

Transfer of the Corsican Swallowtail *Papilio hospiton* from Appendix I to Appendix II

Proponent: Denmark (on behalf of the European Union Member States acting in the interest of the European Union)

Summary: The Corsican Swallowtail *Papilio hospiton* is a butterfly endemic to the European islands of Corsica (France) and Sardinia (Italy). It is widespread and locally abundant on both Corsica and Sardinia. Population numbers were estimated at greater than 10 000 adults in 2010 and are considered stable or to be increasing. Movement between sub-populations and suitable habitat is known to occur.

It was first listed as Endangered on the IUCN Red List in 1986 and at that time was considered one of the rarest of European butterflies, being threatened by habitat destruction and collecting. The species has been protected in France since 1979 and in Italy since 1981 and was included in CITES Appendix I in 1987 and is also protected through the EU Habitats Directive and Bern Convention. It appears that the elusive nature and scattered occurrence of adults, in addition to fluctuations between years, led to the species being assumed to be rare in the past and it is now considered to be more common than previously thought and even abundant locally. No major threats are known now and in 2010 the species was re-assessed by IUCN as Least Concern, with an increasing population trend.

According to CITES trade data, legal international trade from 1987 to 2010 totalled a maximum of seven bodies. There is minimal evidence of illegal trade or offers for sale over the internet and the effects of commercial collection on the population are considered negligible, as any small areas sampled by collectors are regularly re-populated from surrounding areas. Wild collection is prohibited in France and strictly controlled in Italy. The only other possible threat to the species is due to habitat modification occurring on both islands and specifically the removal of food/host plants such as *Ferula communis*. However, *Papilio hospiton* is found in a number of protected areas (in which it is considered common or abundant) and provided that traditional land use (grazing and controlled burning) is continued outside these protected areas, habitat modification is not likely to be a serious threat to the species.

In 2011, at its 25th meeting, the CITES Animals Committee selected the species for review under the Periodic Review of the Appendices taking place between CoP15 and CoP17. The two range States for *P. hospiton* conducted the review on behalf of the EU. The proponent seeks to transfer *P. hospiton* from Appendix I to Appendix II in accordance with precautionary measures A1 and A2 a/b of Annex 4 of *Resolution Conf. 9.24 (Rev. CoP15)*, with the view that the species no longer meets the biological criteria for inclusion in Appendix I, nor is it in demand in international trade. The proponent states that it does not consider down-listing necessarily a first step to deletion of the species from the Appendices. If the species is transferred to Appendix II, the proponent notes that consequences of this action will be carefully monitored to evaluate further actions.

Analysis: Available evidence suggests that *Papilio hospiton* no longer meets the biological criteria for inclusion in Appendix I, as the population cannot be considered small (estimated at over 10 000 adults) nor can its area of distribution (over 20 000 km²) be considered small. The population is thought to be stable or increasing and faces no major threats. The species does not appear to be in demand for international trade, nor is its transfer to Appendix II likely to stimulate trade in, or cause enforcement problems for, any other species included in Appendix I. There may be some demand for the species from collectors, however, it is legally protected under the EU Habitats Directive, protected nationally in both its range States and a considerable proportion of its range lies within protected areas. Even if transfer to Appendix II were to stimulate demand for the species, the population is believed to be able to withstand a certain level of collection pressure and the range States appear to have the necessary management and enforcement capacity and controls in place.

Supporting Statement (SS)	Additional information
<u>Taxonomy</u>	
	 The original author for the species is Gené, not Guenée, another entomologist active at the time (Zilli in litt., 2012).
<u>Range</u>	
Corsica (France) and Sardinia (Italy).	
<u>IUCN Global Category</u>	
Least Concern (2010).	 Ver. 3.1.

Biological criteria for inclusion in Appendix I

A) Small wild population

(i) Population or habitat decline; (ii) small sub-populations; (iii) concentrated geographically during one or more life-history phases; (iv) large population fluctuations; (v) high vulnerability

In 2010, the population size of *P. hospiton* was estimated to be probably >10 000 adults. Previous estimates (from 1996) ranged between 10 000 and 100 000 individuals, and these were considered “rather conservative”.

The species is widespread and whilst found at low densities overall, high local densities have been observed. In Sardinia, the species is considered relatively common and was found to be abundant in the Montimannu area. It is considered common to abundant in Corsica Regional Nature Park. The elusive nature and scattered occurrence of adults may have led to the species being assumed to be rare in the past. Furthermore, populations of *P. hospiton* fluctuate across years, making it difficult to assess the species's status.

Papilio hospiton's reproductive cycle is closely related to specific food plants such as *Ferula communis*. In Sardinia *F. communis* populations are reportedly shrinking due to agricultural and other human activities, however, the plant spreads quickly and is able to re-colonise areas well.

Males are territorial, but not restricted to a definite area. They gather on hilltops or other structures to wait for the arrival of females.

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<p><u>B) Restricted area of distribution</u></p> <p>(i) Fragmented or localised population; (ii) large fluctuations in distribution or sub-populations; (iii) high vulnerability; (iv) decrease in distribution, population, area or quality of habitat, or recruitment</p> <p>Its range is determined by the distribution of its food plants, but in 2010 was estimated at over 20 000 km². In Corsica (8722 km²), the size of the most suitable habitat was estimated at 150 km², with an additional area of 1500 km² able to support lower population densities.</p> <p>In Corsica, the species is found across the island, except the eastern littoral plain and lower basins of coastal rivers, although the distribution is not homogenous. Populations are concentrated in the mountainous interior. In Sardinia, the species ranges from the coast, including some of the islands, up to high altitudes, although it is possibly absent from some areas of the north-west. Development along the coast in the 1980s may have led to a shift of the species's distribution locally.</p> <p>The species has an "open population structure", with "intense exchange" of specimens between localities. The species can cover substantial distances, so individuals may possibly move between habitats of different vegetation.</p>	<p><i>Range described in the proposal is the "extent of occurrence" estimated for the Red List assessment (see van Swaay et al., 2010). This is not area of occupancy and may include some areas/ specific habitat types where the species does not occur.</i></p> <p><i>At the time of the 1987 listing proposal, populations were believed to be extremely localised (CITES, 1987).</i></p>
<p><u>C) Decline in number of wild individuals</u></p> <p>(i) Ongoing or historic decline; (ii) inferred or projected decline due to decreasing area or quality of habitat, levels of exploitation, high vulnerability, or decreasing recruitment.</p> <p>In the early 2000s, the population was reported to be stable both in Italy and France, and in 2010 it was reportedly increasing. In 2012, it was listed as least concern on the French National Red List.</p> <p>According to the Habitat Directive's species conservation status assessments for the period 2001-2006, the overall status of <i>P. hospiton</i> was reported by France as "favourable" and by Italy as "unfavourable – inadequate". For the latter the category "unfavourable – inadequate" refers to the lack of recent specific surveys on the species and not to its unfavourable status.</p> <p>Populations are considered stable in Sardinia, both in number and distribution. The population at Montimannu is stable and no declines had been observed over the last 40 years.</p>	<p><i>At the time of the 1987 listing proposal, numbers were believed to have declined dramatically and the species was listed as Endangered in the IUCN Red Data Book on Threatened Swallowtail Butterflies of the World. The species continued to be assessed as Endangered in 1988, 1990, 1994 and 1996, and then when re-assessed in 2010 it was listed as Least Concern (van Swaay et al., 2010).</i></p>

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<p>Trade criteria for inclusion in Appendix I</p> <p>There has been virtually no global trade in <i>P. hospiton</i> reported over the period 1987-2010: seven bodies according to importers or five bodies according to exporters, mostly Pre-Convention specimens traded for personal or scientific purposes, with three wild specimens traded for “circuses and travelling exhibitions”.</p> <p>The species is thought to still be of interest to collectors, and it is reportedly traded illegally. However, there is minimal evidence of this (see threats).</p>	<p style="text-align: center;"><u>The species is or may be affected by trade</u></p> <p><i>The 1987 proposal noted that “although little is known about the extent of the Corsican Swallowtail in trade it is widely believed that this rare species is collected to excess for private and commercial purposes and that this is causing severe declines in butterfly numbers” and “although there is little advertised trade commercial collecting parties are known to occur, at least on Sardinia”.</i></p> <p><i>There are no records of illegal trade or seizures of this species by EU CITES enforcement authorities since 1987. TRAFFIC and WWF have monitored the most important Italian insect fairs in recent years and only very rarely heard of people enquiring about this species for their private collections (Rocco in litt., 2012).</i></p>
<p>Precautionary Measures</p> <p>Species not in demand for trade; transfer to Appendix II unlikely to stimulate trade in, or cause enforcement problems for, any other species included in Appendix I</p> <p>There is virtually no legal trade in the species and there is little evidence that illegal trade is occurring. The species therefore does not appear to be in demand for international trade. Down-listing is not likely to stimulate trade in, or cause enforcement problems for, any other species included in Appendix I - the only similar species to <i>Papilio hospiton</i> is <i>Papilio machaon</i>, which is not listed in CITES.</p> <p>The species is of interest to collectors despite its protected status and is reportedly available in illegal trade. There is however minimal evidence of trade or offers for sale over the internet and the effects of commercial collection on the population are considered negligible, as the small areas sampled by collectors are regularly repopulated from surrounding areas.</p>	<p><i>A web search and specific searches on French, Italian, Spanish and UK eBay in October 2012 came up with zero results for specimens of this species (also when searched using various common names). Enthusiasts discuss the species and the fact that its collection is not permitted on various forums (e.g. http://www.insectnet.com/cgi/dcforum/dcboard.cgi?az=read_count&om=336&forum=DCForumID26), however there still appear to be some that collect/are looking for specimens: http://www.entomologiitaliani.net/public/forum/phpBB3/viewtopic.php?t=7969</i></p> <p><i>At the time of writing the 1987 proposal, both adult and immature stages were reportedly taken by local and foreign collectors who were aware of the rarity of the species. It was believed this continued on Corsica, where collecting is prohibited, as well as on Sardinia. In some areas of Sardinia <i>Papilio hospiton</i> larvae were collected in large numbers every spring, when commercial collectors were seen as welcome tourists at a time when hotels were mostly empty.</i></p>

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<p>Species likely to be in demand for trade, but its management is such that the CoP will be satisfied with:</p> <p>i) implementation by the range States of the requirements of the Convention, in particular Article IV; and</p> <p>ii) appropriate enforcement controls and compliance with the requirements of the Convention</p> <p>The proponents note that even if down-listing to Appendix II were to stimulate demand for the species, its protection and management in both range States (collection being prohibited) is such that the Conference of the Parties would be satisfied with: i) implementation by the range States of the requirements of the Convention, in particular Article IV; and ii) appropriate enforcement controls and compliance with the requirements of the Convention (criterion A 2b).</p>	
<p>Other information</p>	
<p>According to the 2010 Red List Assessment the species is not believed to face any major threats. A reduction in food plant availability could potentially impact the species, but this is not expected provided that traditional land use (grazing and controlled burning) is continued. Other potential threats include agricultural intensification, afforestation and collection of specimens.</p> <p>In Corsica, the habitat of the species is threatened locally, but in Sardinia potential threats to <i>P. hospiton</i> are low, with the species being in “reasonable ecological balance with human activities”. However, the mowing of roadsides destroys large quantities of suitable host plants at the time of reproduction and the species is thought potentially to be affected by measures to eliminate the moth <i>Lymantria dispar</i> from Sardinian oak forests with <i>Bacillus thuringiensis</i> treatment.</p> <p>The species’s reproduction is closely linked to its larval food plants. <i>Papilio hospiton</i> larvae feed predominantly on <i>Ferula communis</i>, <i>Ruta corsica</i> and <i>Peucedanum paniculatum</i>. In Corsica these plants are abundant, but <i>P. paniculatum</i> is considered a weed and to lower the quality of pasture land and <i>R. corsica</i> is toxic. Farmers therefore try to destroy these plants through burning; however, all three species are adapted to survive periodic burning. In Sardinia <i>F. communis</i> populations are reportedly shrinking due to agricultural and other human activities, however, the plant spreads quickly and is able to re-colonise areas well – therefore only targeted action would be able to eliminate it from extensive areas.</p>	<p><u>Threats</u></p> <p><i>Habitat was lost to developments such as ski resorts (CITES, 1987).</i></p>
<p><u>Conservation, management and legislation</u></p>	
<p><i>Papilio hospiton</i> is protected nationally and internationally.</p> <p>It has been protected in France since 1979 and is listed as a protected species in Order no. DEVN0752762A of 2007. Under this legislation, destruction, collection and</p>	<p><i>The Corsican population was originally protected under a French decree published on 22 August 1979 that prohibited collecting, but did not protect the species habitat or food plants.</i></p>

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<p>sale of the species, and destruction or degradation of its habitat, is prohibited, with exemptions only permitted for research, education and re-introduction purposes outlined in the “Code de l’environnement” and for specimens collected prior to 1993 in France and prior to 1992 for the rest of the EU. In Italy, it is listed as a strictly protected species in Annex II of Law number 503 of 1981, implementing the Bern Convention in Italy and also in Annex B and D of the D.P.R Directive 357/97, implementing the EU Habitats Directive in Italy.</p> <p><i>Papilio hospiton</i> has been listed in CITES Appendix I since 22/10/1987 and in Annex A of Council Regulation (EC) No 338/97 (as amended) since 1997. It is included in Annex II (species of EU interest requiring the designation of special areas of conservation) and Annex IV (species of EU interest requiring strict protection) of the Habitats Directive (92/43/EEC), and as strictly protected species in Annex II of the Bern Convention.</p> <p>The species occurs in a number of protected areas. It occurs in three Prime Butterfly Areas - the Corsica Regional Nature Park, which includes a large proportion of the species’s range; and Capo Caccia and the Gennargentu Massif in Sardinia. It is also found in the Scandola Nature Reserve on Corsica and in Sardinia is reported to occur in the Specially Protected Areas of Piana di Semestene and Piana di Ozieri, Mores, Ardara, Tula and Oschiri and the Campo di Ozieri (a Special Area of Conservation). Active management of nature reserves to prevent habitat succession into forests and traditional land management in agricultural areas are both important for maintaining favourable habitat conditions for this species.</p> <p>The Environment Office of Corsica (OEC) established a monitoring station for the conservation of insects (OCIC) on the island of Corsica in 2000, which aims to carry out periodic monitoring of the population and collate all information in a centralised database. The development, testing and application of a monitoring protocol of the conservation status of all habitats and species of community interest by 2012 is one of the objectives of the Italian national strategy for biodiversity.</p>	<p><i>When the species was initially proposed for listing, it was not believed to be protected under Italian law, and there were no nature reserves designated for its protection, or protecting its habitat.</i></p> <p><i>The recently enacted Decree no. 121 of 07 July 2011 (the Italian penal code) provides stronger penalties for infringements of environmental laws. Article 727 outlines penalties (imprisonment for one to six months or a fine of up to EUR4000) for any unlawful “killing, destruction, catching, taking or possession of wild specimens of protected wild fauna and flora”. This would apply to any species protected under the Habitats Directive.</i></p>
<u>Similar species</u>	
<p><i>Papilio machaon</i>, which is not listed by CITES, occurs across much of Eurasia and parts of North America. Although similar, <i>Papilio hospiton</i> is reportedly easily distinguished from <i>Papilio machaon</i> by collectors.</p> <p>One to five per cent of the <i>Papilio</i> populations in Corsica and Sardinia are thought to be made up of hybrids between <i>P. hospiton</i> and the sympatric <i>P. machaon</i>. While the hybrids are not sterile, the viability of subsequent hybrid progenies is impaired and the gene pools of the two species remain distinct.</p>	

Supporting Statement (SS)	Additional information
<u>Artificial Propagation/Captive breeding</u>	
Captive breeding is possible and the species is being bred at the University of Cagliari, Sardinia, for research purposes.	

Reviewers: K. Kecse-nagy, M. Rocco, A. Zilli.

References:

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