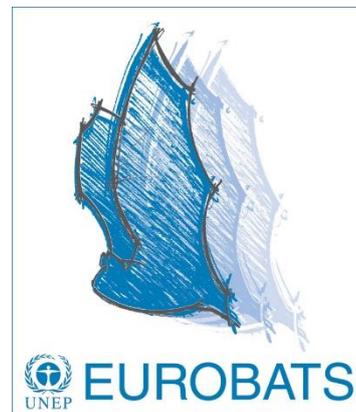


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Review of Species to be listed on the Annex to the Agreement

Compiled by A.M. Hutson



With reference to Resolution 3.7 (Doc.EUROBATS.MoP3.12.Rev.4), the attention of the Advisory Committee is drawn to the following matters, which may affect the Annex of bat species occurring in Europe and to which the Agreement applies. The Advisory Committee may wish to propose amendments to the Annex at the next MoP.

This updates similar documents produced for MoP5 (Doc.EUROBATS.MoP5.9, Inf.EUROBATS.MoP5.9, EUROBATS.MoP5.Record.Annex6), MoP6 (Doc.EUROBATS.MoP6.10, Inf.EUROBATS.MoP6.45, EUROBATS.MoP6.Record.Annex5) and MoP7 (Inf.EUROBATS.MoP6.48, EUROBATS.MoP7.Record.Annex5).

EUROBATS.MoP7.Record.Annex5 presents a list of species revised in accordance with amendments adopted at MoP7 (Brussels, 2014). This report includes recommendations for further changes to the Annex of species to which the Agreement applies. This report represents the opinions of members of an 'Advisory Panel' established for the purpose of assessing potential changes to the Annex of species. The panel comprises Stéphane Aulagnier (France), Petr Benda (Czech Republic), Gabor Csorba (Hungary), Javier Juste (Spain), Sergei Kruskop (Russian Federation), Peter Lina (Netherlands) and Friederike Spitzenberger (Austria) and co-ordinated by Tony Hutson (UK). This panel has no 'official' nomenclatural status. As 'ex-officio', Ferdia Marnell (chairman of EUROBATS Advisory Committee) and Suren Gazaryan (Secretariat to EUROBATS) are also circulated for information and comment.

Mammal Species of the World is regarded by the International Union for the Conservation of Nature and Natural Resources (IUCN) and CMS as the standard list of mammals (see UNEP/CMS/Recommendation 9.4). A revised (3rd) edition (with the bats compiled by Nancy Simmons of the American Museum of Natural History) was published in early 2006 (Simmons, 2005). It is recommended that unless there is over-riding reason, the Agreement should (in line with the policy of IUCN, CMS and others) adopt at least the

generic (and higher) classification proposed in this work but may adopt changes to the species list as appropriate. However, Simmons (op. cit.) recognised that the higher classification of bats is in a state of flux and refrained from presenting a new higher-level classification. Further, it should be noted that this list is now 13 years old and will be 17 years old by the time of the next EUROBATS MoP. It is therefore considered that well-supported revision of higher classification should be considered in maintaining the Annex of species. The report presented here will contribute to maintaining the forthcoming IUCN Global Bat Taxonomy List.

As far as is possible, the Annex to the Agreement will agree with the species list for the forthcoming revised Atlas of European Mammals (expected 2024). Nomenclature should conform to the rules proposed by the International Commission on Zoological Nomenclature (ICZN, 1999).

Potential amendments to the Annex at MoP8

1. *Taphozous nudiventris* Cretzschmar, 1830

The name remains in its original combination. Hence, in the Eurobats website, brackets should be removed from around the author and date (as here and in draft Res7.2.).

Recommendation: brackets should be removed from around the author and date for *Taphozous nudiventris* Cretzschmar, 1830, in the Annex to the Agreement.

2. *Rhinolophus hipposideros* (Borkhausen, 1797)

Borkhausen (1797) described *Noctilio hipposideros*, at least partly based on the description by Bechstein (1789) of 'Die Kleine Hufeisennase'. While Bechstein's 1789 description is adequate, the description is not accompanied with a latinised binomial scientific name and so this description is not acceptable for nomenclatural purposes. Bechstein (1800) redescribed the species as *Vespertilio hipposideros*. Borkhausen's description has been overlooked and the species credited to Bechstein 1800, until this error was pointed out by Kozhurina (2006). That paper, too, has been largely overlooked. Borkhausen's description is perfectly valid under the International Code of Zoological Nomenclature and so the authorship of the species should be changed from Bechstein 1800 to Borkhausen 1797.

Recommendation: the authorship of the species *Rhinolophus hipposideros* should be credited to Borkhausen 1797 (and not Bechstein, 1800) in the Annex to the Agreement.

3. *Barbastella darjelingensis* (Hodgson, 1885) / *casgica* Satunin, 1908

The Caucasus populations previously ascribed to *Barbastella leucomelas* were recently recognised as *B. darjelingensis* (see Inf.EUROBATS.MoP6.45, 2010). Further study of Central Asian *Barbastella* by Kruskop (2015) finds that these bats are distinct from *darjelingensis* of northern India, Pakistan and ?Afghanistan and are a distinct species, separable on morphology and mtDNA. Kruskop proposed that this species be regarded as *B. casgica* Satunin 1908, described (as a subspecies of *B. barbastellus*) from Kubaly (River Pirsagat, Azerbaijan), and occurring in Caucasus (Azerbaijan, Armenia, Russia) to Middle Asia and ?northern Iran. This classification had been suggested earlier in a conference abstract from Gazaryan & Matveev (2005).

Recommendation: *B. casgica* Satunin 1908 should replace *B. darjelingensis* in the Annex to the Agreement.

4. *Eptesicus ognevi* Bobrinskii, 1918

Juste *et al.* (2013) separate *Eptesicus ognevi* Bobrinskii 1918, from *E. bottae* (Peters, 1869). From this analysis, the populations living in the Caucasus would be identified with *E. ognevi* rather than *E. bottae*. *E. ognevi* was described from the Bukhara District, Uzbekistan, and is recorded from Georgia, Azerbaijan and Armenia, as well as northern Iran and the Central Asian countries of the former USSR. The distribution may overlap with *E. anatolicus* in the southern Caucasus.

Recommendation: *E. ognevi* Bobrinskii 1918, type locality Bukhara District, Uzbekistan, should replace *E. bottae* (Peters, 1869) in the Annex to the Agreement

5. *Hypsugo darwini* (Tomes, 1859)

There has been discussion as to whether *H. savii* is really two (or more) species and that the name *Scotophilus darwini* Tomes, 1859, described from Canary Islands, might be appropriate for one of them. Mayer *et al.* (2007) found a significant difference in molecular DNA between Europe and Morocco and between the Iberian Peninsula and the Canary Islands. They suggested provisional use of the name *Hypsugo* cf. *darwini* (Tomes, 1859) for the Canary Island and Morocco taxon. Dietz & Kiefer 2014 (2016), p.350, treat *darwini* as a separate species and state 'resembles most closely the Savi's Pipistrelle Bat of Northern Africa, the Canary Islands, Sicily and Sardinia. The genetic differences from Savi's Pipistrelle Bat suggest a separate species status. On Sardinia both forms occur together, which would allow the study of the sympatric occurrence and could clarify the taxonomy'. See also Veith *et al.* (2011), Fulco *et al.* (2015). In the absence of any formal

designation of *H. darwini* as a separate species and assessment of its geographical status, the species is not accepted as occurring in Europe. Note that if this form is designated as a separate species, there are other available names that might be appropriate (e.g. two named from Sicily).

Recommendation: The suggestion that *Hypsugo darwini* is a valid species and occurs in Europe (Canary Islands, Sicily and Sardinia) is not accepted.

6. *Myotis mystacinus*-group

Benda & Tsytsulina (2000) revised the *M. mystacinus*-group, based on morphology. This introduced the species *aurascens*, *nipalensis* and *hajastanicus* to the European fauna. Developing on the work of Benda & Karatas (2005), Tsytsulina *et al.* (2012) and Benda *et al.* (2012), Benda *et al.* (2016) re-examined the *M. mystacinus*-group in the Caucasus region and recognised five species: *mystacinus* (Kuhl, 1817), *dauidii* (Peters, 1869) (including *aurascens* Kuzyakin, 1935, and the *nipalensis* (Dobson, 1871) of Benda & Tsytsulina 2000), *alcatheae* von Helversen & Heller, 2001, *hyrcanicus* Benda, Reiter & Vallo, 2012 – extra limital: Iran, and *brandtii* (Eversmann, 1845). The authors were not able to fully evaluate the taxonomic position and phylogenetic relationships of *M. hajastanicus* from Armenia. The paper also suggests that *M. mystacinus bulgaricus* Heinrich, 1936 (?= *aurascens* partim) needs further investigation.

Recommendation: *Myotis dauidii* (Peters, 1869), type locality Pekin (China), should replace *M. aurascens* Kuzyakin, 1935 and *nipalensis* (Dobson, 1871) in the Annex to the Agreement.

7. *Myotis hajastanicus* Argyropulo, 1939

M. hajastanicus was given specific status on morphological grounds by Benda & Tsytsulina (2000). Dietz *et al.* (2016) examined the morphology and DNA of individuals of *M. mystacinus*-group from the Lake Sevan region of Armenia and consider them indistinguishable from *M. aurascens* (= *M. dauidii*). They conclude that *M. hajastanicus* is not a distinct species.

Recommendation: the species *Myotis hajastanicus* Argyropulo, 1939, should be removed from the Annex to the Agreement.

8. *Pipistrellus hesperidus* (Temminck, 1840)

For many years *Pipistrellus kuhlii* was recognised from Europe, North Africa and widely through sub-Saharan Africa (e.g. Koopman, 1993). Kock (2001) separated the Afrotropical populations as *Pipistrellus hesperidus*, which was supported by Volleth *et al.*

(2001) and which is now regarded as a complex of at least three species (Koubinova *et al.* 2013; see also supplementary material to Herkt *et al.* 2016). None of these discussions considered the populations of the Canary Islands (Spain) and Cape Verde Islands, but Simmons (2005) includes Canary Islands (and Cape Verde) in the (Afrotropical) distribution of *P. hesperidus*. This was repeated in the IUCN Red List 2016. While there have been a number of studies that have compared the Canary Island populations with those of Europe and North Africa and some would separate the Canary population to a varying degree, there has been no published suggestion that these populations should be assigned with *P. hesperidus*. The systematic status of the populations of *P. kuhlii* on the Canaries (and Cape Verde) remain uncertain, but for the time being are considered as *P. kuhlii* and hence *P. hesperidus* is not recognised as occurring in Europe.

Recommendation: The suggestion that *Pipistrellus hesperidus* occurs in Europe (Canary Islands) is not accepted.

9. *Pipistrellus hanaki* Hulva & Benda, 2004

Hulva & Benda in Benda *et al.* (2004) described *Pipistrellus hanaki* from Libya as a new species very closely related to *P. pygmaeus*. This was further discussed in Hulva *et al.* (2004). Later, Hulva *et al.* (2007) identified this species as a 'sister taxon' from Crete (Greece). Benda *et al.* (2008) described the Cretan form as a new subspecies, *P. h. creticus* Benda 2008, on the basis of morphology and genetics, and including ecological and echolocation call data. In discussing *P. hanaki* in Libya, Benda *et al.* (2014) state that "We thus suggest the two lineages/morphotypes of *P. hanaki* s.l. to represent two evolutionary units sufficiently separated genetically, morphologically and geographically, which should be regarded as two species, *P. hanaki* and *P. creticus*. In that case, the distribution of *P. hanaki* is confined to Cyrenaica and this bat represents an endemic of this region and Libya as well". Thus they suggest that *P. h. creticus* should be raised to a full species, but they also suggest that a form on Cyprus may also warrant species status. While this group is under active discussion and evaluation, it would seem better to continue to recognise the form on Crete as *P. hanaki*.

Recommendation: The proposal to raise the subspecies *Pipistrellus hanaki creticus* Benda 2008 from Crete (Greece) to a species is not yet accepted pending further investigation.

10. *Plecotus gaisleri* Benda, Kiefer, Hanák & Veith, 2004

The species is recorded in North-west Africa from North-west Libya to Morocco. In describing *Plecotus teneriffae gaisleri* n.ssp., Benda *et al.* (2004) also considered the

status of populations of the species on Pantelleria (Italy) as possibly relating more to the Maghrebian form (*gaisleri*) than the mainland European form (*teneriffae*, currently recognised as *kolombatovici*), and designated it as *P.t.cf. gaisleri*. In recognising *P. kolombatovici* as a species of Balkans and Asia Minor, Cyrenaica in Libya, and north-west Africa from Tunisia to Morocco, Spitzenberger *et al.* (2006) noted a specimen from Malta to have affinities with the Pantelleria form.

In Dietz & Kiefer (2014, p.372), *P. gaisleri* is recognised as a European species, while stating 'It is possible that this is the form that has been identified as *P.austriacus* on Pantelleria (Fichera, in litt.) and Malta'. In the absence of any formal publication to support this statement, the species is not accepted as occurring in Europe.

Recommendation: The suggestion that *Plecotus gaisleri* occurs in Europe (Pantelleria and Malta) is not accepted.

Summary of Recommended changes to the Annex to the Agreement

1. *Taphozous nudiventris* Cretzschmar, 1830. Remove brackets round author and date in published Annex
2. *Rhinolophus hipposideros* (Borkhausen, 1797). Authorship to be changed from Bechstein, 1800.
3. *Barbastella caspica* Satunin, 1908 should replace *B. darjelingensis* in the Annex.
4. *Eptesicus ognevi* Bobrinskii, 1918 should replace *E. bottae* in the Annex.
5. *Myotis davidii* (Peters, 1869) should be added to the Annex.
6. *Myotis aurascens* Kuzyakin, 1935, *nipalensis* (Dobson, 1871) and *hajastanicus* Argyropulo, 1939, should be removed from the Annex, as synonyms of *Myotis davidii*.

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