

REVIEW OF THE STATUS OF *PAPILIO HOSPITON* GUENÉE, 1839 IN THE PERIODIC REVIEW OF SPECIES INCLUDED IN THE CITES APPENDICES RESOLUTION CONF. 11.1 (REV. COP15) AND RESOLUTION CONF. 14.8

INTRODUCTION

At its 25th meeting (Geneva, 2011), the Animals Committee selected *Papilio hospiton* for review under the Periodic Review of Appendices taking place between CoP15 (2010) and CoP17 (2016) (AC25 Doc. 15.6; AC26 Doc.13.3). The CITES Secretariat issued Notification to the Parties No. 2011/038 (*Periodic review of species included in the CITES Appendices*), inviting range States of the taxa concerned to comment within 90 days (by 20th of December 2011) on the selection and to put forward offers to review the species. The EU offered to undertake the review for this species, which was conducted by France and Italy, in collaboration with UNEP-WCMC.

The Animals Committee endorsed this proposal by postal procedure after AC26 as part of the Periodic Review of the Appendices (Resolution Conf. 14.8).

This species is a European endemic, occurring on the islands of Corsica (France) and Sardinia (Italy).

PROPOSAL

To transfer *Papilio hospiton* from CITES Appendix I to CITES Appendix II, in accordance with provisions of Resolution Conf. 9.24 (Rev. CoP15), Annex 4 precautionary measure A1 and A2a/b.

The species does not meet the biological criteria for listing in Appendix I, laid out in Resolution Conf. 9.24 (Rev. CoP15) in Annex 1. The population size is estimated to be >10 000 adults hence does not meet criterion A; the area of distribution is considered relatively large (estimated at >20 000 km²) and thus the species does not meet criterion B and the population is thought to be stable or increasing and so does not meet criterion C. *Papilio hospiton* is categorized as Least Concern globally and it faces no major threats.

As per the precautionary measures outlined in Resolution Conf. 9.24 (Rev. CoP15) Annex 4, the species is not 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 (criterion A2a). There may be some demand for the species from collectors, however, it is legally protected under the Habitats Directive and protected nationally in both its range States, with collection and sale prohibited, a considerable proportion of its range lies within protected areas and populations were considered able to withstand some level of collection. Furthermore, if downlisting to Appendix II were to stimulate demand for the species, its management 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 A2b).

The proponents do not consider necessarily the downlisting as a first step to delisting. If the species is downlisted consequences of this action should be carefully monitored to evaluate the opportunity to proceed with delisting within the suggested lapse of time.

PROPONENT

Denmark on behalf of the European Union Member States acting in the interest of the European Union.

SUPPORTING STATEMENT

1. Taxonomy

1.1 Class: Insecta

1.2 Order: Lepidoptera

1.3 Family: Papilionidae

1.4 Genus, species or subspecies, including author and year: *Papilio hospiton* Guenée, 1839

1.5 Scientific Synonyms: none

1.6 Common names:

English: Corsican Swallowtail

French: Portequue de Corse; Porte-queue de Corse

Italian: Papilio di Sardegna

Spanish: Macaón de Córcega

1.7 Reference number in the CITES Identification Manual: A-930.030.034.003

2. Overview

Papilio hospiton was included in CITES Appendix I on 22/10/1987, following a proposal of the United Kingdom (CoP6 Prop. 57). In 2000, the species was “considered to be critically endangered in the wild and/or known to be difficult to keep or breed in captivity” by the United States of America (Doc AC.16.9.1), in response to Notification to the Parties No 2000/044 [although more recently the species was categorized as Least Concern]. At its 25th meeting (Geneva, 2011), the Animals Committee selected *P. hospiton* for review in the process of the Periodic Review of Appendices, to be conducted between CoP15 (2010) and CoP17 (2016) (AC26 WG1 Doc. 1).

The species is endemic to the islands of Corsica (France) and Sardinia (Italy), and its reproductive cycle is closely linked to specific food plants. *P. hospiton* is widespread and locally abundant, although populations fluctuate between years. In a 2010 assessment, the species was categorized as Least Concern by the IUCN and to face no major threats. International trade from 1987 to 2010 involved 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’. The species occurs in a number of protected areas and is protected nationally and internationally.

3. Species characteristics

3.1 Distribution

P. hospiton is a European endemic and only occurs on the islands of Corsica (France) and Sardinia (Italy) (Aubert *et al.*, 1996). Its range is determined by the distribution of its food plants (Aubert *et al.*, 1996) but was considered to be relatively large, estimated at >20 000 km² (van Swaay *et al.*, 2010b).

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 (Aubert *et al.*, 1997) (Figure 1). Populations are concentrated in the mountainous interior, including the regions of Corte and Ghisoni and above Calacuccia; in a large area in the south,

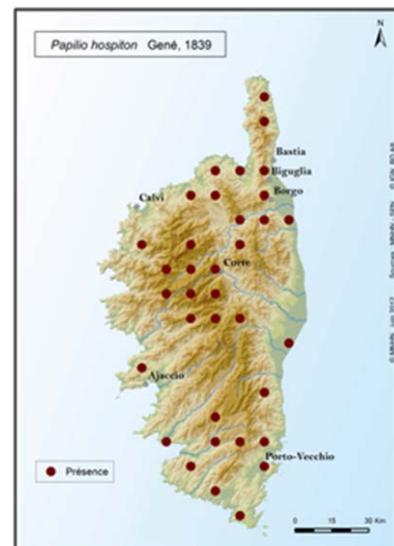


Figure 1: Presence of *Papilio hospiton* in Corsica. Source: MNHN - SPN (2012).

from the coast to the foothills north and south of Porto; and in the north, in the regions of Balagne, Désert des Agriates and Corsican Cape (Aubert *et al.*, 1996). It occurs in a Prime Butterfly Area, the Corsica Regional Nature Park (van Swaay and Warren, 2003).

In Sardinia, the species ranges from the coast, including some of the islands, up to high altitudes in the Gennargentu-Supramonte massif, although it is possibly absent from some areas of the north-west (R. Crnjar, pers. comm. to UNEP-WCMC 2012b) (Figure 2). The species was 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) (D'Appolonia, 2008). The species occurs in two Prime Butterfly Areas, Capo Caccia and the Gennargentu Massif (van Swaay and Warren, 2003).

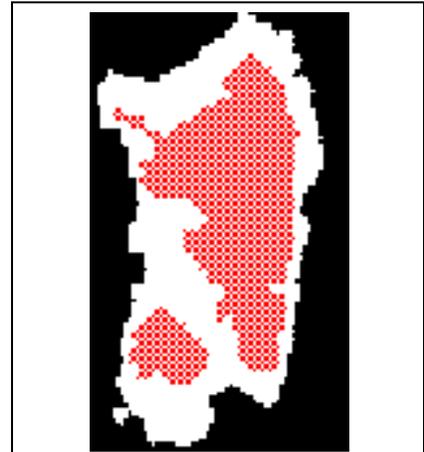


Figure 2: Distribution of *Papilio hospiton* in Sardinia. Source: Doneddu and Piga (2005).

3.2 Habitat

The species occurs from sea level to altitudes up to 2000 m above sea level (Aubert *et al.*, 1996), preferring moderate altitudes (Luquet and Demerges, 2007; Crnjar, undated). It inhabits open grassy slopes or slopes with low growing scrub and is restricted to natural and semi-natural areas (van Swaay *et al.*, 2010b).

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 (Aubert *et al.*, 1996).

3.3 Biological characteristics

The species' reproduction is closely linked to its larval food plants; *P. hospiton* larvae feed on *Ferula communis*, *Ruta corsica* and *Peucedanum paniculatum* (Pierron, 1992; in Schurian *et al.*, 2009; van Swaay *et al.*, 2012), although *Pastinaca latifolia*, *P. sativa*, *P. divaricata* (Aubert *et al.*, 1996) and *Laserpitium halleri cynapiifolium* (MNHN, undated) may also be used. *F. communis* is a perennial species with ephemeral foliage, which withers at the end of spring; *P. paniculatum* is also a perennial which bears leaves through the spring and summer months; and *R. corsica* is a dwarf shrub, bearing leaves throughout the warm season and supporting the higher elevation populations (Aubert *et al.*, 1996). While *P. hospiton* flies from April to August overall, local flight periods depend on foodplant availability (Aubert *et al.*, 1996).

The species was considered to have one generation per year by some authors (e.g. Tolman and Lewington, 2008). However, *P. paniculatum*, which provides food in both spring and summer, was found to support two (Aubert *et al.*, 1996) to potentially three generations, depending on the years' weather (Schurian *et al.*, 2009). The species can cover substantial distances, so individuals may possibly move between habitats of different vegetation (Aubert *et al.*, 1997). This makes it difficult to distinguish between freshly hatched adults from a second brood and fresh adults arriving from other habitats where the first brood is just hatching (Aubert *et al.*, 1997).

In Corsica, populations were thought to have distinct preferences for only one larval food plant, (Pierron, 1992; in Schurian *et al.*, 2009), however Aubert *et al.* (1997) noted no such specialization and Schurian *et al.* (2009) questioned the reports of distinct preferences. In Sardinia, only *Ferula communis* was reported to be used as a food plant, supporting only one

generation per year (Doneddu and Piga, 2005; Crnjar, undated). Adults forage on a variety of thistles, including *Cirsium*, *Carduus*, *Scabiosa* or *Knautia* (Aubert *et al.*, 1996).

Eggs are laid individually, with the number depending on the size of the host plant (Luquet and Demerges, 2007). Eight to ten days after egg deposition the caterpillars hatch (MNHN, undated). The caterpillars pupate after five larval stages (taking up to 20 days), in lowland populations at the beginning of May and in mountainous populations at the beginning of July (MNHN, undated). The species hibernates in the pupal stage (MNHN, undated), although non-diapausing pupae have also been recorded (Aubert *et al.*, 1996). Adults hatch between April and August, depending on the altitude and host plant (MNHN, undated).

3.4 Morphological characteristics

The forewings are 34-40 mm long (M. Trizzino and A. Zilli, *in litt.*, to UNEP-WCMC, 2012) and yellow, with strong black patterning especially along the veneration, basal area and the submarginal band black; the underside of the wing is similar (MNHN, undated). The hindwings have a black submarginal band with central blue spots; an internal black border; and one inconspicuous eyespot at the level of the anal cell with a small blue and a reddish spot (MNHN, undated). The wings are elongated to a short tail at the fourth veneration (MNHN, undated). Sexual dimorphism and intraspecific variation are low (MNHN, undated). Eggs are spherical and of a lemon yellow at deposition, thereafter starting to be covered in brownish spots (MNHN, undated). The caterpillar measures 40 mm at its last instar, with every segment laterally of a bright green with an orange spot above a white circle on a black background for the abdominal segments; the dorsal side is black with white and yellow spots (MNHN, undated).

3.5 Role of the species in its ecosystem

The caterpillars of *P. hospiton* are host to two parasitic hymenoptera, *Trogus lutorius* and *Dinotomus violaceus* (MNHN, undated), with the former hibernating as a pupae within the butterflies' pupa (Tolman and Lewington, 2008). A parasite load of 50-95% by *D. violaceus* has been observed (Strobino, 1970; in MNHN, undated).

P. hospiton is dependent on its larval food plants (Aubert *et al.*, 1996), which are often found in pasture land, but which are poisonous to livestock (Collins and Morris, 1985). Conserving the butterfly requires maintenance of the food plant availability, which benefits from traditional land management regimes (Collins and Morris, 1985).

4. Status and trends

4.1 Habitat trends

The species' food plants, *F. communis*, *P. paniculatum* and *R. corsica*, are abundant in Corsica (Aubert *et al.*, 1996). However, *F. communis* and *P. paniculatum* are photosensitizing [causing sun allergies], with the latter considered a weed and lowering the quality of pasture land (Aubert *et al.*, 1996) and *R. corsica* is toxic (Aubert *et al.*, 1996). Local farmers attempt to destroy them, as they are poisonous to livestock, by burning the pasture land (Collins and Morris, 1985); however these three species are adapted to survive this periodic burning (Aubert *et al.*, 1996).

In Sardinia, the distribution of the larval host plant *F. communis* was reported to be shrinking, due to agricultural and other human activities (Crnjar, undated). However, it was noted that the plant spreads quickly and is able to recolonize areas well, with only targeted action thought to be able to eliminate it from extensive areas (Crnjar, undated).

4.2 Population size

Van Swaay *et al.* (2010b) estimated the population size of *P. hospiton* to be probably >10 000 adults. Previously Aubert *et al.* (1996) estimated it at between 10 000 and 100 000 individuals, which was considered “rather conservative” (Aubert *et al.*, 1997).

The species was found to be widespread and whilst at low density overall, locally higher densities have been observed (Aubert *et al.*, 1996). Sardinia was estimated to contain 40-60% of the European population (Blasi *et al.*, 2007), where the species was considered widespread and relatively common (R. Crnjar, pers. comm. to UNEP-WCMC 2012b). It was found to be abundant in the Montimannu area (Leo, 2011) and considered common to abundant in Corsica Regional Nature Park (van Swaay and Warren, 2003).

The elusive nature and scattered occurrence of adults may have led to the species being assumed to be rare (Aubert *et al.*, 1996). Furthermore, populations of *P. hospiton* were found to fluctuate across years, making it difficult to assess the species' status (OCIC., 2012), with some authors considering the species to be generally common throughout its range (Crnjar *et al.*, 2002), while others noted that it was rarely abundant overall, although locally common (OCIC., 2012).

4.3 Population structure

The species was reported to have an open population structure, with “intense exchange” of specimens between localities (Aubert *et al.*, 1997) and it was found to develop two generations in some areas of its range, where different developmental stages can be found at the same time (Aubert *et al.*, 1996).

Males are territorial but not restricted to a definite area, while females are not territorial and reported to be extremely difficult to encounter (Aubert *et al.*, 1996). *P. hospiton* males gather on hilltops or other structures to wait for the arrival of the females, a behavior known as ‘hilltopping’ (Kettlewell, 1955; in Aubert *et al.*, 1996).

One to five per cent of the *Papilio* population in Corsica was reported to consist of hybrids between *P. hospiton* and the sympatric *P. machaon* (MNHN, undated), with up to four percent hybrids in Sardinia (Cianchi *et al.*, 2003), although Crnjar (pers. comm. to UNEP-WCMC 2012b) noted that hybrids were rarely observed on Sardinia compared to Corsica. While the hybrids were found not to be sterile, the viability of subsequent hybrid progenies is impaired by developmental perturbations, with the gene pools of the two species remaining distinct (Aubert *et al.*, 1997).

4.4 Population trends

While in the early 2000s van Swaay and Warren (2003) reported the population trend to be stable both in Italy and France, the 2010 IUCN Red List Assessment reported the population trend as ‘increasing’ (van Swaay *et al.*, 2010b). Populations were considered stable in Sardinia, both in number and distribution (R. Crnjar, pers. comm. to UNEP-WCMC 2012b). Leo (2011) considered the population at Montimannu [Italy] to be stable and noted that no declines had been observed over the last 40 years.

4.5 Geographic trends

Development along the coast in the 1980s may have lead to a shift of the species' distribution locally (Collins and Morris, 1985; Aubert *et al.*, 1996).

5. Threats

P. hospiton was classified as Least Concern by the IUCN in 2010 (van Swaay *et al.*, 2010a;b) and by the national Red List assessment of France (UICN France *et al.*, 2012). The species was not considered to face any major threats in Europe (Dupont, 2001; Tolman and Lewington, 2008; van Swaay *et al.*, 2010b; 2012). A reduction in food plant availability could however potentially impact on the species, but this was not expected, provided that traditional land use (grazing and consequent controlled burning) is continued (van Swaay *et al.*, 2010b). Concerns were raised regarding the introduction of a prohibition of controlled burning, resulting in deliberate and often devastating lighting of fires (Aubert *et al.*, 1996). Other threats include abandonment, agricultural intensification, afforestation and collection of specimens (van Swaay and Warren, 2003). The species was noted to be very much sought after by collectors, with offtake considered a potential threat (M. Trizzino and A. Zilli, *in litt.*, to UNEP-WCMC, 2012). However, the effects of commercial collection on the population were considered to be negligible (Aubert *et al.*, 1996).

In Corsica, the habitat of the species was reported to be threatened locally (Dupont, 2001). In Sardinia, potential threats to *P. hospiton* were considered to be low (Crnjar *et al.*, 2002), with the species being in “reasonable ecological balance with human activities”, although the mowing of roadsides was noted to destroy large quantities of suitable host plants at the time of reproduction (R. Crnjar, pers. comm. to UNEP-WCMC 2012b). The species was thought to potentially be affected by measures to eliminate the moth *Lymantria dispar* from Sardinian oak forests with *Bacillus thuringiensis* treatment (Crnjar, undated).

6. Utilization and trade

6.1 National utilization

The species has been protected in France since 1979 following publication of *Arrêté du 8 août 1979 fixant la liste des insectes protégés en France* (Dupont, 2001) and is listed as a protected species under NOR: DEVN0752762A of 2007, with derogations only permitted for purposes as outlined in the *Code de l'environnement* and provided that no satisfactory alternatives are available and that the derogation is not detrimental to the conservation status of the species.

P. hospiton is included as a strictly protected species in Annex II of Law number 503 of 1981, implementing the Bern Convention in Italy. It is included in Annex B and D of directive DPR 357/97, implementing the Habitats Directive in Italy.

6.2 Legal trade

There has been virtually no global trade in *P. hospiton* reported over the period 1987-2010 (Table 1).

Table 1: All trade in *Papilio hospiton* since the species listing in CITES Appendix I. All trade was in bodies.

Exporter	Importer	Origin	Purpose	Source	Reported by	1996	2002	2005	2010	Total
San Marino	Italy	Unknown	Personal	Pre-Convention	Importer				2	2
					Exporter					
Unknown	Monaco	-	Personal	Pre-Convention	Importer	2				2
					Exporter					
France	Switzerland	-	Circuses and travelling exhibitions	Wild	Importer			3		3
					Exporter			3		3
Denmark	United States of America	France	Scientific	Pre-Convention	Importer					
					Exporter		2			2

Source: UNEP-WCMC CITES Trade Database, April 2012

6.3 Parts and derivatives in trade

All reported trade over the period 1987-2010 consisted of bodies.

6.4 Illegal trade

The species was noted to be of interest to collectors, despite its protected status (Piétri *et al.*, 2006) and Laufer (2009) reported that it was available in illegal trade. In Sardinia, occasional butterfly collection was reported to occur, however without evidence of systematic collection of this species (R. Crnjar, pers. comm. to UNEP-WCMC 2012b). There is minimal evidence of trade or offers for sale of *P. hospiton* over the internet (M. Valentini, CITES Scientific Authority of Italy, pers. comm. to UNEP-WCMC, 2012).

6.5 Actual or potential effects of trade

The species is listed on CITES Appendix I, prohibiting commercial trade in wild specimens. The effects of commercial collection on the Corsican population were considered to be negligible, as the small areas sampled by collectors were regularly repopulated from surrounding areas (Aubert *et al.*, 1996). The population of Sardinia was thought to be able to support moderate levels of collection, as the habitat provides sufficient protection to avoid significant impacts (M. Trizzino and A. Zilli, *in litt.*, to UNEP-WCMC, 2012).

7. Legal instruments

7.1 National

The species has been protected in France since 1979. The *Arrêté du 23 avril 2007 fixant les listes des insectes protégés sur l'ensemble du territoire et les modalités de leur protection* (NOR: DEVN0752762A) prohibits the destruction or take of eggs, larvae or pupae, and the destruction, mutilation, harvest or take and disturbance of adults in the wild. The destruction, change or degradation of breeding sites and resting places is prohibited. It also prohibits the possession, transportation, naturalization, peddling, offering for sale, sale or purchase, commercial or non-commercial use, if specimens were collected a) in the metropolitan territory of France, after September 24, 1993 or b) in the territory of other Parties to the European Union, after the date of entry into force of the Directive on 21 May 1992. Derogations may be permitted for research, education and breeding for re-introduction purposes or for other purposes as outlined in the *Code de l'environnement*, provided that there is no satisfactory alternative and that the derogation is not detrimental to the conservation status of the species.

P. hospiton is included as a strictly protected species in Annex II of Law number 503 of 1981, implementing the Bern Convention in Italy. It is included in Annex B and D of directive DPR 357/97, implementing the Habitats Directive in Italy.

7.2 International

P. hospiton was listed on CITES Appendix I in 22/10/1987. It was included in Annex A of Commission Regulation (EU) No 338/1997 and most recently, in Commission Regulation (EU) No 101/2012. It is included in Annex II (species of community interest requiring the designation of special areas of conservation) and Annex IV (species of community interest requiring strict protection) of the Habitats Directive (92/43/EEC) and as strictly protected species in Annex II of the Bern Convention. According to the Habitat Directive's species conservation status assessments for the period 2001-2006, the overall status of *P. hospiton* was reported by France as 'favourable' and by Italy as 'unfavourable – inadequate' (European Topic Centre on Biological Diversity, 2012). For the latter the category "unfavourable-inadequate- refers to the lack of recent specific survey on the species allowing to assess precisely population size and trend, and not to

unfavourable status. Furthermore, assuming low anthropogenic interference in suitable habitat, and considering that hostplant is also colonizing degraded soils, traditional land use may be considered beneficial to the species itself, due to the creation of open space and opportunities of growth for its fire resistant food plant.

8. Species management

8.1 Management measures

At a European level, the IUCN did not consider any conservation actions to be required (van Swaay *et al.*, 2010b; 2012). Leo (2011; citing Ballerio, 2004) noted that the species was considered to be one of the best protected arthropods globally.

Active management of natural reserves to avoid the succession of various types of vegetation into forest was considered to be important in Italy (van Swaay and Warren, 2003) and traditional land management (heavy grazing and controlled burning) was recognized as important in maintaining favorable conditions for *P. hospiton* in France (Aubert *et al.*, 1996).

8.2 Population monitoring

The Environment office of Corsica (OEC) established 'l'unité observatoire conservatoire des insectes de Corse' (OCIC) in 2000, to collect information on the species in a centralized database (Piétri *et al.*, 2006), with periodic monitoring of the population by the OEC planned (OCIC., 2012). The 'office pour les insectes et leur environnement' (OPIE), an organization approved by the French Ministry of Environment, takes a central position with regard to monitoring and research on insects, species and habitat protection, awareness raising and providing advice (OPIE, 2012). A national conservation programme for butterflies is in place in France, where the species was listed in category D (species with restricted distribution, which however are not considered to be threatened), therefore not considered a priority for conservation action (Dupont, 2001).

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 (Strategia Nazionale per la Biodiversità) (Ministerio dell'Ambiente, 2010).

8.3 Control measures

8.3.1 International

CITES, EU Commission Regulations implementing CITES, EU Habitats Directive, Bern Convention.

8.3.2 Domestic

In France, the species is protected under *Arrêté du 23 avril 2007 fixant les listes des insectes protégés sur l'ensemble du territoire et les modalités de leur protection* (NOR: DEVN0752762A). In Italy, the species is protected under law number 503 of 1981 and directive DPR 357/97.

8.4 Captive breeding and artificial propagation

In captivity, the species can be successfully transferred to and raised on *Ruta graveolans* or *Daucus carota* (Bruer pers. comm. 2008 to Schurian *et al.*, 2009).

Captive breeding is possible (Aubert *et al.*, 1996) and the species is being bred at the University of Cagliari for research purposes (R. Crnjar, pers. comm. to UNEP-WCMC 2012b).

8.5 Habitat conservation

The species is listed in Annex II and IV of the Habitats Directive (92/43/EEC), requiring the maintenance or restoration of its habitat within the Natura 2000 network, to ensure a favorable conservation status.

Traditional land use (heavy grazing and controlled burning) is considered to be beneficial to the species, due to the creation of open spaces and opportunities for its fire resistant food plants (Aubert *et al.*, 1996, van Swaay *et al.*, 2012).

In France, the territory of the Corsica Regional Nature Park (central Corsica), a protected landscape (van Swaay and Warren, 2003), includes a large proportion of the species' range (Aubert *et al.*, 1996) and the species also occurs in the Scandola nature reserve (MNHN, undated). In France, the maintenance of open areas where important populations of the species occur was noted to be a part of the habitat management (Dupont and Zagatti, undated).

In Italy, the species occurs in the Sardinian Capo Caccia and Gennargentu Massif, which are both strict nature reserves (van Swaay and Warren, 2003). The Gennargentu Massif is characterized by low anthropogenic interference and traditional land use, with low-intensity livestock grazing preventing re-growth of secondary forest (van Swaay and Warren, 2003). Sardinia was recognized as one of the most important areas for butterfly conservation in Italy (Dapporto and Dennis, 2007; in Giardello *et al.*, 2009).

8.6 Safeguards

The species is protected under national legislation in France and Italy. Any downlisting would not change protections status in the EU of the species, both at National and EU level.

9. Information on similar species

A number of *Papilio* species are considered similar. In particular *P. machaon*, which is not listed in CITES, but is considered to be a similar species (Environment Canada and CITES Secretariat, 2000), and which occurs across much of Eurasia and part of North America (Aubert *et al.* 1997). However, *P. hospiton* was considered to be easily distinguishable by collectors (M. Valentini, CITES Scientific Authority of Italy, pers. comm. to UNEP-WCMC, 2012). A number of characteristics are considered to make *P. hospiton* and *P. machaon* easily distinguishable, although these vary amongst their hybrids (MNHN, undated).

10. Consultations

The proponents of this proposal are the only range States.

11. Additional remarks

None.

12. References

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