LC	1.61
Rodentia	*Rattus feliceus*	NT	1.35
Rodentia	*Rattus fuscipes*	LC	1.61
Rodentia	*Rattus giluwensis*	DD	1.53
Rodentia	*Rattus hainaldi*	EN	1.34
Rodentia	*Rattus hoffmanni*	LC	1.44
Rodentia	*Rattus hoogerwerfi*	VU	1.40
Rodentia	*Rattus jobiensis*	NT	1.43
Rodentia	*Rattus koopmani*	DD	1.49
Rodentia	*Rattus korinchi*	DD	1.38
Rodentia	*Rattus leucopus*	LC	1.48
Rodentia	*Rattus losea*	LC	1.85
Rodentia	*Rattus lugens*	EN	1.33
Rodentia	*Rattus lutreolus*	LC	1.56
Rodentia	*Rattus marmosurus*	LC	1.43
Rodentia	*Rattus mindorensis*	DD	1.36
Rodentia	*Rattus mollicomulus*	VU	1.37

Rodentia	*Rattus montanus*	EN	1.41
Rodentia	*Rattus mordax*	LC	1.40
Rodentia	*Rattus morotaiensis*	LC	1.38
Rodentia	*Rattus niobe*	LC	1.56
Rodentia	*Rattus nitidus*	LC	2.00
Rodentia	*Rattus norvegicus*	LC	2.40
Rodentia	*Rattus novaeguineae*	LC	1.59
Rodentia	*Rattus omichlodes*	DD	1.45
Rodentia	*Rattus osgoodi*	LC	1.58
Rodentia	*Rattus palmarum*	VU	1.35
Rodentia	*Rattus pelurus*	DD	1.49
Rodentia	*Rattus pococki*	LC	1.48
Rodentia	*Rattus praetor*	LC	1.44
Rodentia	*Rattus pyctoris*	LC	2.39
Rodentia	*Rattus ranjiniae*	EN	1.51
Rodentia	*Rattus rattus*	LC	1.92
Rodentia	*Rattus richardsoni*	VU	1.47
Rodentia	*Rattus salocco*	DD	1.48
Rodentia	*Rattus satarae*	VU	1.50
Rodentia	*Rattus simalurensis*	EN	1.40
Rodentia	*Rattus sordidus*	LC	1.50
Rodentia	*Rattus steini*	LC	1.52
Rodentia	*Rattus stoicus*	VU	1.37
Rodentia	*Rattus tanezumi*	LC	2.04
Rodentia	*Rattus tawitawiensis*	DD	1.36
Rodentia	*Rattus timorensis*	DD	1.39
Rodentia	*Rattus tiomanicus*	LC	1.51
Rodentia	*Rattus tunneyi*	LC	1.61
Rodentia	*Rattus vandeuseni*	EN	1.33
Rodentia	*Rattus verecundus*	LC	1.54
Rodentia	*Rattus villosissimus*	LC	1.84
Rodentia	*Rattus xanthurus*	VU	1.38
Rodentia	*Ratufa affinis*	NT	1.52
Rodentia	*Ratufa bicolor*	NT	1.72
Rodentia	*Ratufa indica*	LC	1.74
Rodentia	*Ratufa macroura*	NT	1.44
Rodentia	*Reithrodon auritus*	LC	1.40
Rodentia	*Reithrodon typicus*	LC	1.55
Rodentia	*Reithrodontomys bakeri*	EN	1.82
Rodentia	*Reithrodontomys brevirostris*	LC	1.70
Rodentia	*Reithrodontomys burti*	DD	1.84
Rodentia	*Reithrodontomys chrysopsis*	LC	1.89
Rodentia	*Reithrodontomys creper*	LC	1.63

Rodentia	*Reithrodontomys darienensis*	LC	1.43
Rodentia	*Reithrodontomys fulvescens*	LC	1.98
Rodentia	*Reithrodontomys gracilis*	LC	1.71
Rodentia	*Reithrodontomys hirsutus*	VU	1.44
Rodentia	*Reithrodontomys humulis*	LC	2.05
Rodentia	*Reithrodontomys megalotis*	LC	2.21
Rodentia	*Reithrodontomys mexicanus*	LC	1.78
Rodentia	*Reithrodontomys microdon*	LC	1.91
Rodentia	*Reithrodontomys montanus*	LC	2.18
Rodentia	*Reithrodontomys paradoxus*	DD	1.59
Rodentia	*Reithrodontomys raviventris*	EN	1.48
Rodentia	*Reithrodontomys rodriguezi*	LC	1.63
Rodentia	*Reithrodontomys spectabilis*	CR	1.38
Rodentia	*Reithrodontomys sumichrasti*	LC	1.87
Rodentia	*Reithrodontomys tenuirostris*	VU	1.85
Rodentia	*Reithrodontomys zacatecae*	LC	1.93
Rodentia	*Rhabdomys pumilio*	LC	2.03
Rodentia	*Rhagomys longilingua*	LC	2.02
Rodentia	*Rhagomys rufescens*	NT	1.93
Rodentia	*Rheithrosciurus macrotis*	VU	1.54
Rodentia	*Rheomys mexicanus*	EN	1.92
Rodentia	*Rheomys raptor*	LC	1.61
Rodentia	*Rheomys thomasi*	NT	1.89
Rodentia	*Rheomys underwoodi*	LC	1.63
Rodentia	*Rhinosciurus laticaudatus*	NT	1.49
Rodentia	*Rhipidomys austrinus*	LC	2.12
Rodentia	*Rhipidomys cariri*	DD	1.85
Rodentia	*Rhipidomys caucensis*	DD	1.45
Rodentia	*Rhipidomys couesi*	LC	1.87
Rodentia	*Rhipidomys emiliae*	LC	2.00
Rodentia	*Rhipidomys fulviventer*	LC	1.79
Rodentia	*Rhipidomys gardneri*	LC	2.11
Rodentia	*Rhipidomys latimanus*	LC	1.58
Rodentia	*Rhipidomys leucodactylus*	LC	2.01
Rodentia	*Rhipidomys macconnelli*	LC	2.04
Rodentia	*Rhipidomys macrurus*	LC	2.06
Rodentia	*Rhipidomys mastacalis*	LC	1.84
Rodentia	*Rhipidomys modicus*	LC	1.89
Rodentia	*Rhipidomys nitela*	LC	2.04
Rodentia	*Rhipidomys ochrogaster*	DD	2.07
Rodentia	*Rhipidomys venezuelae*	LC	1.77
Rodentia	*Rhipidomys venustus*	LC	2.01
Rodentia	*Rhipidomys wetzeli*	LC	2.08

Rodentia	*Rhizomys pruinosus*	LC	1.86
Rodentia	*Rhizomys sinensis*	LC	2.00
Rodentia	*Rhizomys sumatrensis*	LC	1.64
Rodentia	*Rhombomys opimus*	LC	2.43
Rodentia	*Rhynchomys banahao*	DD	1.46
Rodentia	*Rhynchomys isarogensis*	VU	1.46
Rodentia	*Rhynchomys soricoides*	NT	1.37
Rodentia	*Rhynchomys tapulao*	DD	1.33
Rodentia	*Rubrisciurus rubriventer*	VU	1.44
Rodentia	*Saccostomus campestris*	LC	2.08
Rodentia	*Saccostomus mearnsi*	LC	1.81
Rodentia	*Salinoctomys loschalchalerosorum*	CR	1.91
Rodentia	*Salinomys delicatus*	DD	1.80
Rodentia	*Salpingotulus michaelis*	DD	2.35
Rodentia	*Salpingotus crassicauda*	DD	2.55
Rodentia	*Salpingotus heptneri*	DD	2.46
Rodentia	*Salpingotus kozlovi*	LC	2.47
Rodentia	*Salpingotus pallidus*	DD	2.62
Rodentia	*Santamartamys rufodorsalis*	CR	1.21
Rodentia	*Saxatilomys paulinae*	DD	1.64
Rodentia	*Scapteromys aquaticus*	LC	1.70
Rodentia	*Scapteromys tumidus*	LC	1.57
Rodentia	*Sciurillus pusillus*	DD	2.00
Rodentia	*Sciurotamias davidianus*	LC	2.12
Rodentia	*Sciurotamias forresti*	LC	1.97
Rodentia	*Sciurus aberti*	LC	2.17
Rodentia	*Sciurus aestuans*	LC	2.04
Rodentia	*Sciurus alleni*	LC	1.93
Rodentia	*Sciurus anomalus*	LC	2.10
Rodentia	*Sciurus arizonensis*	DD	2.12
Rodentia	*Sciurus aureogaster*	LC	1.86
Rodentia	*Sciurus carolinensis*	LC	2.39
Rodentia	*Sciurus colliaei*	LC	1.76
Rodentia	*Sciurus deppei*	LC	1.79
Rodentia	*Sciurus flammifer*	DD	2.17
Rodentia	*Sciurus gilvigularis*	DD	2.04
Rodentia	*Sciurus granatensis*	LC	1.68
Rodentia	*Sciurus griseus*	LC	1.82
Rodentia	*Sciurus ignitus*	DD	2.13
Rodentia	*Sciurus igniventris*	LC	2.00
Rodentia	*Sciurus lis*	LC	1.86
Rodentia	*Sciurus nayaritensis*	LC	1.91

Rodentia	*Sciurus niger*	LC	2.28
Rodentia	*Sciurus oculatus*	LC	1.92
Rodentia	*Sciurus pucheranii*	DD	1.75
Rodentia	*Sciurus pyrrhinus*	DD	2.01
Rodentia	*Sciurus richmondi*	NT	1.67
Rodentia	*Sciurus sanborni*	DD	2.03
Rodentia	*Sciurus spadiceus*	LC	2.09
Rodentia	*Sciurus stramineus*	LC	1.50
Rodentia	*Sciurus variegatoides*	LC	1.70
Rodentia	*Sciurus vulgaris*	LC	2.85
Rodentia	*Sciurus yucatanensis*	LC	1.67
Rodentia	*Scolomys melanops*	LC	1.83
Rodentia	*Scolomys ucayalensis*	LC	1.99
Rodentia	*Scotinomys teguina*	LC	1.82
Rodentia	*Scotinomys xerampelinus*	LC	1.63
Rodentia	*Sekeetamys calurus*	LC	2.01
Rodentia	*Selevinia betpakdalaensis*	DD	2.60
Rodentia	*Sicista armenica*	EN	2.21
Rodentia	*Sicista betulina*	LC	2.98
Rodentia	*Sicista caucasica*	VU	1.88
Rodentia	*Sicista caudata*	DD	2.62
Rodentia	*Sicista concolor*	LC	2.34
Rodentia	*Sicista kazbegica*	EN	1.99
Rodentia	*Sicista kluchorica*	NT	1.90
Rodentia	*Sicista napaea*	LC	2.73
Rodentia	*Sicista pseudonapaea*	DD	2.66
Rodentia	*Sicista severtzovi*	LC	2.46
Rodentia	*Sicista strandi*	LC	2.38
Rodentia	*Sicista subtilis*	LC	2.68
Rodentia	*Sicista tianshanica*	LC	2.47
Rodentia	*Sigmodon alleni*	VU	1.70
Rodentia	*Sigmodon alstoni*	LC	1.97
Rodentia	*Sigmodon arizonae*	LC	1.91
Rodentia	*Sigmodon fulviventer*	LC	2.01
Rodentia	*Sigmodon hirsutus*	LC	1.75
Rodentia	*Sigmodon hispidus*	LC	2.07
Rodentia	*Sigmodon inopinatus*	VU	1.46
Rodentia	*Sigmodon leucotis*	LC	1.92
Rodentia	*Sigmodon mascotensis*	LC	1.80
Rodentia	*Sigmodon ochrognathus*	LC	2.05
Rodentia	*Sigmodon peruanus*	LC	1.46
Rodentia	*Sigmodon planifrons*	EN	1.92
Rodentia	*Sigmodon toltecus*	LC	1.73

Rodentia	*Sigmodontomys alfari*	LC	1.59
Rodentia	*Sigmodontomys aphrastus*	DD	1.56
Rodentia	*Solomys ponceleti*	CR	1.33
Rodentia	*Solomys salebrosus*	EN	1.33
Rodentia	*Solomys sapientis*	EN	1.33
Rodentia	*Sommeromys macrorhinos*	DD	1.47
Rodentia	*Sooretamys angouya*	LC	1.94
Rodentia	*Soricomys kalinga*	LC	1.39
Rodentia	*Soricomys musseri*	LC	1.37
Rodentia	*Spalacopus cyanus*	LC	1.31
Rodentia	*Spalax arenarius*	EN	2.10
Rodentia	*Spalax ehrenbergi*	DD	2.04
Rodentia	*Spalax giganteus*	VU	2.17
Rodentia	*Spalax graecus*	NT	2.20
Rodentia	*Spalax leucodon*	DD	2.14
Rodentia	*Spalax microphthalmus*	LC	2.47
Rodentia	*Spalax nehringi*	DD	2.02
Rodentia	*Spalax uralensis*	NT	2.57
Rodentia	*Spalax zemni*	VU	2.32
Rodentia	*Spermophilopsis leptodactylus*	LC	2.33
Rodentia	*Spermophilus adocetus*	LC	1.95
Rodentia	*Spermophilus alashanicus*	LC	2.34
Rodentia	*Spermophilus annulatus*	LC	1.57
Rodentia	*Spermophilus armatus*	LC	2.47
Rodentia	*Spermophilus atricapillus*	EN	1.42
Rodentia	*Spermophilus beecheyi*	LC	1.77
Rodentia	*Spermophilus beldingi*	LC	2.16
Rodentia	*Spermophilus brevicauda*	LC	2.60
Rodentia	*Spermophilus brunneus*	EN	2.26
Rodentia	*Spermophilus canus*	LC	2.21
Rodentia	*Spermophilus citellus*	VU	2.14
Rodentia	*Spermophilus columbianus*	LC	2.41
Rodentia	*Spermophilus dauricus*	LC	2.40
Rodentia	*Spermophilus elegans*	LC	2.40
Rodentia	*Spermophilus erythrogenys*	LC	2.72
Rodentia	*Spermophilus franklinii*	LC	2.62
Rodentia	*Spermophilus fulvus*	LC	2.52
Rodentia	*Spermophilus lateralis*	LC	2.30
Rodentia	*Spermophilus madrensis*	NT	1.97
Rodentia	*Spermophilus major*	LC	2.87
Rodentia	*Spermophilus mexicanus*	LC	2.00
Rodentia	*Spermophilus mohavensis*	VU	1.94
Rodentia	*Spermophilus mollis*	LC	2.28

Rodentia	*Spermophilus musicus*	NT	1.98
Rodentia	*Spermophilus pallidicauda*	LC	2.49
Rodentia	*Spermophilus parryii*	LC	3.60
Rodentia	*Spermophilus perotensis*	EN	1.80
Rodentia	*Spermophilus pygmaeus*	LC	2.56
Rodentia	*Spermophilus ralli*	LC	2.38
Rodentia	*Spermophilus relictus*	LC	2.37
Rodentia	*Spermophilus richardsonii*	LC	2.66
Rodentia	*Spermophilus saturatus*	LC	2.14
Rodentia	*Spermophilus spilosoma*	LC	2.13
Rodentia	*Spermophilus suslicus*	NT	2.56
Rodentia	*Spermophilus taurensis*	LC	2.14
Rodentia	*Spermophilus tereticaudus*	LC	1.90
Rodentia	*Spermophilus townsendii*	VU	2.17
Rodentia	*Spermophilus tridecemlineatus*	LC	2.47
Rodentia	*Spermophilus undulatus*	LC	2.65
Rodentia	*Spermophilus variegatus*	LC	2.10
Rodentia	*Spermophilus washingtoni*	NT	2.24
Rodentia	*Spermophilus xanthoprymnus*	NT	2.06
Rodentia	*Sphiggurus ichillus*	DD	1.71
Rodentia	*Sphiggurus insidiosus*	LC	1.89
Rodentia	*Sphiggurus melanurus*	LC	2.02
Rodentia	*Sphiggurus mexicanus*	LC	1.78
Rodentia	*Sphiggurus pruinosus*	LC	1.98
Rodentia	*Sphiggurus roosmalenorum*	DD	2.08
Rodentia	*Sphiggurus spinosus*	LC	2.07
Rodentia	*Sphiggurus vestitus*	DD	1.78
Rodentia	*Sphiggurus villosus*	LC	1.94
Rodentia	*Srilankamys ohiensis*	VU	1.41
Rodentia	*Steatomys bocagei*	LC	1.94
Rodentia	*Steatomys caurinus*	LC	1.99
Rodentia	*Steatomys cuppedius*	LC	1.48
Rodentia	*Steatomys jacksoni*	DD	1.82
Rodentia	*Steatomys krebsii*	LC	2.13
Rodentia	*Steatomys opimus*	LC	1.95
Rodentia	*Steatomys parvus*	LC	2.01
Rodentia	*Steatomys pratensis*	LC	2.06
Rodentia	*Stenocephalemys albipes*	LC	1.93
Rodentia	*Stenocephalemys albocaudata*	LC	1.90
Rodentia	*Stenocephalemys griseicauda*	LC	1.94
Rodentia	*Stenocephalemys ruppi*	DD	1.87
Rodentia	*Stochomys longicaudatus*	LC	1.86
Rodentia	*Stylodipus andrewsi*	LC	2.49

Rodentia	*Stylodipus sungorus*	LC	2.65
Rodentia	*Stylodipus telum*	LC	2.52
Rodentia	*Sundamys infraluteus*	LC	1.44
Rodentia	*Sundamys maxi*	EN	1.50
Rodentia	*Sundamys muelleri*	LC	1.52
Rodentia	*Sundasciurus brookei*	LC	1.55
Rodentia	*Sundasciurus davensis*	DD	1.45
Rodentia	*Sundasciurus fraterculus*	EN	1.33
Rodentia	*Sundasciurus hippurus*	NT	1.52
Rodentia	*Sundasciurus hoogstraali*	LC	1.34
Rodentia	*Sundasciurus jentinki*	LC	1.35
Rodentia	*Sundasciurus juvencus*	LC	1.34
Rodentia	*Sundasciurus lowii*	LC	1.52
Rodentia	*Sundasciurus mindanensis*	LC	1.45
Rodentia	*Sundasciurus moellendorffi*	NT	1.34
Rodentia	*Sundasciurus philippinensis*	LC	1.45
Rodentia	*Sundasciurus rabori*	DD	1.32
Rodentia	*Sundasciurus samarensis*	LC	1.45
Rodentia	*Sundasciurus steerii*	LC	1.32
Rodentia	*Sundasciurus tenuis*	LC	1.52
Rodentia	*Synaptomys borealis*	LC	3.08
Rodentia	*Synaptomys cooperi*	LC	2.65
Rodentia	*Syntheosciurus brochus*	NT	1.63
Rodentia	*Tachyoryctes macrocephalus*	EN	1.88
Rodentia	*Tachyoryctes splendens*	LC	1.90
Rodentia	*Taeromys arcuatus*	DD	1.48
Rodentia	*Taeromys callitrichus*	DD	1.40
Rodentia	*Taeromys celebensis*	LC	1.44
Rodentia	*Taeromys hamatus*	DD	1.47
Rodentia	*Taeromys microbullatus*	DD	1.48
Rodentia	*Taeromys punicans*	DD	1.47
Rodentia	*Taeromys taerae*	DD	1.38
Rodentia	*Tamias alpinus*	LC	1.89
Rodentia	*Tamias amoenus*	LC	2.28
Rodentia	*Tamias bulleri*	VU	1.89
Rodentia	*Tamias canipes*	LC	2.21
Rodentia	*Tamias cinereicollis*	LC	2.21
Rodentia	*Tamias dorsalis*	LC	2.19
Rodentia	*Tamias durangae*	LC	1.92
Rodentia	*Tamias merriami*	LC	1.70
Rodentia	*Tamias minimus*	LC	2.79
Rodentia	*Tamias obscurus*	LC	1.63
Rodentia	*Tamias ochrogenys*	LC	1.68

Rodentia	*Tamias palmeri*	EN	2.23
Rodentia	*Tamias panamintinus*	LC	2.10
Rodentia	*Tamias quadrimaculatus*	LC	1.97
Rodentia	*Tamias quadrivittatus*	LC	2.37
Rodentia	*Tamias ruficaudus*	LC	2.40
Rodentia	*Tamias rufus*	LC	2.47
Rodentia	*Tamias senex*	LC	1.87
Rodentia	*Tamias sibiricus*	LC	2.98
Rodentia	*Tamias siskiyou*	LC	1.77
Rodentia	*Tamias sonomae*	LC	1.77
Rodentia	*Tamias speciosus*	LC	1.92
Rodentia	*Tamias striatus*	LC	2.58
Rodentia	*Tamias townsendii*	LC	1.92
Rodentia	*Tamias umbrinus*	LC	2.38
Rodentia	*Tamiasciurus douglasii*	LC	1.96
Rodentia	*Tamiasciurus hudsonicus*	LC	2.91
Rodentia	*Tamiasciurus mearnsi*	EN	1.36
Rodentia	*Tamiops macclellandii*	LC	1.85
Rodentia	*Tamiops maritimus*	LC	1.91
Rodentia	*Tamiops rodolphii*	LC	1.63
Rodentia	*Tamiops swinhoei*	LC	2.13
Rodentia	*Tapecomys primus*	LC	2.17
Rodentia	*Tarsomys apoensis*	LC	1.46
Rodentia	*Tarsomys echinatus*	VU	1.48
Rodentia	*Tateomys macrocercus*	DD	1.47
Rodentia	*Tateomys rhinogradoides*	DD	1.47
Rodentia	*Tatera indica*	LC	2.09
Rodentia	*Taterillus arenarius*	LC	2.03
Rodentia	*Taterillus congicus*	LC	1.96
Rodentia	*Taterillus emini*	LC	1.91
Rodentia	*Taterillus gracilis*	LC	1.99
Rodentia	*Taterillus lacustris*	LC	2.00
Rodentia	*Taterillus petteri*	LC	2.16
Rodentia	*Taterillus pygargus*	LC	1.89
Rodentia	*Taterillus tranieri*	LC	2.22
Rodentia	*Thallomys loringi*	LC	1.79
Rodentia	*Thallomys nigricauda*	LC	2.09
Rodentia	*Thallomys paedulcus*	LC	1.98
Rodentia	*Thallomys shortridgei*	DD	1.88
Rodentia	*Thalpomys cerradensis*	LC	2.13
Rodentia	*Thalpomys lasiotis*	LC	2.09
Rodentia	*Thamnomys kempi*	VU	1.96
Rodentia	*Thamnomys schoutedeni*	DD	1.95

Rodentia	*Thamnomys venustus*	VU	1.96
Rodentia	*Thaptomys nigrita*	LC	1.89
Rodentia	*Thomasomys apeco*	VU	1.81
Rodentia	*Thomasomys aureus*	LC	1.82
Rodentia	*Thomasomys baeops*	LC	1.54
Rodentia	*Thomasomys bombycinus*	DD	1.50
Rodentia	*Thomasomys caudivarius*	LC	1.51
Rodentia	*Thomasomys cinereiventer*	LC	1.56
Rodentia	*Thomasomys cinereus*	LC	1.63
Rodentia	*Thomasomys cinnameus*	LC	1.60
Rodentia	*Thomasomys daphne*	LC	2.05
Rodentia	*Thomasomys eleusis*	LC	1.80
Rodentia	*Thomasomys erro*	LC	1.62
Rodentia	*Thomasomys gracilis*	NT	1.97
Rodentia	*Thomasomys hudsoni*	DD	1.44
Rodentia	*Thomasomys hylophilus*	EN	2.00
Rodentia	*Thomasomys incanus*	VU	1.96
Rodentia	*Thomasomys ischyrus*	VU	1.81
Rodentia	*Thomasomys kalinowskii*	VU	1.83
Rodentia	*Thomasomys ladewi*	LC	2.07
Rodentia	*Thomasomys laniger*	LC	2.01
Rodentia	*Thomasomys macrotis*	VU	1.81
Rodentia	*Thomasomys monochromos*	EN	1.21
Rodentia	*Thomasomys niveipes*	LC	1.83
Rodentia	*Thomasomys notatus*	LC	1.98
Rodentia	*Thomasomys onkiro*	VU	2.02
Rodentia	*Thomasomys oreas*	LC	2.05
Rodentia	*Thomasomys paramorum*	LC	1.63
Rodentia	*Thomasomys popayanus*	DD	1.69
Rodentia	*Thomasomys praetor*	DD	1.77
Rodentia	*Thomasomys pyrrhonotus*	VU	1.48
Rodentia	*Thomasomys rhoadsi*	LC	1.57
Rodentia	*Thomasomys rosalinda*	DD	1.81
Rodentia	*Thomasomys silvestris*	LC	1.59
Rodentia	*Thomasomys taczanowskii*	LC	1.62
Rodentia	*Thomasomys ucucha*	VU	1.57
Rodentia	*Thomasomys vestitus*	LC	2.11
Rodentia	*Thomasomys vulcani*	DD	1.57
Rodentia	*Thomomys bottae*	LC	2.02
Rodentia	*Thomomys bulbivorus*	LC	1.85
Rodentia	*Thomomys clusius*	LC	2.36
Rodentia	*Thomomys idahoensis*	LC	2.44
Rodentia	*Thomomys mazama*	LC	1.81

Rodentia	*Thomomys monticola*	LC	1.91
Rodentia	*Thomomys talpoides*	LC	2.46
Rodentia	*Thomomys townsendii*	LC	2.26
Rodentia	*Thomomys umbrinus*	LC	1.93
Rodentia	*Thrichomys apereoides*	LC	1.90
Rodentia	*Thrichomys inermis*	LC	1.87
Rodentia	*Thrichomys pachyurus*	LC	2.29
Rodentia	*Thryonomys gregorianus*	LC	1.96
Rodentia	*Thryonomys swinderianus*	LC	1.92
Rodentia	*Tokudaia muenninki*	CR	1.36
Rodentia	*Tokudaia osimensis*	EN	1.45
Rodentia	*Tokudaia tokunoshimensis*	EN	1.51
Rodentia	*Tonkinomys daovantieni*	DD	1.93
Rodentia	*Toromys grandis*	LC	2.05
Rodentia	*Transandinomys bolivaris*	LC	1.49
Rodentia	*Transandinomys talamancae*	LC	1.60
Rodentia	*Trichys fasciculata*	LC	1.52
Rodentia	*Trinomys albispinus*	LC	1.72
Rodentia	*Trinomys dimidiatus*	LC	1.85
Rodentia	*Trinomys eliasi*	EN	1.79
Rodentia	*Trinomys gratiosus*	LC	1.84
Rodentia	*Trinomys iheringi*	LC	1.90
Rodentia	*Trinomys mirapitanga*	DD	1.50
Rodentia	*Trinomys moojeni*	EN	2.05
Rodentia	*Trinomys myosuros*	LC	1.87
Rodentia	*Trinomys paratus*	DD	1.78
Rodentia	*Trinomys setosus*	LC	1.94
Rodentia	*Trinomys yonenagae*	EN	1.87
Rodentia	*Trogopterus xanthipes*	NT	2.16
Rodentia	*Tryphomys adustus*	DD	1.34
Rodentia	*Tscherskia triton*	LC	2.32
Rodentia	*Tylomys bullaris*	CR	1.88
Rodentia	*Tylomys fulviventer*	DD	1.43
Rodentia	*Tylomys mirae*	LC	1.52
Rodentia	*Tylomys nudicaudus*	LC	1.84
Rodentia	*Tylomys panamensis*	DD	1.44
Rodentia	*Tylomys tumbalensis*	CR	1.88
Rodentia	*Tylomys watsoni*	LC	1.53
Rodentia	*Tympanoctomys barrerae*	NT	1.73
Rodentia	*Typhlomys cinereus*	LC	1.99
Rodentia	*Uranomys ruddi*	LC	1.91
Rodentia	*Uromys anak*	LC	1.52
Rodentia	*Uromys boeadii*	CR	1.39

Rodentia	*Uromys caudimaculatus*	LC	1.48
Rodentia	*Uromys hadrourus*	VU	1.57
Rodentia	*Uromys neobritannicus*	NT	1.34
Rodentia	*Uromys rex*	EN	1.32
Rodentia	*Uromys siebersi*	DD	1.34
Rodentia	*Vandeleuria nilagirica*	EN	1.46
Rodentia	*Vandeleuria nolthenii*	EN	1.41
Rodentia	*Vandeleuria oleracea*	LC	1.83
Rodentia	*Vernaya fulva*	LC	2.09
Rodentia	*Voalavo antsahabensis*	EN	1.67
Rodentia	*Voalavo gymnocaudus*	LC	1.43
Rodentia	*Volemys millicens*	DD	2.31
Rodentia	*Volemys musseri*	DD	2.31
Rodentia	*Wiedomys cerradensis*	DD	2.01
Rodentia	*Wiedomys pyrrhorhinos*	LC	1.84
Rodentia	*Wilfredomys oenax*	EN	1.63
Rodentia	*Xenomys nelsoni*	EN	1.50
Rodentia	*Xenuromys barbatus*	LC	1.49
Rodentia	*Xeromys myoides*	VU	1.51
Rodentia	*Xerus erythropus*	LC	1.98
Rodentia	*Xerus inauris*	LC	2.17
Rodentia	*Xerus princeps*	LC	1.76
Rodentia	*Xerus rutilus*	LC	1.85
Rodentia	*Zapus hudsonius*	LC	2.77
Rodentia	*Zapus princeps*	LC	2.47
Rodentia	*Zapus trinotatus*	LC	1.87
Rodentia	*Zelotomys hildegardeae*	LC	1.93
Rodentia	*Zelotomys woosnami*	LC	2.25
Rodentia	*Zenkerella insignis*	LC	1.76
Rodentia	*Zygodontomys brevicauda*	LC	1.91
Rodentia	*Zygodontomys brunneus*	LC	1.69
Rodentia	*Zygogeomys trichopus*	EN	1.87
Rodentia	*Zyzomys argurus*	LC	1.68
Rodentia	*Zyzomys maini*	NT	1.64
Rodentia	*Zyzomys palatalis*	CR	1.74
Rodentia	*Zyzomys pedunculatus*	CR	1.92
Rodentia	*Zyzomys woodwardi*	LC	1.49
Scandentia	*Anathana ellioti*	LC	1.75
Scandentia	*Dendrogale melanura*	DD	1.46
Scandentia	*Dendrogale murina*	LC	1.59
Scandentia	*Ptilocercus lowii*	LC	1.48
Scandentia	*Tupaia belangeri*	LC	1.84
Scandentia	*Tupaia chrysogaster*	EN	1.33

Scandentia	*Tupaia dorsalis*	DD	1.53
Scandentia	*Tupaia glis*	LC	1.50
Scandentia	*Tupaia gracilis*	LC	1.53
Scandentia	*Tupaia javanica*	LC	1.44
Scandentia	*Tupaia longipes*	LC	1.54
Scandentia	*Tupaia minor*	LC	1.53
Scandentia	*Tupaia montana*	LC	1.54
Scandentia	*Tupaia nicobarica*	EN	1.34
Scandentia	*Tupaia palawanensis*	LC	1.33
Scandentia	*Tupaia picta*	LC	1.49
Scandentia	*Tupaia splendidula*	LC	1.58
Scandentia	*Tupaia tana*	LC	1.52
Scandentia	*Urogale everetti*	LC	1.45
Tubulidentata	*Orycteropus afer*	LC	1.96