

*The European Association of Zoos and  
Aquaria regional collection plan for the Chiroptera  
2000-2005*

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August 2003

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Cover pictures:

Brown Long-eared Bat (*Plecotus auritus*): A widespread European species often kept for rehabilitation.

Marianas Fruit Bat (*Pteropus mariannus*): An Endangered fruit bat endemic to the Mariana and Ryukyu Islands.

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## **Section I**

**Introduction to the scope of the regional collection plan and the system of assessment of taxa used for making recommendations.**

## Introduction

This document sets out the European Association for Zoos and Aquaria (EAZA) regional collection for the Chiroptera (bats). It is one of four regional collection plans created by the EAZA Small Mammal Taxon Advisory Group (TAG) and aims to give clear recommendations for collections with regard to the keeping of chiropterans, and state the criteria on which these recommendations are based.

The Chiroptera is the second largest of the orders of mammals containing over 925 species (Wilson & Reeder 1992) and representing 20 % of all mammals. Prioritising such a huge number of species in order to give clear recommendations is no simple task and so the focus of this plan has been largely towards species of conservation concern and particularly those that occur within the EAZA region itself.

No collection planning can ever be completely finished as the process is ongoing to reflect the changing circumstances and status of species included within it. This document thus represents the first regional collection plan for the Chiroptera covering the period 2000-2005.

It is the last of the four volumes prepared by the EAZA Small Mammal TAG and completes the initial round of collection planning which has covered more than 3533 species, a massive 76 % of all the mammalian species.

The regional collection plan for the Chiroptera comprises three sections:

- **Section I** – An introduction to the scope of the regional collection plan and a description of the process of assessment of taxa used and levels of recommendation.
- **Section II** – An appraisal of all Chiroptera species known to have been held in captivity within the EAZA Region since 1994, with recommendations for keeping and monitoring.
- **Section III** – An appraisal of Chiroptera species which have **NOT** been held in captivity within the EAZA Region since 1994, but which would qualify as recommended species under the assessment criteria.

## Geographic scope of the regional collection plan

In attempting to create a collection plan with a focus of conservation towards species native to the EAZA region then a clear delimiting of the region concerned is required. Countries with EAZA member zoos do not necessarily constitute the EAZA region, as some countries within the geographical scope of EAZA may have no member zoos, whilst some current members may be from countries 'outside' the geographical scope of EAZA. For the purpose of this collection plan the EAZA region definition set out in the 'working procedures for EEP co-ordinators' (EAZA 2000) was used.

The EAZA region is defined as all of Europe with the borders to the south and west being formed by the Mediterranean Sea and the Atlantic Ocean. Traditionally the eastern border of Europe is formed by the Ural mountains however the Asiatic part of

the Russian Republic as well as the Asiatic states of the former Soviet Union are included within the EAZA region. All states north of Syria, Iran and Afghanistan are treated as within the EAZA region. Additionally all Mediterranean Islands, the Canary Islands, Azores, Iceland and Israel are included within the EAZA region.

### Categories of recommendation

Taxa were assessed and assigned to a level of recommendation as follows:

- **Recommended** – These species are recommended to collections for maintenance in captivity.
- **Not Recommended** – These species should **NOT** be kept within captivity.
- **No Recommendations (pending)** – These are species for which no formal recommendation is currently made and collections are neither actively encouraged nor discouraged from maintaining them in captivity.

### Assessment of taxa

Assessment of taxa for the EAZA Chiroptera Collection Plan was conducted using a criteria based system. The decision was taken not to make recommendations based upon a REGASP style scoring system due to the large number of taxa to be assessed. This approach has been used consistently throughout the four volumes of the collection plan. Criteria for inclusion as a recommended species were discussed and agreed at the EAZA Small Mammal TAG meeting held at the Tierpark Berlin on 28-29 June 2001.

The other ten orders of mammals covered in the first three volumes of the EAZA Small Mammal TAG collection plans have been assessed for inclusion as recommended species based upon nine criteria, one of which related to their protected status with European legislation. This criterion has been excluded from the assessment of chiropterans on the basis of their unusual position within European species legislation. Bats are afforded a unique level of protection for mammals above and beyond their actual status when compared to other taxa. ALL Micro-Chiroptera species (except *Pipistrellus pipistrellus*) are afforded strict protection under the Bern Convention (1979) (Appendix II), and under the Habitats Directive (1995) (Annex IV) (including *Pipistrellus pipistrellus*).

Therefore, '**criteria 3- Regionally protected status**' is excluded from the assessment of Chiroptera species and the following eight criteria were used to assess all chiropteran species. For ease of comparison, and to avoid confusion with other regional collection plans the numbering of criteria used in this plan conforms to the other plans (i.e. 1-9 with number 3 excluded).

**Collection planning criteria for inclusion as a recommended species by the EAZA Small Mammal TAG (Chiroptera Regional Collection Plan).**

1. **Globally ‘Threatened’ status.** Species globally categorised as *Extinct in the Wild* or Threatened (*Critically Endangered, Endangered, Vulnerable*) by the IUCN Red List of threatened animals (2002).
2. **Regionally ‘Near Threatened’ status.** Taxa occurring within the EAZA Region categorised as *Lower Risk: Near Threatened* (IUCN Red list categories Version 2.3), *Near Threatened* (IUCN Red list categories Version 3.1) or *Lower Risk: Conservation Dependent* by the IUCN Red List of threatened animals (2002).
4. **Russian Federation Regions Red Data book status.** Taxa listed as rare or threatened in the Red Data Book of the Russian Federation Regions (1997).
5. **Regional Conservation concern.** Other taxa of conservation concern within the region by virtue of threat or decline.
6. **Regionally managed taxa.** Taxa the subject of ESB or EEP management by the EAZA Small Mammal TAG.
7. **Model taxa.** Taxa that it is recommended to maintain in order to act as a husbandry model for the future conservation of related species of conservation concern.
8. **Research taxa.** Taxa that it is recommended to maintain for specific research purposes.
9. **Educational taxa.** Taxa that it is recommended to maintain for educational purposes.

There are no species within this collection plan that are categorised as ‘Not Recommended’. The use of this category in other Small Mammal TAG regional collection plans has been on the basis of being either an invasive species, the risk of escape of which necessitates them not being held in captivity within the region, or domestic species which it is deemed inappropriate for zoological collections to hold. Neither of which apply to Chiroptera within the EAZA region.

It is appreciated that at the current time the husbandry skills and technologies required to maintain large *ex situ* populations of most bats, generally other than Pteropodids or Phyllostomids are insufficiently known. However this should not detract from the pressing requirement to acquire these skills and technologies in order to work with other priority species.

**Monitoring recommendations.**

For taxa which are recommended for maintenance in captivity the regional collection plan also makes recommendations concerning the level of monitoring to be conducted by the EAZA Small Mammal TAG.

Six different levels of active monitoring are potentially recognised within the Chiroptera regional collection plan.

- **International Studbook (ISB)**
- **European Endangered Species Programme (EEP)**
- **European Studbook (ESB)**
- **Monitoring Studbook (MSB)**
- **National/sub-regional Studbook (RSB)**
- **No monitoring**

#### **Taxonomy.**

The taxonomy within this collection plan adheres to ‘Mammal Species of the World, A Taxonomic and Geographic Reference’ (Wilson & Reeder 1993) with regard to both species’ and family designations. Although several species are included which have been described or recognised since that publication and subsequently red listed by the IUCN.

**Section II**

**An appraisal of species known to have recently been held in captivity within the EAZA Region, with recommendations for keeping and monitoring.**



**Table 1.****Collection planning recommendations for Chiroptera species known to have been held in captivity within the EAZA region since 1994.**

(Note: for recommendation criteria and level of monitoring abbreviations see Section I)

Scientific name	Common Name	IUCN status	Recommended status	Level of monitoring	Recommendation criteria								
					1	2	3	4	5	6	7	8	9
<b>Pteropodidae</b>													
<i>Cynopterus sphinx</i>	Sphinx Fruit Bat												
<i>Cynopterus titthaecheluis</i>	Indonesian Short-nosed Fruit Bat												
<i>Eidolon helvum</i>	Straw-coloured Fruit Bat												
<i>Epomophorus angolensis</i>	Angolan Epauletted Bat	LR/nt											
<i>Epomophorus gambianus</i>	Gambian Epauletted Bat												
<i>Epomops franqueti</i>	Franquet's Epauletted Bat												
<i>Hypsignathus monstrosus</i>	Hammer-headed Fruit bat												
<i>Pteropus giganteus</i>	Indian Fruit Bat												
<i>Pteropus hypomelanus</i>	Small Fruit Bat												
<b><i>Pteropus livingstonei</i></b>	<b>Livingstone's Fruit Bat</b>	<b>CR</b>	<b>Recommended</b>	<b>ESB</b>	✓								
<i>Pteropus lylei</i>	Indochina Fruit Bat												
<b><i>Pteropus rodricensis</i></b>	<b>Rodriguez Fruit Bat</b>	<b>CR</b>	<b>Recommended</b>	<b>EEP</b>	✓								
<b><i>Pteropus speciosus</i></b>	<b>Philippine Grey Fruit Bat</b>	<b>VU</b>	<b>Recommended</b>		✓								
<i>Pteropus vampyrus</i>	Malayan Fruit Bat												
<b><i>Rousettus aegypticus</i></b>	<b>Egyptian Fruit Bat</b>		<b>Recommended</b>									✓	
<i>Thoopterus nigrescens</i>	Short-nosed Fruit Bat												
<b>Phyllostomidae</b>													
<b><i>Phyllostomus discolor</i></b>	<b>Pale Spear-nosed Bat</b>		<b>Recommended</b>									✓	
<b><i>Glossophaga soricina</i></b>	<b>Pallas' Long-tongued Bat</b>		<b>Recommended</b>									✓	
<b><i>Desmodus rotundus</i></b>	<b>Common Vampire Bat</b>		<b>Recommended</b>									✓	
<b><i>Carollia perspicillata</i></b>	<b>Seba's Short-tailed Bat</b>		<b>Recommended</b>									✓	

Scientific name	Common Name	IUCN status	Recommended status	Level of monitoring	Recommendation criteria									
					1	2	3	4	5	6	7	8	9	
<b>Vespertilionidae</b> <sup>1</sup>														
<i>Eptesicus serotinus</i>	Serotine Bat													
<i>Myotis daubentonii</i>	Daubenton's Bat													
<b><i>Myotis emarginatus</i></b>	<b>Geoffroy's Bat</b>	<b>VU</b>	<b>Recommended</b>		✓			✓						
<i>Myotis nattereri</i>	Natterer's Bat													
<i>Nyctalus noctula</i>	Noctule Bat													
<i>Pipistrellus kuhlii</i>	Kuhl's Pipistrelle													
<i>Pipistrellus pipistrellus</i> <sup>2</sup>	Common Pipistrelle													
<i>Plecotus auritus</i>	Brown Long-eared Bat													
<i>Plecotus austriacus</i>	Grey Long-eared Bat													

<sup>1</sup> Bats from the family Vespertilionidae are kept from time to time in zoos as part of wildlife rehabilitation exercises. These bats if kept and interpreted well can fulfil an important educational role to support local biodiversity conservation.

<sup>2</sup> The sibling species *Pipistrellus pygmaeus* is also probably kept in zoos for rehabilitation purposes although has not been specifically identified by any institution.

### **Section III**

**Species not currently held within captivity in the EAZA region which would qualify as recommended species.**

Table 2.

Chiroptera species not currently held within captivity in the EAZA region which are categorised as threatened by the IUCN (Red list 2002). (Species occurring naturally within the EAZA region are highlighted).

Scientific name	Common name	IUCN status
<b>Pteropodidae</b>		
<i>Acerodon humilis</i>	Talaud Fruit Bat	VU
<i>Acerodon jubatus</i>	Golden-capped Fruit Bat	EN
<i>Acerodon leucotis</i>	Palawan Fruit bat	VU
<i>Alionycteris paucidentata</i>	Mindanao Pygmy Fruit Bat	VU
<i>Aproteles bulmerae</i>	Bulmer's Fruit Bat	CR
<i>Dobsonia beauforti</i>	Beaufort's Naked-backed Fruit Bat	EN
<i>Dobsonia emersa</i>	Biak Naked-backed Fruit Bat	VU
<i>Dobsonia peroni</i>	Western Naked-backed Fruit Bat	VU
<i>Epomops buettikoferi</i>	Buettikofer's Epauletted Bat	VU
<i>Haplonycteris fischeri</i>	Philippine Pygmy Fruit Bat	VU
<i>Latidens salimalii</i>	Salim Ali's Fruit Bat	CR
<i>Megaerops kusnotoi</i>	Javan Tailless Fruit Bat	VU
<i>Melonycteris aurantius</i>	Orange Fruit Bat	VU
<i>Melonycteris fardoulisi</i>		VU
<i>Myonycteris brachycephala</i>	Sao Tomé Collared Fruit Bat	EN
<i>Myonycteris relicta</i>	East African Little Collared Fruit Bat	VU
<i>Neopteryx frosti</i>	Small-toothed Fruit Bat	VU

Scientific name	Common name	IUCN status
<i>Notopteris macdonaldi</i>	Long-tailed Fruit Bat	VU
<i>Nyctimene celaeno</i>	Dark Tube-nosed Fruit Bat	VU
<i>Nyctimene draconilla</i>	Dragon Tube-nosed Fruit Bat	VU
<i>Nyctimene malaitensis</i>	Malaita Tube-nosed Fruit Bat	VU
<i>Nyctimene masalai</i>	Demonic Tube-nosed Fruit Bat	VU
<i>Nyctimene minutus</i>	Lesser Tube-nosed Fruit Bat	VU
<i>Nyctimene rabori</i>	Philippine Tube-nosed Fruit Bat	CR
<i>Otopteropus cartilagonodus</i>	Luzon Fruit Bat	VU
<i>Pteralopex acrodonta</i>	Fijian Monkey-faced Bat	CR
<i>Pteralopex anceps</i>	Bougainville Monkey-faced Bat	CR
<i>Pteralopex atrata</i>	Guadalcanal Monkey-faced Bat	CR
<i>Pteralopex pulchra</i>	Montane Monkey-faced Bat	CR
<i>Pteropus aldabrensis</i>	Aldabra Fruit Bat	VU
<i>Pteropus dasymallus</i>	Ryukyu Fruit Bat	EN
<i>Pteropus faunulus</i>	Nicobar Fruit Bat	VU
<i>Pteropus fundatus</i>	Banks Fruit Bat	VU
<i>Pteropus gilliardi</i>	Gilliard's Fruit Bat	VU
<i>Pteropus howensis</i>	Ontong Java Fruit Bat	VU

Scientific name	Common name	IUCN status
<i>Pteropus insularis</i>	Ruck Fruit Bat	CR
<i>Pteropus leucopterus</i>	White-winged Fruit Bat	EN
<i>Pteropus mahaganus</i>	Sanborn's Fruit Bat	VU
<i>Pteropus mariannus</i>	Marianas Fruit Bat	EN
<i>Pteropus molossinus</i>	Caroline Fruit Bat	CR
<i>Pteropus niger</i>	Greater Mascarene Fruit Bat	VU
<i>Pteropus nitendiensis</i>	Temotu Fruit Bat	VU
<i>Pteropus ocularis</i>	Ceram Flying Fox	VU
<i>Pteropus ornatus</i>	Ornate Fruit Bat	VU
<i>Pteropus phaeocephalus</i>	Mortlock Fruit Bat	CR
<i>Pteropus pohlei</i>	Geelvink Bay Fruit Bat	VU
<i>Pteropus pselaphon</i>	Bonin Fruit Bat	CR
<i>Pteropus pumilus</i>	Little Golden-mantled Fruit Bat	VU
<i>Pteropus samoensis</i>	Samoan Fruit Bat	VU
<i>Pteropus sanctacrucis</i>	Santa Cruz Flying Fox	VU
<i>Pteropus tuberculatus</i>	Vanikoro Fruit Bat	VU
<i>Pteropus voeltzkowi</i>	Pemba Fruit Bat	CR
<i>Rousettus spinalatus</i>	Bare-backed Rousette Bat	VU
<i>Syconycteris carolinae</i>	Halmahera Blossom Bat	VU
<i>Syconycteris hobbit</i>	Moss-forest Blossom Bat	VU
<b>Rhinopomatidae</b>		
<i>Rhinopoma macinnesi</i>	Mouse-tailed Bat	VU
<b>Craseonycteridae</b>		
<i>Craseonycteris thonglongyai</i>	Kitti's Hog-nosed Bat	EN
<b>Emballonuridae</b>		
<i>Balantiopteryx infusca</i>	Ecuadorian Sac-winged Bat	EN

Scientific name	Common name	IUCN status
<i>Coleura seychellensis</i>	Seychelles Sheath-tailed Bat	CR
<i>Diclidurus ingens</i>	Greater Ghost Bat	VU
<i>Emballonura atrata</i>	Peters' Sheath-tailed Bat	VU
<i>Emballonura diana</i>	Large-eared Sheath-tailed Bat	VU
<i>Emballonura furax</i>	Greater Sheath-tailed Bat	VU
<i>Emballonura semicaudata</i>	Pacific Sheath-tailed Bat	EN
<i>Saccolaimus mixtus</i>	Troughton's Pouched Bat	VU
<i>Saccopteryx gymnura</i>	Amazonian Sac-winged Bat	VU
<i>Taphozous acheson</i>	Tomb Bat	VU
<i>Taphozous hamiltoni</i>	Hamilton's Tomb Bat	VU
<i>Taphozous hildegardeae</i>	Hildegard's Tomb Bat	VU
<i>Taphozous kapalgensis</i>	Arnhem Tomb Bat	VU
<i>Taphozous troughtoni</i>	Troughton's Tomb Bat	CR
<b>Nycteridae</b>		
<i>Nycteris javanica</i>	Javan Slit-faced Bat	VU
<i>Nycteris major</i>	Ja Slit-faced Bat	VU
<b>Megadermatidae</b>		
<i>Macroderma gigas</i>	Australian Ghost Bat	VU
<b>Rhinolophidae</b>		
<i>Rhinolophus capensis</i>	Cape Horseshoe Bat	VU
<i>Rhinolophus cognatus</i>	Andaman Horseshoe Bat	VU
<i>Rhinolophus convexus</i>	Malaysian Horseshoe Bat	CR
<i>Rhinolophus euryale</i>	Mediterranean Horseshoe Bat	VU
<i>Rhinolophus hipposideros</i>	Lesser Horseshoe Bat	VU
<i>Rhinolophus imaizumii</i>	Imaizumi's Horseshoe Bat	EN
<i>Rhinolophus keyensis</i>	Insular Horseshoe Bat	EN

Scientific name	Common name	IUCN status
<i>Rhinolophus mehelyi</i>	Mehely's Horseshoe Bat	VU
<i>Rhinolophus paradoxolophus</i>	Bourret's Horseshoe Bat	VU
<i>Rhinolophus rex</i>	King Horseshoe Bat	VU
<i>Rhinolophus subrufus</i>	Small Rufous Horseshoe Bat	VU
<i>Anthops ornatus</i>	Flower-faced Bat	VU
<i>Asellia patrizii</i>	Patrizi's Trident Leaf-nosed Bat	VU
<i>Hipposideros breviceps</i>	Short-headed Roundleaf Bat	VU
<i>Hipposideros corynophyllus</i>	Telefomin Roundleaf Bat	VU
<i>Hipposideros coxi</i>	Cox's Roundleaf Bat	VU
<i>Hipposideros demissus</i>	Solomon Roundleaf Bat	VU
<i>Hipposideros durgadasi</i>	Indian Roundleaf Bat	VU
<i>Hipposideros hypophyllus</i>		VU
<i>Hipposideros inexpectatus</i>	Crested Roundleaf Bat	VU
<i>Hipposideros marisae</i>	Aellen's Roundleaf Bat	VU
<i>Hipposideros muscinus</i>	Fly River Roundleaf Bat	VU
<i>Hipposideros nequam</i>	Malayan Roundleaf Bat	CR
<i>Hipposideros papua</i>	Biak Roundleaf Bat	VU
<i>Hipposideros ridleyi</i>	Ridley's Roundleaf Bat	VU
<i>Hipposideros turpis</i>	Lesser Roundleaf Bat	VU
<i>Paracoelops megalotis</i>	Vietnam Leaf-nosed Bat	CR
<i>Rhonicteris aurantia</i>	Orange Leaf-nosed Bat	VU
<i>Triaenops furculus</i>	Trouessart's Trident Bat	VU
<b>Mormoopidae</b>		
<i>Pteronotus macleayii</i>	MacLeay's Moustached Bat	VU
<b>Phyllostomidae</b>		
<i>Arctus flavescens</i>	Jamaican Fig-eating Bat	VU

Scientific name	Common name	IUCN status
<i>Artibeus fraterculus</i>	Fraternal Fruit-eating Bat	VU
<i>Artibeus hirsutus</i>	Hairy Fruit-eating Bat	VU
<i>Artibeus inopinatus</i>	Honduran Fruit-eating Bat	VU
<i>Chiroderma doriae</i>	Brazilian Big-eyed Bat	VU
<i>Chiroderma improvisum</i>	Guadeloupe Big-eyed Bat	EN
<i>Choeroniscus periosus</i>	Greater Long-tailed Bat	VU
<i>Leptonycteris curasoae</i>	Southern Long-nosed Bat	VU
<i>Leptonycteris nivalis</i>	Mexican Long-nosed Bat	EN
<i>Lonchophylla bokermanni</i>	Bokermann's Nectar Bat	VU
<i>Lonchophylla dekeyseri</i>	Dekeyser's Nectar Bat	VU
<i>Lonchophylla handleyi</i>	Handley's Nectar Bat	VU
<i>Lonchophylla hesperia</i>	Western Nectar Bat	VU
<i>Lonchorhina fernandezi</i>	Fernandez's Sword-nosed Bat	VU
<i>Lonchorhina marinkellei</i>	Marinkelle's Sword-nosed Bat	VU
<i>Macrotus californicus</i>	California Leaf-nosed Bat	VU
<i>Micronycteris behnii</i>	Behni's Big-eared Bat	VU
<i>Micronycteris pusilla</i>	Least Big-eared Bat	VU
<i>Musonycteris harrisoni</i>	Banana Bat	VU
<i>Phyllonycteris aphylla</i>	Jamaican Flower Bat	EN
<i>Platalina genovensium</i>	Long-snouted Bat	VU
<i>Platyrrhinus chocoensis</i>	Choco Broad-nosed Bat	VU
<i>Platyrrhinus recifinus</i>	Recife Broad-nosed Bat	VU
<i>Scleronycteris ega</i>	Ega Long-tongued Bat	VU
<i>Stenoderma rufum</i>	Red Fruit Bat	VU
<i>Sturnira nana</i>	Lesser Yellow-shouldered Bat	VU

Scientific name	Common name	IUCN status
<i>Sturnira thomasi</i>	Thomas' Yellow-shouldered Bat	EN
<i>Tonatia carrikeri</i>	Carriker's Round-eared Bat	VU
<i>Tonatia schulzi</i>	Schultz's Round-eared Bat	VU
<b>Natalidae</b>		
<i>Natalus tumidifrons</i>	Bahaman Funnel-eared Bat	VU
<b>Furipteridae</b>		
<i>Amorphochilus schnablii</i>	Smoky Bat	VU
<b>Thyropteridae</b>		
<i>Thyroptera lavali</i>	Disc-winged Bat	VU
<b>Myzopodidae</b>		
<i>Myzopoda aurita</i>	Madagascar Sucker-footed Bat	VU
<b>Vespertilionidae</b>		
<i>Antrozous dubiaquercus</i>	Van Gelder's Bat	VU
<i>Arielulus cuprosus</i>	Coppery Pipistrelle Bat	VU
<i>Barbastella barbastellus</i>	Western Barbastelle Bat	VU
<i>Chalinolobus alboguttatus</i>	Allen's Striped Bat	VU
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	VU
<i>Chalinolobus neocaledonicus</i>	New Caledonian Wattled Bat	EN
<i>Chalinolobus superbus</i>	Pied Bat	VU
<i>Chalinolobus tuberculatus</i>	Long-tailed Wattled Bat	VU
<i>Eptesicus demissus</i>	Surat Serotine Bat	VU
<i>Eptesicus guadeloupensis</i>	Guadeloupe Big Brown Bat	EN
<i>Eptesicus innoxius</i>	Harmless Serotine Bat	VU
<i>Eptesicus nasutus</i>	Sind bat	VU
<i>Eptesicus platyops</i>	Lagos Serotine Bat	VU
<i>Glischropus javanus</i>	Javan Thick-thumbed Bat	EN

Scientific name	Common name	IUCN status
<i>Hesperoptenus doriae</i>	False Serotine Bat	EN
<i>Hesperoptenus gaskelli</i>	Gaskell's False Serotine Bat	VU
<i>Histiotus alienus</i>	Strange Big-eared Brown Bat	VU
<i>Kerivoula agnella</i>	St. Aignan's Trumpet-eared Bat	VU
<i>Kerivoula muscina</i>	Fly River Trumpet-eared Bat	VU
<i>Kerivoula myrella</i>	Bismarck's Trumpet-eared Bat	VU
<i>Laephotis namibensis</i>	Namib Long-eared Bat	EN
<i>Lasiurus castaneus</i>	Tacarcuna Bat	VU
<i>Lasiurus eburnus</i>		VU
<i>Miniopterus fuscus</i>	Southeast Asian Long-fingered Bat	VU
<i>Miniopterus robustior</i>	Loyalty Bent-winged Bat	EN
<i>Murina grisea</i>	Peter's Tube-nosed Bat	EN
<i>Murina puta</i>	Taiwan Tube-nosed Bat	VU
<i>Murina tenebrosa</i>	Gloomy Tube-nosed Bat	CR
<i>Murina ussuriensis</i>	Ussuri Tube-nosed Bat	EN
<i>Myotis aelleni</i>	Southern Myotis Bat	VU
<i>Myotis atacamensis</i>	Atacama Myotis Bat	VU
<i>Myotis bechsteini</i>	Bechstein's Bat	VU
<i>Myotis capaccinii</i>	Long-fingered Bat	VU
<i>Myotis cobanensis</i>	Guatemalan Myotis Bat	CR
<i>Myotis dasycneme</i>	Pond Bat	VU
<i>Myotis dominicensis</i>	Dominican Myotis Bat	VU
<i>Myotis findleyi</i>	Findley's Myotis Bat	EN
<i>Myotis grisescens</i>	Grey Bat	EN

Scientific name	Common name	IUCN status
<i>Myotis hosonoi</i>	Hosono's Myotis Bat	VU
<i>Myotis lesueuri</i>	Lesueur's Hairy Bat	VU
<i>Myotis longipes</i>	Kashmir Cave Bat	VU
<i>Myotis milleri</i>	Miller's Myotis Bat	EN
<i>Myotis morrisoni</i>	Morrison's Bat	VU
<i>Myotis ozensis</i>	Honsu Myotis Bat	EN
<i>Myotis peninsularis</i>	Peninsular Myotis Bat	VU
<i>Myotis planiceps</i>	Flat-headed Myotis Bat	CR
<i>Myotis pruinus</i>	Frosted Myotis Bat	EN
<i>Myotis ruber</i>	Red Myotis Bat	VU
<i>Myotis schaubi</i>	Schaub's Myotis Bat	EN
<i>Myotis scotti</i>	Scott's Mouse-eared Bat	VU
<i>Myotis seabrai</i>	Angolan Hairy Bat	VU
<i>Myotis sicarius</i>	Mandelli's Mouse-eared Bat	VU
<i>Myotis sodalis</i>	Indiana Bat	EN
<i>Myotis stalkerii</i>	Kei Myotis Bat	EN
<i>Myotis vivesi</i>	Fish-eating Bat	VU
<i>Myotis yessoensis</i>	Yoshiyuki's Myotis Bat	VU
<i>Nyctalus azoreum</i>	Azores Noctule Bat	VU
<i>Nyctophilus heran</i>	Sunda Long-eared Bat	EN
<i>Nyctophilus microdon</i>	Small-toothed Long-eared Bat	VU
<i>Nyctophilus timoriensis</i>	Greater Long-eared Bat	VU
<i>Pharotis imogene</i>	New Guinea Big-eared Bat	CR
<i>Pipistrellus anchietai</i>	Anchietai's Pipistrelle Bat	VU
<i>Pipistrellus anthonyi</i>	Anthony's Pipistrelle Bat	CR
<i>Pipistrellus arabicus</i>	Arabian Pipistrelle Bat	VU
<i>Pipistrellus ariel</i>	Desert Pipistrelle Bat	VU

Scientific name	Common name	IUCN status
<i>Pipistrellus endoi</i>	Endo's Pipistrelle Bat	EN
<i>Pipistrellus joffrei</i>	Joffre's Pipistrelle Bat	CR
<i>Pipistrellus mackenziei</i>	MacKenzie's Pipistrelle Bat	VU
<i>Pipistrellus maderensis</i>	Madeira Pipistrelle Bat	VU
<i>Plecotus rafinesquii</i>	Rafinesque's Big-eared Bat	VU
<i>Plecotus taiwanus</i>	Taiwan Big-eared Bat	VU
<i>Plecotus teneriffae</i>	Canary Big-eared Bat	VU
<i>Plecotus townsendii</i>	Townsend's Big-eared Bat	VU
<i>Rhogeessa alleni</i>	Allen's Yellow Bat	EN
<i>Rhogeessa genowaysi</i>	Genoway's Yellow Bat	VU
<i>Rhogeessa mira</i>	Least Yellow Bat	EN
<i>Scotophilus borbonicus</i>	Lesser Yellow Bat	CR
<i>Tomopeas rarus</i>	Blunt-eared Bat	VU
<b>Mystacinidae</b>		
<i>Mystacina tuberculata</i>	New Zealand Lesser Short-tailed Bat	VU
<b>Molossidae</b>		
<i>Chaerephon gallagheri</i>	Gallagher's Free-tailed Bat	CR
<i>Chaerephon pusilla</i>	Seychelles Free-tailed Bat	VU
<i>Chaerephon tomensis</i>	Sao Tomé Free-tailed Bat	VU
<i>Eumops maurus</i>	Guianan Bonneted Bat	VU
<i>Molossops aequatorianus</i>	Equatorial Dog-faced Bat	VU
<i>Mops niangarae</i>	Niangara Free-tailed Bat	CR
<i>Mormopterus acetabulosus</i>	Natal Free-tailed Bat	VU
<i>Mormopterus doriae</i>	Sumatran Free-tailed Bat	VU
<i>Mormopterus jugularis</i>	Peter's Wrinkled-lipped Bat	VU
<i>Mormopterus kalinowskii</i>	Kalinowski's Mastiff Bat	VU
<i>Mormopterus minutus</i>	Little Goblin Bat	VU
<i>Mormopterus phrudus</i>	Incan Little Mastiff Bat	EN



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Scientific name	Common name	IUCN status
<i>Otomops formosus</i>	Java Mastiff Bat	VU
<i>Otomops papuensis</i>	Big-eared Mastiff Bat	VU
<i>Otomops martiensseni</i>	Large-eared Free-tailed Bat	VU
<i>Otomops secundus</i>	Mantled Mastiff Bat	VU
<i>Otomops johnstonei</i>	Johnstone's Mastiff Bat	VU
<i>Otomops wroughtoni</i>	Wroughton's Free-tailed Bat	CR
<i>Tadarida lobata</i>	Kenyan Big-eared Free-tailed Bat	VU

**Table 3.**

**Chiroptera taxa not currently held within captivity in the EAZA region which are categorised as Lower Risk: Near Threatened (Near Threatened under the Red List categories Version 3.1) or Lower Risk: Conservation Dependent by the IUCN (Red list 2002) and occur naturally within the EAZA region.**

Scientific Name	Common Name	Distribution within the EAZA region
<b>Rhinolophidae</b>		
<i>Rhinolophus blasii</i>	Blasius' Horseshoe Bat	Italy; Greece; Cyprus; Romania; Albania; Bulgaria; Yugoslavia; Ukraine; Armenia <sup>3</sup> ; Azerbaijan; Turkmenistan; Russia; Turkey; Israel.
<i>Rhinolophus ferrumequinum</i>	Greater Horseshoe Bat	United Kingdom; France; Belgium; Netherlands; Germany; Luxembourg; Liechtenstein; Switzerland; Spain; Portugal; Austria; Malta; Poland; Czech Republic; Italy; Greece; Bosnia & Herzegovina; Macedonia; Yugoslavia; Bulgaria; Croatia; Hungary; Romania; Cyprus; Slovakia; Slovenia; Turkey; Georgia; Republic of Moldova; Russia; Ukraine; Armenia; Azerbaijan; Turkmenistan; Kazakhstan; Kyrgyzstan; Uzbekistan; Israel.
<b>Vespertilionidae</b>		
<i>Miniopterus schreibersi</i>	Schreiber's Long-fingered Bat	France; Switzerland; Spain; Portugal; Gibraltar; Austria; Malta; Italy; Greece; Bosnia & Herzegovina; Macedonia; Yugoslavia; Albania; Bulgaria; Croatia; Hungary; Romania; Slovakia; Slovenia; Turkey; Georgia; Russia; Armenia; Azerbaijan; Turkmenistan; Tajikistan; Israel.
<i>Myotis frater</i>	Fraternal Myotis Bat	Russia; Uzbekistan; Kazakhstan; Tajikistan.
<i>Myotis myotis</i>	Greater Mouse-eared Bat	United Kingdom; France; Belgium; Netherlands; Germany; Luxembourg; Liechtenstein; Switzerland; Spain; Portugal; Andorra; Austria; Malta; Poland; Czech Republic; Italy; Greece; Bosnia & Herzegovina; Macedonia; Yugoslavia; Bulgaria; Croatia; Hungary; Albania; Romania; Cyprus; Slovakia; Slovenia; Turkey; Russia; Belarus; Ukraine; Israel.
<i>Nyctalus lasiopterus</i>	Giant Noctule Bat	France; Switzerland; Germany; Spain; Portugal; Italy; Greece; Bosnia &

<sup>3</sup> Its presence in Armenia is highly likely but requires confirmation.

Scientific Name	Common Name	Distribution within the EAZA region
		Herzegovina; Macedonia; Yugoslavia; Bulgaria; Croatia; Hungary; Romania; Slovakia; Slovenia; Turkey; Georgia; Russia; Belarus; Ukraine; Republic of Moldova; Armenia; Azerbaijan; Kazakhstan; Uzbekistan.
<i>Nyctalus leisleri</i>	Lesser Noctule Bat (Leisler's Bat)	United Kingdom; Ireland; France; Belgium; Netherlands; Germany; Luxembourg; Liechtenstein; Switzerland; Spain; Portugal; Andorra; Austria; Poland; Czech Republic; Italy; Greece; Bosnia & Herzegovina; Macedonia; Yugoslavia; Bulgaria; Croatia; Hungary; Albania; Romania; Slovakia; Slovenia; Latvia; Lithuania; Turkey; Russia; Belarus; Ukraine; Republic of Moldova; Armenia; Georgia; Azerbaijan; Kazakhstan; Uzbekistan.
<i>Pipistrellus bodenheimeri</i>	Bodenheimer's Pipistrelle	Israel

**Table 4.**

**Chiroptera taxa not currently held within captivity in the EAZA region which are listed as rare or threatened in the Red Data Book of the Russian Federation Regions (1997).**

Scientific Name	Common Name
<b>Rhinolophidae</b>	
<i>Rhinolophus hipposideros</i>	Lesser Horseshoe Bat
<i>Rhinolophus mehelyi</i>	Mehely's Horseshoe Bat
<i>Rhinolophus ferrumequinum</i>	Greater Horseshoe Bat
<b>Vespertilionidae</b>	
<i>Myotis blythii</i>	Lesser Mouse-eared Bat
<i>Nyctalus lasiopterus</i>	Giant Noctule Bat
<i>Miniopterus schreibersi schreibersi</i>	Schreiber's Long-fingered Bat
<i>Miniopterus schreibersi fuliginosus</i>	Schreiber's Long-fingered Bat

**Table 5.**

**Chiroptera taxa not currently held within captivity in the EAZA region which are recommended for keeping for specific research purposes.**

Scientific Name	Common Name	Reason for research recommendation
<b>Vespertilionidae</b>		
<i>Myotis abei</i>	Sakhalin Myotis	An IUCN Data Deficient species occurring within the EAZA region