

The butterfly fauna of the Italian Maritime Alps: results of the EDIT project

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ABSTRACT

The Valdieri area (Italian Maritime Alps) has long been known for harbouring a large variety of Mediterranean and Alpine elements, often occurring together in an intricate pattern of co-habitations that is practically without equal elsewhere in the Alps. The area has been designated as a Site of Communitarian Interest (SCI: "Argentera" IT1110053), has been listed among the 32 "Prime Butterfly Areas" occurring in Italy and is now considered a priority site for conservation. A large number of amateur and professional entomologists alike have visited the area over the years, generating a mass of information on the Valdierian butterflies. We carefully searched the "grey" literature for data on the butterflies and the burnet moths occurring in this area. Since the second half of the 19th Century, almost 100 papers and books have been dedicated, in whole or in part, to the description of this fauna, which currently includes many as 161 species. We sampled butterflies in 2008-2009 and found one previously unreported species. Here we provide an annotated checklist of the butterfly and burnet moth species occurring in the area, including comments on their ecology and distribution, as well as a complete list of the publications dealing with them.

KEY WORDS

butterfly fauna,
checklist,
biodiversity,
conservation,
Maritime Alps,
new record.

RÉSUMÉ

Les papillons diurnes des Alpes maritimes italiennes: résultats du programme EDIT.

La zone de Valdieri (Alpes maritimes italiennes) est connue depuis longtemps pour sa richesse en éléments méditerranéens et alpins, dont les zones de cohabitations sont souvent fortement intriquées comme nulle part ailleurs dans les Alpes. C'est pourquoi cette zone a été désignée comme un Site d'Intérêt Communautaire (SIC: « Argentera » IT1110053), et classée parmi les 32 « Zones d'Importance primordiale

MOTS CLÉS
faune de papillons,
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nouvelle signalisation.

pour les papillons » recensées en Italie ; cette zone est maintenant considérée un site prioritaire pour la conservation de ces insectes. Un grand nombre d'entomologistes, amateurs aussi bien que professionnels, ont visité la région au fil des années, générant une grande masse d'informations sur les papillons diurnes. Nous avons fouillé attentivement la littérature « grise » contenant des données sur les papillons diurnes et les zygènes qui volent dans ce domaine. À partir de la seconde moitié du XIX^e siècle presque 100 articles et livres ont été consacrés, en partie ou en totalité, à la description de la faune de papillons et de zygènes de la région de Valdieri, où au moins 161 espèces sont actuellement connues. En outre, nous avons échantillonné la faune de papillons en 2008-2009 et avons trouvé une espèce non observée par les auteurs précédents. Ici, nous fournissons une liste annotée des espèces de papillons et de zygènes présentes dans la zone, accompagnée par des commentaires sur leur écologie et leur distribution, ainsi qu'une liste complète des publications traitant de la faune de papillons diurnes et des zygènes présents dans la zone.

INTRODUCTION

Italy is a country characterized by extremely high biodiversity, which we can observe in virtually all animal and plant groups (Balletto *et al.* 2007). At least in montane areas, this occurs in concomitance with relatively low human disturbance, in comparison with most other European countries (Balletto 2005).

In the NW of the country, peaks of the mountain chain representing the extreme south-western Alps and frequently surpassing 2000 m in elevation, occur close to the seaside, thereby generating very steep ecological gradients both on their southern, maritime (Ligurian) and northern, continental (Piedmontese) slopes. For this reason, the imposing traces of the Holocene ice cap of Mt. Marguareis come to overhang the Mediterranean woodlands from a horizontal distance of less than 20 km. Holm oak (*Quercus ilex* L.) formations often occur in a mixture with beech (*Fagus sylvatica* L.) and without the, elsewhere normal, interposition of deciduous oaks. Over time, the extremely peculiar ecological features of this area have created conditions for the formation of a number of relatively small refuge areas that allow the survival of many isolated animal and plant populations, which continued to thrive throughout the Holocene glacial periods (Balletto & Casale 1991). Probably as a consequence of this, the Valdieri area, together with the rest of the Ligurian and Maritime Alps, represents a well-known biodiversity hotspot, where a number of animal groups (butterflies, zygaenid moths, carabid beetles, reptiles and amphibians) show unusually high species richness and endemism (Balletto *et al.* 2010).

Partially because of this high biodiversity, the area has been designated as a Site of Communitarian Interest (SCI: "Argentera" IT1110053), listed among the 32 "Prime Butterfly Areas" occurring in Italy and considered a priority site for conservation (Balletto *et al.* 2003). The exceptionally large amount of information available on this fauna has sometimes prompted the focus of research to shift from simply faunistic to strictly ecological and several studies were devoted to the community ecology or auto-ecology of Valdierian butterflies (Balletto & Toso 1975; Balletto *et al.* 1977; 1982, Epstein 1980; Jutzeler 1993).

Information on the general area is abundant and dates back in time to the second half of the 19th Century (e.g., Ghiliani 1852, 1853; Curò 1874, 1880; Gianelli 1890, Casagrande & Manzone 1890). Some papers were explicitly aimed at illustrating this particular fauna, such as those by Turati & Verity (1911, 1912) and Harris (1938). A large number of amateur and professional entomologists alike have visited the area along the years, generating a mass of information on the Valdierian butterflies. The most relevant papers include Verity (1905-11, 1911, 1914, 1916, 1919, 1920, 1922, 1928a, b, 1931, 1932, 1938, 1939, 1940-1953); Turati (1909, 1910, 1911, 1914a, b, 1919, 1923); Fruhstorfer (1910, 1917, 1918, 1920, 1923, 1924); Rocci (1911, 1912, 1914, 1919); Reverdin (1917); Verity & Querci (1924); Wehrli (1924); Bang-Haas (1926); Bryk (1935); Harris (1935); Rocca (1950); Eisner (1956, 1957, 1974, 1975, 1976); Storace (1956a, b, 1961); de Lesse (1959); Wolfsberger (1960); Dujardin (1964, 1965, 1969); Baldizzone (1964, 1965, 1966, 1971a, b); Floriani (1965); Daniel (1968); Eitschberger & Reissinger (1971); Gallo (1973, 1978); Balletto & Toso (1978); Eitschberger (1983); Kudrna (1983); Kudrna & Balletto (1984); Balletto *et al.* (1985); Balletto & Kudrna (1985, 1986); Ortali & Bertaccini (1987); Leigheb *et al.* (1987); Reissinger (1971, 1974, 1989); David & Sanetra (1994); Balletto (1995); Cupedo (1996, 1997); Arnscheid (2000); Nisaka (2000); Gianti & Gallo (2002); Parenzan & Porcelli (2007) and Hellmann & Parenzan (2010).

Excluding many more general papers, at least 96 journal articles and books have been dedicated, in whole or in part, to the description of the butterflies and the burnet moths of the mountains of the Valdieri area, where as many as 161 species (*viz.* 129 Papilionoidea Latreille, 1806; 18 Hesperioidea Latreille, 1809 and 14 Zygaenoidea Latreille, 1809) have been found to occur.

During our two-year field study, we collected 97 butterfly species at seven representative sites. One species proved to be a new record for the Valdieri area, thus increasing the list for this area to 162 species of diurnal Lepidoptera.

MATERIAL AND METHODS

BIBLIOGRAPHY

Among the many activities undertaken for the purpose of the EDIT project, in detail for ATBIs (All Taxa Biodiversity Inventories), we carefully searched the “grey” literature for data on the butterflies and burnet moths occurring in the surroundings of Valdieri.

COLLECTION

From June to August (2008-2009) we sampled butterflies at seven selected sites, scattered across the Valdieri area. We did not sample burnet moths.

– Site 1: Natural Reserve of *Juniperus phoenicea* L. (878 m). A dry grassland sampled in 2008.

– Site 2: Subalpine pastures of “Pian della Casa” (1650 m). Sampled in 2008.

– Site 3: Fishing reserve “Cappello di Napoleone” – Beech-wood clearings at 1300 m. Sampled in 2009.

– Sites 4-7: Valasco valley. We selected 4 sampling areas along an altitudinal gradient (1600-1900 m) to cover different habitat types. Specifically, these were: 4) subalpine heathland (*Rhododendron* L.) at 1690 m; 5) hygrophilous grassland at 1750 m; 6) *Juniperus* heathland/grassland at 1790 m and 7) rocky slopes and screes at 1900 m. All these sites were sampled in 2009.

Butterflies were sampled by linear transects (Pollard & Yates 1993) under weather conditions suitable for insect activity. Most of the specimens were identified in the field and a small number (generally one male and one female) were gathered to provide a reference collection. Habitats Directive species were not collected. The material is deposited in the general collection of our laboratory (DBIOS).

BIOLOGICAL DATA

For each listed species we report the following information: the first record for the Valdieri area, the chorotype (following Balletto *et al.* 2007), the general ecological requirements of the species and records obtained during our two year field study (site and time of the year). The ecological requirements of burnet moths are based on the information provided by Balletto *et al.* (2007) and Naumann *et al.* (1999). In the case of butterflies, each species was schematically characterised by its ecological requirements as described in Balletto & Kudrna (1985) and subsequent modifications. We considered four characteristics: 1) general habitat requirements (nemoral, subnemoral, open herbaceous, screes); 2) altitudinal preferences (listing the altitudinal range of each species); 3) thermal preferences (eurythermic, microthermic, mesophilous, thermophilous) and 4) ground-water preferences (eurychorous, hygrophilous, mesophilous, xerophilous). For the vegetational cover of habitats, we classify nemoral and subnemoral species separately because, even though both are more or less linked to woodlands, the latter spend only a relatively short part of the day (normally the hottest) in the wood itself, whereas they generally forage in the surrounding grasslands or meadows.

ABBREVIATIONS

CS	Collected specimens;
Lhp	larval host plant;
MRSN	Museo Regionale di Scienze Naturali, Turin;
OS	observed specimens.

RESULTS

On 6th August 2008, one adult of *Minois dryas* (Scopoli, 1763) was collected at the natural reserve of *Juniperus phoenicea*. This is a xerothermic site, at 878 m, protected because of the presence of this restricted thermophilous plant, representing the highest and northernmost population of this plant in Italy. This record is reported in the following species list as “new record”.

The observed species richness at the sites were: 42 species in the Natural Reserve of *Juniperus phoenicea* (site 1); 27 species in the pastures of “Pian della Casa” (site 2); 50 species in the beech-wood clearing around the fishing reserve of “Cappello di Napoleone” (site 3); 52 species in the subalpine heathland (*Rhododendron* – 1690 m) at Valasco (site 4); 28 species in the Valasco hygrophilous grassland at 1750 m (site 5); 50 species in the *Juniperus* heathland/grassland (1790 m) of Valasco (site 6); 33 species in the Valasco rocky slopes and screes (site 7).

The following list of the species observed in the Valdieri area follows the arrangement in Balletto *et al.* (2014), where all data on authorship, original combinations and references can be found, together with the synonyms most frequently used in the literature.

Superfamily ZYGAENOIDEA Latreille, 1809

Family ZYGAENIDAE Latreille, 1809

Subfamily PROCRIDINAE Boisduval, 1829

Genus *Adscita* Retzius, 1783

Adscita alpina (Alberti, 1937)

Procris alpina Alberti, 1937: 435.

FIRST RECORD FOR THE VALDIERI AREA. — Verity (1946).

CHOROTYPE. — Alpine.

ECOLOGY. — Natural and semi-natural open herbaceous areas. Larval host plants belong to the genus *Rumex*. In flight from May to August.

Adscita statices (Linnaeus, 1758)

Sphinx statices Linnaeus, 1758: 495.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1912).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Natural and semi-natural open herbaceous areas. In Italy, it is recorded only from a few localities in the Alps, below 1500 m (Naumann *et al.* 1999). Lhp are *Rumex acetosa* and *Rumex acetosella*.

Adscita globulariae (Hübner, 1793)

Sphinx globulariae Hübner, 1793: Sphinges, pl. 1, figs 2, 3.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1912).

CHOROTYPE. — Turanic-European.

ECOLOGY. — Natural and semi-natural open herbaceous areas. Ecological differences within this range have been recorded, depending on the population. In northern Italy this species is restricted to dry, grassy and flowery sites (Naumann *et al.* 1999). Lhp are mainly *Centaurea* species. In flight from May to July.

NOTE. — In the area only reported from upper Vallon de Mollières, at 2300 m, very close to the border between Italy and France.

Subfamily ZYGAENINAE Latreille, 1809
Genus *Zygaena* Fabricius, 1775

Zygaena carniolica (Scopoli, 1763)

Sphinx carniolica Scopoli, 1763: 189.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1912).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Natural and semi-natural open herbaceous areas. It is usually present in dry, calcareous biotopes (Naumann *et al.* 1999). Lhp are *Anthyllis* and *Astragalus*.

Zygaena charon (Hübner, 1796)

Sphinx charon Hübner, 1796: Sphinges, pl. 4, fig. 21.

FIRST RECORD FOR THE VALDIERI AREA. — Balletto E. 1976 pers. coll. (Valdieri, 900 m).

CHOROTYPE. — S European.

ECOLOGY. — Natural and semi-natural open herbaceous areas. Some authors consider it to be a subspecies of *Zygaena viciae*, which is restricted to the Alpes-de-Haute-Provence, south-western Alps and north-western Italy (Naumann *et al.* 1999). Known lhp for the subspecies belong to the genera *Lathyrus* and *Trifolium*.

Zygaena ephialtes (Linnaeus, 1767)

Sphinx ephialtes Linnaeus, 1767: 806.

FIRST RECORD FOR THE VALDIERI AREA. — Balletto E. 1989 pers. coll. (Valdieri, 900 m).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — In proximity to broadleaved forests. Known lhp is *Coronilla emerus*.

Zygaena exulans (Hohenwarth, 1792)

Sphinx exulans Hohenwarth, 1792: 265.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1912).

CHOROTYPE. — Centralasiatic-European (orophilous).

ECOLOGY. — Natural and semi-natural open herbaceous areas. It is an oreol species, which in the Alps mainly inhabits *Carex*-meadows (Naumann *et al.* 1999). Polyphagous.

Zygaena filipendulae (Linnaeus, 1758)

Sphinx filipendulae Linnaeus, 1758: 494.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1912).

CHOROTYPE. — Turanic-European.

ECOLOGY. — Natural and semi-natural open herbaceous areas. It inhabits a variety of habitats from open woodland to alpine meadows (Naumann *et al.* 1999). Known lhp belong to the genera *Lotus* and *Dorycnium*.

Zygaena loniceriae (Scheven, 1777)

Sph.[inx] loniceriae Scheven, 1777: 97.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1912).

CHOROTYPE. — Sibiric-European.

ECOLOGY. — Natural and semi-natural open herbaceous areas. It is an altitudinal generalist (0-2000 m) and can be found from coastal areas to open woodland and subalpine meadows (Naumann *et al.* 1999). Known lhp belong to the genera *Coronilla* and *Hippocrepis*.

Zygaena loti ([Denis & Schiffermüller], 1775)

Sphinx loti [Denis & Schiffermüller], 1775: 45.

FIRST RECORD FOR THE VALDIERI AREA. — Balletto E. 1976 pers. coll. (Valdieri, 800 m).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Natural and semi-natural open herbaceous areas. Euryoecious species that occurs in meadows, woodland clearings and subalpine slopes (Naumann *et al.* 1999). Known lhp belong to the genus *Astragalus*.

Zygaena purpuralis (Brünnich, 1763)

Sphinx purpuralis Brünnich, 1763: 686.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1912).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Natural and semi-natural open herbaceous areas. Altitudinal generalist, from coastal region to alpine meadows (0-2000 m); very common (Naumann *et al.* 1999). Known lhp are *Thymus vulgaris*, *T. serpyllum*, *Satureja*.

Zygaena romeo Duponchel, 1835*Zygaena romeo* Duponchel, 1835: 131.

FIRST RECORD FOR THE VALDIERI AREA. — Balletto E. 1989 pers. coll. (Terme di Valdieri, 1300 m).

CHOROTYPE. — S European.

ECOLOGY. — broadleaved forests, shady clearings. It usually occurs in local and small colonies (Naumann *et al.* 1999). Known lhp are *Lathyrus*, *Vicia*.*Zygaena transalpina* (Esper, 1780)*Sphinx transalpina* Esper, 1780: 196.

FIRST RECORD FOR THE VALDIERI AREA. — Turati (1910).

CHOROTYPE. — S European.

ECOLOGY. — In vicinity of broadleaved and coniferous forests. One of the most common *Zygaenidae* in the southern Alps and in Italy (Naumann *et al.* 1999). Known lhp belong to the genus *Astragalus*.*Zygaena vesubiana* Le Charles, 1933*Zygaena brizae* ssp. *vesubiana* Le Charles, 1933: 253.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1912).

CHOROTYPE. — W Alpine.

ECOLOGY. — Natural and semi-natural open herbaceous areas. This taxon is considered by some authors to be a subspecies of *Zygaena brizae* (Esper, 1800), which is restricted to south-eastern France and north-western Italy, where it has been recorded only in the region of Piedmont, Val d'Aosta and Liguria (Naumann *et al.* 1999; Hellmann *et al.* 1999). Known lhp is *Cirsium arvense* (L.) Scop.

Superfamily HESPERIOIDEA Latreille, 1809

Family HESPERIIDAE Latreille, 1809

Subfamily PYRGINAE Burmeister, 1878

Genus *Pyrgus* Hübner, [1819]*Pyrgus accretus* (Verity, 1925)*Hesperia alveus accreta* Verity, 1925: 55.

FIRST RECORD FOR THE VALDIERI AREA. — Balletto E. 1989 pers. coll. (Valdieri, 900 m).

CHOROTYPE. — SW European.

ECOLOGY. — Open herbaceous, lower-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Pyrgus carlinae (Rambur, [1839])*Hesperia carlinae* Rambur, [1839]: 314.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Alpine.

ECOLOGY. — Open herbaceous, lower montane-subalpine, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Valasco, Hygrophilous grassland 1750 m, VII-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009, CS.*Pyrgus carthami* (Hübner, [1813])[*Papilio*] *carthami* Hübner, [1813]: pl. 143, figs 726 [recte 720-723].

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnival, lower-upper montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, Hygrophilous grassland 1750 m, VI.2009, CS.*Pyrgus cacaliae* (Rambur, 1839)*Hesperia cacaliae* Rambur, [1839]: 313.

FIRST RECORD FOR THE VALDIERI AREA. — Harris (1938).

CHOROTYPE. — Alps, Pyrenees.

ECOLOGY. — Open herbaceous, subalpine-alpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Pyrgus onopordi (Rambur, 1839)*Hesperia onopordi* Rambur, [1839]: 319.

FIRST RECORD FOR THE VALDIERI AREA. — Verity (1940).

CHOROTYPE. — W Mediterranean.

ECOLOGY. — Open herbaceous, lower-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Pyrgus foulquieri (Oberthür, 1910)*Syrictus alveus* [f.] *foulquieri* Oberthür, 1910: 404.

FIRST RECORD FOR THE VALDIERI AREA. — Warren (1926).

CHOROTYPE. — SW European.

ECOLOGY. — Open herbaceous, lower-to-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Pyrgus serratulae (Rambur, [1839])

Hesperia serratulae Rambur, [1839]: 318.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Open herbaceous, subalpine-alpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Pyrgus malvoides (Elwes & Edwards, 1897)

Hesperia malvoides Elwes & Edwards, 1897: 160.

FIRST RECORD FOR THE VALDIERI AREA. — Verity (1940).

CHOROTYPE. — SW European.

ECOLOGY. — Subnemoral, lowland-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Spialia* Swinhoe, [1912]

Spialia sertorius (Hoffmannsegg, 1804)

Papilio sertorius Hoffmannsegg, 1804: 203.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — CS European.

ECOLOGY. — Open herbaceous, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009, CS.

Genus *Carcharodus* Hübner, [1819]

Carcharodus alceae (Esper, [1780])

P[apilio] alceae Esper, [1780]: 1 (2) Forts. Tagschmett, 4.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Open herbaceous, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Carcharodus floccifer (Zeller, 1847)

Hesperia floccifera Zeller, 1847: 286.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, lowland-upper montane, eurythermic, eurychorous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VIII.2009; Subalpine scree, 1900 m, VII.2009, CS.

Carcharodus lavatherae (Esper, [1783])

P[apilio] lavatherae Esper, [1783]: 1 (2) Forts. Tagschmett., 148.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — European-Mediterranean.

ECOLOGY. — Open herbaceous, lowland-lower montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Valasco, *Rhododendron* heathland, 1690 m, VII.2009, CS.

Genus *Erynnis* Schrank, 1801

Erynnis tages (Linnaeus, 1758)

Papilio tages Linnaeus, 1758: 485.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, lowland-subalpine, eurythermic, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland, 878 m, VII.2008, CS.

Subfamily HESPERIINAE Latreille, 1809

Genus *Thymelicus* Hübner, [1819]

Thymelicus acteon (Rottemburg, 1775)

Pap[ilio] acteon Rottemburg 1775: 30.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Turanic-Mediterranean.

ECOLOGY. — Nemoral, lowland-lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Thymelicus lineola (Ochsenheimer, [1808])

Papilio lineola Ochsenheimer, [1808]: 230.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Palaearctic (introduced in N America).

ECOLOGY. — Subnemoral, lowland-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron*

heathland, 1690 m, VII-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VIII.2009, CS.

Thymelicus sylvestris (Poda, 1761)

[*Papilio*] *sylvestris* Poda, 1761: 79.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-upper montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland, 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Genus *Hesperia* Fabricius, 1793

Hesperia comma (Linnaeus, 1758)

Papilio comma Linnaeus, 1758: 484.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Holarctic.

ECOLOGY. — Open herbaceous, lowland-lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Valasco, *Rhododendron* heathland, 1690 m, VII.2009, CS.

Genus *Ochlodes* Scudder, 1872

Ochlodes sylvanus (Esper, [1777])

Papilio sylvanus Esper, [1777]: 1 (1) pl. 36, fig. 1, text [1779] 1 (4), 343.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009, CS.

Superfamily PAMILIONOIDEA Latreille, [1802]

Family PAMILIONIDAE Latreille, [1802]

Subfamily PAMILIONINAE Latreille, [1802]

Genus *Iphiclides* Hübner, [1819]

Iphiclides podalirius (Linnaeus, 1758)

Papilio podalirius Linnaeus, 1758: 463.

FIRST RECORD FOR THE VALDIERI AREA. — MRSN 1984 (San Lorenzo di Valdieri, 850 m).

CHOROTYPE. — Centralasiatic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009, CS.

Genus *Papilio* Linnaeus, 1758

Papilio alexanor Esper, [1800]

P[apilio] alexanor Esper, [1800]: Suppl. Theil 1, 89.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, lower-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland, 878 m, VII.2008, OS.

Papilio machaon Linnaeus, 1758

Papilio machaon Linnaeus, 1758: 462.

FIRST RECORD FOR THE VALDIERI AREA. — Verity (1905-11).

CHOROTYPE. — Holarctic.

ECOLOGY. — Subnemoral, lowland-subalpine, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009, OS.

Subfamily PARNASSIINAE Duponchel, [1835]

Genus *Parnassius* Latreille, 1804

Parnassius apollo (Linnaeus, 1758)

(Fig. 1)

Papilio apollo Linnaeus, 1758: 465.

FIRST RECORD FOR THE VALDIERI AREA. — Verity (1905-11).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Screens, lower-upper montane, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland, 878 m, VII.2008; Pian della Casa, subalpine pastures, 1650, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009, OS.

Parnassius mnemosyne (Linnaeus, 1758)
(Fig. 2)

Papilio mnemosyne Linnaeus, 1758: 465.

FIRST RECORD FOR THE VALDIERI AREA. — Turati (1909).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, upper montane-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI.2009, OS.

Parnassius phoebus (de Prunner, 1798)
(see ICZN case 3637)

Pap.[ilio] phoebus de Prunner, 1798: 69.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Sibiric-European.

ECOLOGY. — Open herbaceous, subalpine-alpine, microthermic, hygrophilous.

EDIT PROJECT SAMPLING. — Not found.

Family PIERIDAE Duponchel, [1835]
Subfamily PIERINAE Duponchel, [1835]
Genus *Aporia* Hübner, [1819]

Aporia crataegi (Linnaeus, 1758)

Papilio crataegi Linnaeus, 1758: 467.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Palearctic.

ECOLOGY. — Subnemoral, lowland-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VI-VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009, CS.

Genus *Pieris* Schrank, 1801

Pieris brassicae (Linnaeus, 1758)

Papilio brassicae Linnaeus, 1758: 467.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Palearctic.

ECOLOGY. — Open herbaceous, lowland-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone,

Beech-wood clearings, 1300 m, VI.2009; Valasco, *Rhododendron* heathland, 1690 m, VI-VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Pieris bryoniae (Hübner, [1806])

[*Papilio*] *bryoniae* Hübner, [1806]: text, foot note, 62.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Alpine-Anatolian (orophilous).

ECOLOGY. — Subnemoral, subalpine, microthermic, mesophilous.

EDIT PROJECT SAMPLING. — Valasco, *Rhododendron* heathland, 1690 m, VI.2009, CS.

Pieris callidice (Hübner, [1800])

[*Papilio*] *callidice* Hübner, [1800]: Papiliones, pl. 81, figs 408, 409.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Sibiric-European.

ECOLOGY. — Open herbaceous, alpine, microthermic, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Pieris daplidice (Linnaeus, 1758)

Papilio daplidice Linnaeus, 1758: 468.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — W Mediterranean.

ECOLOGY. — Subnemoral, lowland-lower montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VI.2009, CS.

Pieris mannii (Mayer, 1851)

Pont.[ia] mannii Mayer, 1851: 151.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — S Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-lower montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Valasco, Hygrophilous grassland 1750 m, VI-VII.2009, CS.

Pieris napi (Linnaeus, 1758)

Papilio napi Linnaeus, 1758: 468.



FIG 1. — *Parnassius apollo* (Linnaeus, 1758). Photograph: Davide Piccoli.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m (Jun- Aug. 2009; Valasco, *Rhododendron* heathland, 1690 m, VI-VII.2009; Valasco, Hygrophilous grassland 1750 m, VI-VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VI-VII.2009; Valasco, Subalpine scree, 1900 m, VI.2009, CS.

Pieris rapae (Linnaeus, 1758)

Papilio rapae Linnaeus, 1758: 468.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Palearctic.

ECOLOGY. — Open herbaceous, lowland-subalpine, eurytherm, undetermined.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Pian della Casa, subalpine pastures

1650, VII-VIII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VI-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VI-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Genus *Anthocharis*

Boisduval, Rambur & Graslin, [1833]

Anthocharis cardamines (Linnaeus, 1758)

Papilio cardamines Linnaeus, 1758: 468.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Palearctic.

ECOLOGY. — Subnemoral, lowland-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI-VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VI.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VI.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Genus *Euchloe* Hübner, [1819]

Euchloe tagis (Hübner, [1804])

[*Papilio*] *tagis* Hübner, [1804]: Papiliones, pl. 110, figs 565, 566.

FIRST RECORD FOR THE VALDIERI AREA. — Cameron-Curry *et al.* (1983).

CHOROTYPE. — SW European and N Africa.

ECOLOGY. — Screes, lower montane-subalpine, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Euchloe ausonia (Hübner, 1804)

[*Papilio*] *ausonia* Hübner, 1804: 64.

FIRST RECORD FOR THE VALDIERI AREA. — Balletto E. 1976 pers. coll. (Valdieri, 900 m).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — lower-montane, open herbaceous, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Subfamily COLIADINAE Swainson, 1827

Genus *Colias* Fabricius, 1807

Colias alfajariensis Ribbe, 1905

Colias hyale alfajariensis Ribbe, 1905: 137.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Turanic-European.

ECOLOGY. — Open herbaceous, lowland-upper montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008, CS.

Colias crocea (Fourcroy, 1785)

Papilio croceus Fourcroy, 1785: 250.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Turanic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Valasco, *Rhododendron* heathland, 1690 m, VI-VII.2009; Valasco, Hygrophilous grassland 1750 m, VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009; Valasco, Subalpine scree, 1900 m, VI.2009, CS.

Colias phicomone (Esper, [1780])

P[apilio] phicomone Esper, [1780]: Forts. Tagschmett., 32.

FIRST RECORD FOR THE VALDIERI AREA. — Gianelli (1890).

CHOROTYPE. — S European (orophilous).

ECOLOGY. — Open herbaceous, subalpine-alpine, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Gonepteryx* [Leach], [1815]

Gonepteryx cleopatra (Linnaeus, 1767)

Papilio cleopatra Linnaeus, 1767: 765.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Mediterranean.

ECOLOGY. — Subnemoral, Mediterranean to lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009, OS.

Gonepteryx rhamni (Linnaeus, 1758)

Papilio rhamni Linnaeus, 1758: 470.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI-VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VI.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VI-VII.2009, OS.

Subfamily DISMORPHIINAE Schatz, 1887

Genus *Leptidea* Billberg, 1820

Leptidea juvernica Williams, 1946

Leptidea sinapis juvernica Williams, 1946: 79.

FIRST RECORD FOR THE VALDIERI AREA. — Gianti & Gallo (2002) (as *Leptidea reali*).

This species was initially recorded as *Leptidea reali* Reissinger, 1990.

For the moment, the occurrence in Italy of *L. juvernica* is based on a small number of specimens from the E Alps (V. Dincă, in litt.). The “non *L. sinapis* populations” of C Italy have been demonstrated to represent *L. reali* (Dincă *et al.* 2011, 2013). In N Italy, 25 “non



FIG 2. — *Parnassius mnemosyne* (Linnaeus, 1758). Photograph: Davide Piccoli.

L. sinapis populations” have been recorded, but no molecular data are currently available for the Valdieri area. However, *L. juvernica* is known to occur at least in NE Italy, at the Val di Tovo lakes (Dincă *et al.* 2011, 2013).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, lower to upper montane, mesophilous, mesophilous.

Leptidea sinapis (Linnaeus, 1758)

Papilio sinapis Linnaeus, 1758: 468.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VI.2009, CS.

Family RIODINIDAE Grote, 1895
Subfamily HAMEARINAE Clench, 1955
Genus *Hamearis* Hübner, [1819]

Hamearis lucina (Linnaeus, 1758)

Papilio lucina Linnaeus, 1758: 480.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Euro-Anatolian.

ECOLOGY. — Subnemoral, lower-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI.2009, CS.

Family LYCAENIDAE [Leach], [1815]
Subfamily LYCAENINAE [Leach], [1815]
Tribe LYCAENINI [Leach], [1815]
Genus *Lycaena* Fabricius, 1807

Lycaena alciphron (Rottemburg, 1775)

Pap.[ilio] alciphron Rottemburg, 1775: 11.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lower-upper montane, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII-VIII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009; Valasco, Subalpine scree, 1900 m, VIII.2009, CS.

Lycaena eurydame (Hoffmannsegg, 1806)

Papilio eurydame Hoffmannsegg, 1806: 178.

FIRST RECORD FOR THE VALDIERI AREA. — Gianelli (1890).

CHOROTYPE. — Alpine.

ECOLOGY. — Subnemoral, upper montane-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Valasco, Hygrophilous grassland 1750 m, VII-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Lycaena phlaeas (Linnaeus, 1761)

Papilio phlaeas Linnaeus, 1761: 285.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Holarctic-Afrotropical.

ECOLOGY. — Subnemoral, lowland-upper montane, thermophilous, eurychorous.

EDIT PROJECT SAMPLING. — Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009, CS.

Lycaena subalpina Speyer, 1851

Polyommatus circe var. *subalpina* Speyer, 1851: 339.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Alpine.

ECOLOGY. — Subnemoral, upper montane-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Valasco, *Rhododendron* heathland, 1690 m, VI-VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VI-VII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Lycaena tityrus (Poda, 1761)

[*Papilio*] *tityrus* Poda, 1761: 77.

FIRST RECORD FOR THE VALDIERI AREA. — Harris (1938).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, lowland-upper mountain, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008, CS.

Lycaena virgaureae (Linnaeus, 1758)

Papilio virgaureae Linnaeus, 1758: 484.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Sibiric-European.

ECOLOGY. — Subnemoral, upper montane-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VII-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VII-VIII.2009, CS.

Tribe THECLINI Swainson, 1831

Genus *Satyrrium* Scudder, 1876

Satyrrium spini ([Denis & Schiffermüller], 1775)

[*Papilio*] *spini* [Denis & Schiffermüller], 1775: 186.

FIRST RECORD FOR THE VALDIERI AREA. — MRSN 1966 (Valdieri, 900 m).

CHOROTYPE. — Turanic-European.

ECOLOGY. — Subnemoral, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008, CS.

Satyrrium pruni (Linnaeus, 1758)

Papilio pruni Linnaeus, 1758: 482.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lowland-lower montane, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Favonius* Sibatani & Ito, 1942

Favonius quercus (Linnaeus, 1758)

Papilio quercus Linnaeus, 1758: 482.

FIRST RECORD FOR THE VALDIERI AREA. — Baldizzone (1964).

CHOROTYPE. — Turanic-S Euro-Mediterranean.

ECOLOGY. — Nemoral, lowland-lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Callophrys* Billberg, 1820

Callophrys rubi (Linnaeus, 1758)

Papilio rubi Linnaeus, 1758: 482.

FIRST RECORD FOR THE VALDIERI AREA. — Balletto *et al.* (1982).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lowland-subalpine, eurytherm, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Tribe POLYOMMATINI Swainson, 1827

Genus *Cupido* Schrank, 1801

Cupido minimus (Fuessly, 1775)

Papilio minimus Fuessly, 1775: 31.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Open herbaceous, lowland-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Celastrina* Tutt, 1906

Celastrina argiolus (Linnaeus, 1758)

Papilio argiolus Linnaeus, 1758: 483.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Holarctic.

ECOLOGY. — Nemoral, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Scolitantides* Hübner, [1819]

Scolitantides orion (Pallas, 1771)

Papilio orion Pallas, 1771: 471.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lower montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Pseudophilotes* Beuret, 1958

Pseudophilotes baton (Bergsträsser, 1779)

[*Papilio*] *baton* Bergsträsser, 1779: 18.

FIRST RECORD FOR THE VALDIERI AREA. — MRSN 1966 (Valdieri, 900 m).

CHOROTYPE. — S European.

ECOLOGY. — Subnemoral, lowland-lower montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Iolana* Bethune-Baker, 1914

Iolana iolas (Ochsenheimer, 1816)

Lycaena iolas Ochsenheimer, 1816: 144.

FIRST RECORD FOR THE VALDIERI AREA. — Balletto E. 1990 pers. coll. (Valdieri, 900 m).

CHOROTYPE. — SE European.

ECOLOGY. — Subnemoral, lower montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Glaucopsyche* Scudder, 1872

Glaucopsyche alexis (Poda, 1761)

[*Papilio*] *alexis* Poda, 1761: 77.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centroasiatic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Maculinea* van Eecke, 1915

Maculinea arion (Linnaeus, 1758)

Papilio arion Linnaeus, 1758: 483.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, lower-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650 m, VII-VIII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Genus *Lampides* Hübner, [1819]

Lampides boeticus (Linnaeus, 1767)

Papilio boeticus Linnaeus, 1767: 789.

FIRST RECORD FOR THE VALDIERI AREA. — Baldizzone (1971a).

CHOROTYPE. — Palaearctic, Afrotropical, Indo-Australian (migratory).

ECOLOGY. — Subnemoral, lowland-lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Plebejus* Kluk, 1802

Plebejus argus (Linnaeus, 1758)

Papilio argus Linnaeus, 1758: 483.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Sibiric-European (to Japan).

ECOLOGY. — Open herbaceous, lowland-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII-VIII.2008; Pian della Casa, subalpine pastures 1650 m, VII-VIII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Genus *Lycaeides* Hübner, [1819]

Lycaeides idas (Linnaeus, 1761)

Papilio idas Linnaeus, 1761: 284.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Open herbaceous, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, *Juniperus* L. heathland/grassland, 1790 m, VII.2009; Valasco, Subalpine scree, 1900 m, VII-VIII.2009, CS.

Lycaeides argyrognomon (Bergsträsser, 1779)

[*Papilio*] *argyrognomon* Bergsträsser, 1779: 76.

FIRST RECORD FOR THE VALDIERI AREA. — Parenzan P. 1974 pers. coll. (Valdieri, see Hellmann & Parenzan 2010).

CHOROTYPE. — European.

ECOLOGY. — Open herbaceous, lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Aricia* [Reichenbach], 1817

Aricia agestis ([Denis & Schiffermüller], 1775)

P[apilio] agestis [Denis & Schiffermüller], 1775: 184.

FIRST RECORD FOR THE VALDIERI AREA. — Verity (1928a).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII-VIII.2008; Subalpine scree, 1900 m, VII.2009, CS.

Aricia allous (Geyer, [1837])

[*Papilio*] *alloüs* [sic!] Geyer, [1837]: 200.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — European.

ECOLOGY. — Subnemoral, lower montane-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009, CS.

Aricia nicias (Meigen, 1830)

Polyommatus nicias Meigen, 1830: 10.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, subalpine, microthermic, mesophilous.

EDIT PROJECT SAMPLING. — Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Genus *Eumedonia* Forster, 1938

Eumedonia eumedon (Esper, [1780])

P[apilio] eumedon Esper, [1780]: Forts. Tagschmett., 16.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009; Valasco, Subalpine scree, 1900 m, 2009, CS.

Genus *Cyaniris* Dalman, 1816*Cyaniris semiargus* (Rottemburg, 1775)

Pap.[ilio] semiargus Rottemburg, 1775: 20.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Sibiric-European.

ECOLOGY. — Subnemoral, lower montane-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009, CS.

Genus *Polyommatus* Latreille, 1804*Polyommatus bellargus* (Rottemburg, 1775)

Pap.[ilio] bellargus Rottemburg, 1775: 25.

FIRST RECORD FOR THE VALDIERI AREA. — MRSN 1974 (Valdieri, 980 m).

CHOROTYPE. — Turanic-European.

ECOLOGY. — Open herbaceous, lowland-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008, CS.

Polyommatus coridon (Poda, 1761)

[Papilio] coridon Poda, 1761: 77.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — European.

ECOLOGY. — Open herbaceous, lower montane-subalpine, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Pian della Casa, subalpine pastures 1650, VII-VIII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VIII.2009; Valasco, Subalpine scree, 1900 m, VIII.2009, CS.

Polyommatus damon

([Denis & Schiffermüller], 1775)

P.[apilio] damon [Denis & Schiffermüller], 1775: 182.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Open herbaceous, lower-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.



Fig. 3. — *Maculinea arion* (Linnaeus, 1758). Photograph: Davide Piccoli.

Polyommatus daphnis ([Denis & Schiffermüller], 1775)

P.[apilio] daphnis [Denis & Schiffermüller], 1775: 182.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Turanic-European.

ECOLOGY. — Subnemoral, lower montane, thermophilous, mesoxerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII-VIII.2008, CS.

Polyommatus dorylas

([Denis & Schiffermüller], 1775)

P.[apilio] dorylas [Denis & Schiffermüller], 1775: 322.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Euro-Anatolian.

ECOLOGY. — Open herbaceous, lower-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII-VIII.2008, CS.

Polyommatus escheri (Hübner, [1823])

[Papilio] escheri Hübner, [1823]: Papiliones, pl. 160, figs 799, 800.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Polyommatus icarus (Rottemburg, 1775)

Papilio [ilio] icarus Rottemburg, 1775: 21.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lowland-upper montane, eurytherm, eurychorous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII-VIII.2008; Pian della Casa, subalpine pastures 1650, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, Hygrophilous grassland 1750 m, VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Polyommatus icarius (Esper, [1789])

Papilio icarius Esper, [1789]: Suppl. Theil 1, 35.

FIRST RECORD FOR THE VALDIERI AREA. — Baldizzone (1971a).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lower to upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Polyommatus thersites (Cantener, 1834)

[*Argus*] *thersites* Cantener, 1834: 53.

FIRST RECORD FOR THE VALDIERI AREA. — MRSN 1976 (Valdieri, 900 m).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Open herbaceous, lowland-upper montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Polyommatus eros (Ochsenheimer, 1808)

Papilio eros Ochsenheimer, 1808: 42.

FIRST RECORD FOR THE VALDIERI AREA. — Harris (1938).

CHOROTYPE. — Siberic-European.

ECOLOGY. — Open herbaceous, upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Family NYMPHALIDAE Swainson, 1827
Subfamily NYMPHALINAE Swainson, 1827
Genus *Nymphalis* Kluk, 1802

Nymphalis antiopa (Linnaeus, 1758)

Papilio antiopa Linnaeus, 1758: 476.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Holarctic.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Nymphalis polychloros (Linnaeus, 1758)

Papilio polychloros Linnaeus, 1758: 477.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-upper montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Inachis* Hübner, [1819]

Inachis io (Linnaeus, 1758)

Papilio io Linnaeus, 1758: 472.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008, OS.

Genus *Vanessa* Fabricius, 1807

Vanessa atalanta (Linnaeus, 1758)

Papilio atalanta Linnaeus, 1758: 478.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Holarctic (introduced to Haiti, Hawaii, Bermuda, New Zealand).

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VIII.2008; Valasco, *Rhododendron* heathland, 1690 m, VI-VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VI-VII.2009, CS.

Vanessa cardui (Linnaeus, 1758)

Papilio cardui Linnaeus, 1758: 475.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Sub-Cosmopolite.

ECOLOGY. — Open herbaceous, lowland-subalpine, mesophilous, eurychorous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VI-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VI-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VI-VIII.2009; Valasco, Subalpine scree, 1900 m, VI-VIII.2009, OS.

Genus *Aglais* Dalman, 1816

Aglais urticae (Linnaeus, 1758)

Papilio urticae Linnaeus, 1758: 477.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Open herbaceous, lowland-alpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII.2008; Valasco, *Rhododendron* heathland, 1690 m, VI-VII.2009; Valasco, Hygrophilous grassland 1750 m, VI.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VI-VII.2009; Valasco, Subalpine scree, 1900 m, VII-VIII.2009, OS.

Genus *Polygonia* Hübner, [1819]

Polygonia c-album (Linnaeus, 1758)

Papilio c-album Linnaeus, 1758: 477.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VI.2009, CS.

Genus *Melitaea* Fabricius, 1807

Melitaea nevadensis Oberthür, 1904

Melitaea dejone [sic!] *nevadensis* Oberthür, 1904: 14.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — W European.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Pian della Casa, subalpine pastures 1650, VIII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI-VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VI-VII.2009; Valasco, Hygrophilous grassland 1750 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Melitaea cinxia (Linnaeus, 1758)

P[apilio] cinxia Linnaeus, 1758: 480

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-upper montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII.2008; Valasco, Hygrophilous grassland 1750 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VI-VII.2009, CS.

Melitaea deione (Geyer, [1832])

[Papilio] deione Geyer, [1832]: 192.

FIRST RECORD FOR THE VALDIERI AREA. — MRSN 1976 (Andonno, 750 m).

CHOROTYPE. — SW Euro-Mediterranean.

ECOLOGY. — Subnemoral, lower-upper montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Melitaea diamina (Lang, 1789)

Papilio diamina Lang, 1789: 44.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lower montane, mesophilous, hygrophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, Subalpine scree, 1900 m, VI.2009, CS.

Melitaea didyma (Esper, [1778])

P[apilio] didyma Esper, [1778]: 1 (1), pl. 41, fig. 3, text [1779], 365.

FIRST RECORD FOR THE VALDIERI AREA. — MRSN 1964 (Valdieri, 1000 m).

CHOROTYPE. — Centralasiatic-Euro-Mediterranean.

ECOLOGY. — Open herbaceous, lowland-lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII-VIII.2008, CS.

Melitaea phoebe (Goeze, 1779)

Papilio phoebe Goeze, 1779: 365.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lowland-lower montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008, CS.

Melitaea trivialis ([Denis & Schiffermüller], 1775)

P[apilio] trivialis [Denis & Schiffermüller], 1775: 179.

FIRST RECORD FOR THE VALDIERI AREA. — Baldizzone (1964).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, lower montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Melitaea varia Meyer-Dür, [1851]

Melitaea parthenie var. *varia* Meyer-Dür, [1851]: 133.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911), see also Dujardin (1969).

CHOROTYPE. — Alpine-Appenninic.

ECOLOGY. — Open herbaceous, subalpine-alpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Melitaea aurelia Nickerl, 1850

Melitaea aurelia Nickerl, 1850: 12.

FIRST RECORD FOR THE VALDIERI AREA. — Baldizzone (1971a, b).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Open herbaceous, lower montane, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Euphydryas* Scudder, 1872

Euphydryas Cynthia
([Denis & Schiffermüller], 1775)

P[apilio] Cynthia [Denis & Schiffermüller], 1775: 179.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — S European (European Alps).

ECOLOGY. — Open herbaceous, subalpine-alpine, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Subfamily HELICONIINAE Swainson, 1827

Genus *Argynnis* Fabricius, 1807

Argynnis adippe ([Denis & Schiffermüller], 1775)

P[apilio] adippe [Denis & Schiffermüller], 1775: 177.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Open herbaceous, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008, CS.

Argynnis aglaja (Linnaeus, 1758)

Papilio aglaja Linnaeus, 1758: 481.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lowland-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, Hygrophilous grassland 1750 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VIII.2009, CS.

Argynnis niobe (Linnaeus, 1758)

Papilio niobe Linnaeus, 1758: 481.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Open herbaceous, lower montane-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009; Valasco, Subalpine scree, 1900 m, VII-VIII.2009, CS.

Argynnis paphia (Linnaeus, 1758)

Papilio paphia Linnaeus, 1758: 481.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Palaearctic.

ECOLOGY. — Nemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Pian della Casa, subalpine pastures

1650, VIII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VIII.2009, CS.

Genus *Issoria* Hübner, [1819]

Issoria lathonia (Linnaeus, 1758)

Papilio lathonia Linnaeus, 1758: 481.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-Euro-Mediterranean.

ECOLOGY. — Open herbaceous, lowland-upper montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Valasco, *Juniperus* heathland/grassland, 1790 m, VIII.2009, CS.

Genus *Brenthis* Hübner, [1819]

Brenthis daphne (Bergsträsser, 1780)

[*Papilio*] *daphne* Bergsträsser, 1780: 32.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lower-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009, CS.

Genus *Boloria* Moore, [1900]

Boloria euphrosyne (Linnaeus, 1758)

Papilio euphrosyne Linnaeus, 1758: 481.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Sibiric-European.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI-VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VI-VII.2009; Valasco, Hygrophilous grassland 1750 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VI-VII.2009, CS.

Boloria pales ([Denis & Schiffermüller], 1775)

P[apilio] pales ([Denis & Schiffermüller], 1775: 177.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — S European (orophilous).

ECOLOGY. — Open herbaceous, subalpine-alpine, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Boloria graeca (Staudinger, 1871a)

Argynnis pales v. graeca Staudinger, 1871a: 61.

FIRST RECORD FOR THE VALDIERI AREA. — Baldizzone (1965).

CHOROTYPE. — S European (orophilous).

ECOLOGY. — Open herbaceous, upper montane-subalpine, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Valasco, *Juniperus* heathland/grassland, 1790 m (2009), CS.

Boloria titania (Esper, [1789])

P[apilio] titania Esper, [1789]: Suppl. Theil 1, 58.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Holarctic.

ECOLOGY. — Subnemoral, upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650 m, VII-VIII.2008; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, Hygrophilous grassland 1750 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Boloria dia (Linnaeus, 1767)

Papilio dia Linnaeus, 1767: 785.

FIRST RECORD FOR THE VALDIERI AREA. — MRSN 1974 (Valdieri, 900 m).

CHOROTYPE. — Centralasiatic-European (eastern limit Yakutia).

ECOLOGY. — Subnemoral, lowland-upper montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Subfamily LIMENITIDINAE Behr, 1864

Genus *Limnitis* Fabricius, 1807

Limnitis populi (Linnaeus, 1758)

Papilio populi Linnaeus, 1758: 476.

FIRST RECORD FOR THE VALDIERI AREA. — Baldizzone (1966).

CHOROTYPE. — Siberic-European.

ECOLOGY. — Nemoral, upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Limenitis camilla (Linnaeus, 1764)

Papilio camilla Linnaeus, 1764: 304.

FIRST RECORD FOR THE VALDIERI AREA. — Cassulo L. 2001 pers. coll. (Andonno, 900 m).

CHOROTYPE. — European; NE China and Amur to Japan (disjunct).

ECOLOGY. — Nemoral, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Limenitis reducta Staudinger, 1901

Limenitis camilla var. *reducta* Staudinger, 1901: 22.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Turanic-European.

ECOLOGY. — Nemoral, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Subfamily APATURINAE Boisduval, 1840

Genus

Apatura ilia ([Denis & Schiffermüller], 1775)

P[apilio] ilia [Denis & Schiffermüller], 1775: 172.

FIRST RECORD FOR THE VALDIERI AREA. — Cassulo L. 2001 pers. coll. (Valdieri, 900 m).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Nemoral, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Subfamily SATYRINAE Boisduval, [1833]

Genus *Satyrus* Latreille, 1810

Satyrus ferula (Fabricius, 1793)

Papilio ferula Fabricius, 1793: 225.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European, Northwest Africa.

ECOLOGY. — Subnemoral, lower-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VII-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009, CS.

Genus *Minois* Hübner, [1819]

Minois dryas (Scopoli, 1763)

Papilio dryas Scopoli, 1763: 153.

NEW RECORD. — First record in this article.

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous/thermophilous, mesophilous/xerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VIII.2008, CS.

Genus *Hipparchia* Fabricius, 1807

Hipparchia fagi (Scopoli, 1763)

Papilio fagi Scopoli, 1763: 152.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — CS European.

ECOLOGY. — Nemoral, lowland-lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008, CS.

Hipparchia hermione (Linnaeus, 1764)

Papilio hermione Linnaeus, 1764: 281.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — CS European.

ECOLOGY. — Subnemoral, lowland-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008, CS.

Hipparchia semele (Linnaeus, 1758)

Papilio semele Linnaeus, 1758: 474.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — European.

ECOLOGY. — Subnemoral, lower-upper montane, thermophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Genus *Kanetisa* Moore, [1893]

Kanetisa circe (Fabricius, 1775)

P.[apilio] circe Fabricius, 1775: 495.

FIRST RECORD FOR THE VALDIERI AREA. — Balletto E. 1976 pers. coll. (S. Anna di Valdieri, 1000 m).

CHOROTYPE. — Turanic-European.

ECOLOGY. — Subnemoral, lowland-lower montane, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009, CS.

Genus *Arethusana* de Lesse, 1951

Arethusana arethusana

([Denis & Schiffermüller], 1775)

P.[apilio] arethusana [Denis & Schiffermüller], 1775: 169.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lower montane, thermophilous, xerophilous.

NOTE

Elsewhere in the region, only reported from Vallon de Mollières (1500 m), France.

Genus *Erebia* Dalman, 1816

Erebia aethiopellus

(Hoffmannsegg, 1806)

Papilio aethiopellus Hoffmannsegg, 1806: 180.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — SW Alpine.

ECOLOGY. — Subnemoral, subalpine, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found.

Erebia aethiops (Esper, 1777)

P.[apilio] aethiops Esper, 1777: 1 (1), pl. 25, fig. 3, text [1779], 312.

FIRST RECORD FOR THE VALDIERI AREA. — MRSN 1979 (Valdieri, 900 m).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Nemoral, lower montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

Erebia alberganus

(de Prunner, 1798)

Pap.[ilio] alberganus de Prunner, 1798: 71.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — SE-European (orophilous).

ECOLOGY. — Subnemoral, upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m (VII.2009; Valasco, Hygrophilous grassland 1750 m, VII-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VIII.2009, CS.

Erebia dromus (Fabricius, 1793)

Papilio dromus Fabricius, 1793: 224.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Alpine-Apenninic-Pyrenaic.

ECOLOGY. — Open herbaceous, upper montane-alpine, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII-VIII.2008, CS.

Erebia epiphron (Knoch, 1783)

Papilio epiphron Knoch, 1783: 131.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — European (orophilous).

ECOLOGY. — Subnemoral, upper montane-alpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII-VIII.2008; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Erebia euryale (Esper, [1805])

P.[apilio] euryale Esper, [1805]: Suppl. Theil 2, 8.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — CS European (orophilous).

ECOLOGY. — Subnemoral, upper montane-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII-VIII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VII-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VII-VIII.2009, CS.

Erebia gorge (Hübner, [1804])

[*Papilio*] *gorge* Hübner, [1804]: Papiliones, pl. 99, figs 502-505.
FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).
CHOROTYPE. — S European (orophilous).
ECOLOGY. — Screes, subalpine-alpine, mesophilous, xerophilous.
EDIT PROJECT SAMPLING. — Not found.

Erebia ligea (Linnaeus, 1758)

Papilio ligea Linnaeus, 1758: 473.
FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).
CHOROTYPE. — Asiatic-European.
ECOLOGY. — Nemoral, lower-upper montane, mesophilous, mesophilous.
EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, Hygrophilous grassland 1750 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII-VIII.2009; Valasco, Subalpine scree, 1900 m, VIII.2009, CS.

Erebia manto ([Denis & Schiffermüller], 1775)

P.[apilio] manto [Denis & Schiffermüller], 1775: 169.
FIRST RECORD FOR THE VALDIERI AREA. — Floriani (1965).
CHOROTYPE. — CS European (orophilous).
ECOLOGY. — Subnemoral, upper montane-subalpine, mesophilous, mesophilous.
EDIT PROJECT SAMPLING. — Not found.

Erebia melampus (Fuessly, 1775)

Papilio melampus Fuessly, 1775: 31.
FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).
CHOROTYPE. — Alpine.
ECOLOGY. — Subnemoral, upper montane-alpine, mesophilous, mesophilous.
EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650 m, VII.2008; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Erebia meolans (de Prunner, 1798)

Pap.[ilio] meolans de Prunner, 1798: 71.
FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).
CHOROTYPE. — CSW European.

ECOLOGY. — Scree, upper montane-subalpine, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650 m, VII.2008; Valasco, *Rhododendron* heathland, 1690 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009, CS.

Erebia montana (de Prunner, 1798)

Pap.[ilio] montanus de Prunner, 1798: 71.
FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).
CHOROTYPE. — Alpine-Apenninic.
ECOLOGY. — Screes, upper montane-subalpine, mesophilous, xerophilous.
EDIT PROJECT SAMPLING. — Valasco, *Rhododendron* heathland, 1690 m, VIII.2009, CS.

Erebia neoridas (Boisduval, [1828])

Satyrus neoridas Boisduval, [1828]: 23.
FIRST RECORD FOR THE VALDIERI AREA. — Curò (1874-80).
CHOROTYPE. — Alpine-Apenninic-Pyrenaic.
ECOLOGY. — Subnemoral, upper montane, thermophilous, mesophilous.
EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VIII.2009, CS.

Erebia pandrose (Borkhausen, 1788)

[*Papilio*] *pandrose* Borkhausen, 1788: 95.
FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).
CHOROTYPE. — Centralasiatic-European (orophilous).
ECOLOGY. — Open herbaceous, subalpine-alpine, microthermic, mesophilous.
EDIT PROJECT SAMPLING. — Not found.

Erebia pluto (de Prunner, 1798)

Papilio pluto de Prunner, 1798: 20.
FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).
CHOROTYPE. — Alpine-Apenninic (orophilous).
ECOLOGY. — Screes, alpine, mesophilous, xerophilous.
EDIT PROJECT SAMPLING. — Not found.

Erebia scipio Boisduval, 1832*Erebia scipio* Boisduval, 1832: 152.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — SW Alpine (orophilous).

ECOLOGY. — Screes, upper montane-alpine, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Not found. Perhaps extinct in the area (see Rocci 1911).

NOTE

Elsewhere in the region, only reported from Balma della Frema, at 2300 m, very close to the border between Italy and France.

Erebia triaria (de Prunner, 1798)*Pap.[ilio] triarius* de Prunner, 1798: 70.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — S European (orophilous).

ECOLOGY. — Open herbaceous, upper montane-subalpine, mesophilous, meso-xerophilous.

EDIT PROJECT SAMPLING. — Valasco, *Rhododendron* heathland, 1690 m, VI.2009, CS.Genus *Oeneis* Hübner, [1819]*Oeneis glacialis* (Moll, 1783)*Papilio glacialis* Moll, 1783: 102.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Alpine.

ECOLOGY. — Screes, subalpine-alpine, mesophilous, xerophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI.2009; Valasco, Hygrophilous grassland 1750 m, VI.2009, CS.

Genus *Melanargia* Meigen, [1828]*Melanargia galathea* (Linnaeus, 1758)*Papilio galathea* Linnaeus, 1758: 474.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — European.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009, CS.Genus *Maniola* Schrank, 1801*Maniola jurtina* (Linnaeus, 1758)*Papilio jurtina* Linnaeus, 1758: 475.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Turanic-Euro-Mediterranean.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII.2009; Valasco, Subalpine scree, 1900 m, 2009, CS.Genus *Hyponephele* Muschamp, 1915*Hyponephele lycaon* (Kühn, 1774)*[Papilio] lycaon* Kühn, 1774: 21.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, lower-upper montane, thermophilous, xerophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009, CS.

Genus *Aphantopus* Wallengren, 1853*Aphantopus hyperantus* (Linnaeus, 1758)*Papilio hyperantus* Linnaeus, 1758: 471.

FIRST RECORD FOR THE VALDIERI AREA. — MRSN 1976 (Moscardini C. collection), legit Colzio (Valdieri, 750 m).

CHOROTYPE. — Asiatic-European.

ECOLOGY. — Subnemoral, lower-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII-VIII.2008, CS.Genus *Coenonympha* Hübner, [1819]*Coenonympha arcania* (Linnaeus, 1761)*Papilio arcania* Linnaeus, 1761: 273.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Euro-Anatolian.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII-VIII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VII-VIII.2009; Valasco, *Rhododendron* heathland, 1690 m, VI-VIII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009; Valasco, Subalpine scree, 1900 m, VII.2009, CS.

Coenonympha darwiniana
Staudinger, 1871

Coenonympha arcania var. *darwiniana* Staudinger, 1871: 32.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Alpine.

ECOLOGY. — Open herbaceous, upper montane-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Not found.

NOTE

Coenonympha arcania macromma Turati & Verity, 1911 (Type locality: Terme di Valdieri) has been treated as having species rank by Schmitt & Besold (2010). For the moment we prefer to maintain its more traditional treatment under *C. darwiniana*, pending the results of further analyses.

Coenonympha glycerion
(Borkhausen, 1788)

[*Papilio*] *glycerion* Borkhausen, 1788: 90.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Sibiric-European.

ECOLOGY. — Open herbaceous, lower montane-subalpine, mesophilous, hygrophilous.

EDIT PROJECT SAMPLING. — Not found.

Coenonympha pamphilus
(Linnaeus, 1758)

Papilio pamphilus Linnaeus, 1758: 472.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Open herbaceous, lowland-upper montane, eurytherm, eurychorous.

EDIT PROJECT SAMPLING. — Natural reserve *Juniperus phoenicea*, dry grassland 878 m, VII.2008, CS.

Genus *Pararge* Hübner, [1819]

Pararge aegeria (Linnaeus, 1758)

Papilio aegeria Linnaeus, 1758: 473.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Euro-Mediterranean.

ECOLOGY. — Nemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Valasco, Hygrophilous grassland 1750 m, VI-VII.2009, CS.

Genus *Lasiommata* Westwood, 1841

Lasiommata maera
(Linnaeus, 1758)

Papilio maera Linnaeus, 1758: 473.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Centralasiatic-European.

ECOLOGY. — Subnemoral, lowland-upper montane, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Pian della Casa, subalpine pastures 1650, VII-VIII.2008; Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI-VII.2009; Valasco, *Rhododendron* heathland, 1690 m, VII-VIII.2009; Valasco, Hygrophilous grassland 1750 m, VII.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VI-VIII.2009, CS.

Lasiommata megera
(Linnaeus, 1767)

Papilio megera Linnaeus, 1767: 771.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Turanic-Euro-Mediterranean.

ECOLOGY. — Open rocky ground, lowland-upper montane, eurychorous, xerophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI.2009, CS.

Lasiommata petropolitana
(Fabricius, 1787)

Papilio maera var. *petropolitana* Fabricius, 1787: 36.

FIRST RECORD FOR THE VALDIERI AREA. — Turati & Verity (1911).

CHOROTYPE. — Sibiric-European.

ECOLOGY. — Subnemoral, upper montane-subalpine, mesophilous, mesophilous.

EDIT PROJECT SAMPLING. — Fishing reserve Cappello di Napoleone, Beech-wood clearings, 1300 m, VI.2009; Valasco, *Juniperus* heathland/grassland, 1790 m, VII.2009, CS.

DISCUSSION

The Valdieri area has long been known to include a variety of Mediterranean and Alpine elements, often occurring together side by side, in such an intricate pattern of co-habitations as is found virtually nowhere else in the Alps.

Van Swaay *et al.* (2006, 2010) have shown that butterflies are strongly declining all across Europe (31% of the European butterflies has declining populations). Habitat destruction is the main cause of extinction throughout the Italian territory and, as already pointed out for many countries (e.g., van Swaay *et al.* 2010), a correct conservation policy should begin by stopping urbanization and intensive agriculture, at least in the most sensitive areas, and revitalizing traditional agro-pastoral activities. The analysis of population extinction patterns within the Italian butterfly fauna, however, shows that such measures may be insufficient (Bonelli *et al.* 2011). One-third of these extinctions, in fact, were not clearly related to habitat destruction. Other threats, in particular global warming, will soon represent a matter of serious concern, as also shown by Settele *et al.* (2008).

A study by Bonelli and colleagues (unpublished data) has shown that considerable changes have occurred in the overall distribution of butterflies in a sector of the Valdieri area, over a 30 year time frame (1977-2010). Some species, present exclusively above the montane belt, such as *Coenonympha [darwiniana] macromma* (see also Schmidt & Besold 2010), *C. glycerion* (Borkhausen, 1788), *Colias phicomone* (Esper, [1780]), *Erebia manto* ([Denis & Schiffmüller], 1775), or *Pieris callidice* (Hübner, [1800]) have disappeared, while as many as 18 other species have spread from lower to higher altitudes.

The species newly recorded during our fieldwork for the Valdieri area might fall into the latter case. *Minois dryas* is rather widespread in North Italy. It is classified as subnemoral and mesophilous, usually being present from the lowland to the montane belt. Its previous absence from the faunal list of Valdieri could be due to a recent spreading of the species into the area. However, even if historical data represent an invaluable tool, only the use of standardised monitoring, repeated over time, allows the reliable identification of changes in species numbers and distribution.

In this context, the still very high biodiversity of the Valdieri area becomes even more important. Moreover, this area is home to viable populations of four globally threatened butterfly species, all listed in Annex IV of the Habitats Directive and in Appendix 2 of the Bern Convention: *Parnassius apollo* (Linnaeus, 1758) (also included in CITES App. 1), *Parnassius mnemosyne* (Linnaeus, 1758), *Papilio alexanor* Esper, [1800] and *Maculinea arion* (Linnaeus, 1758).

Populations of *P. apollo* and *P. mnemosyne*, in particular, benefit from a abundant breeding sites in this area and accordingly have very high population densities, while *P. alexanor* has in this area its most robustly established population within the Italian territory (Bonelli *et al.* this issue, Sala & Bollino 1991).

Several other interesting species, from a conservation point of view (van Swaay *et al.* 2010) are also firmly established

in this area, such as *Thymelicus acteon* (Rottemburg, 1775) (mainly Mediterranean), *Glaucopsyche alexis* (Poda, 1761) and *Boloria titania* (Esper, [1789]) (mainly montane species).

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