

# Butterflies of the Suusamyr Valley, Kyrgyzstan, 2015

(Lepidoptera, Diurna)

Amadeus DeKastle  
June 2016

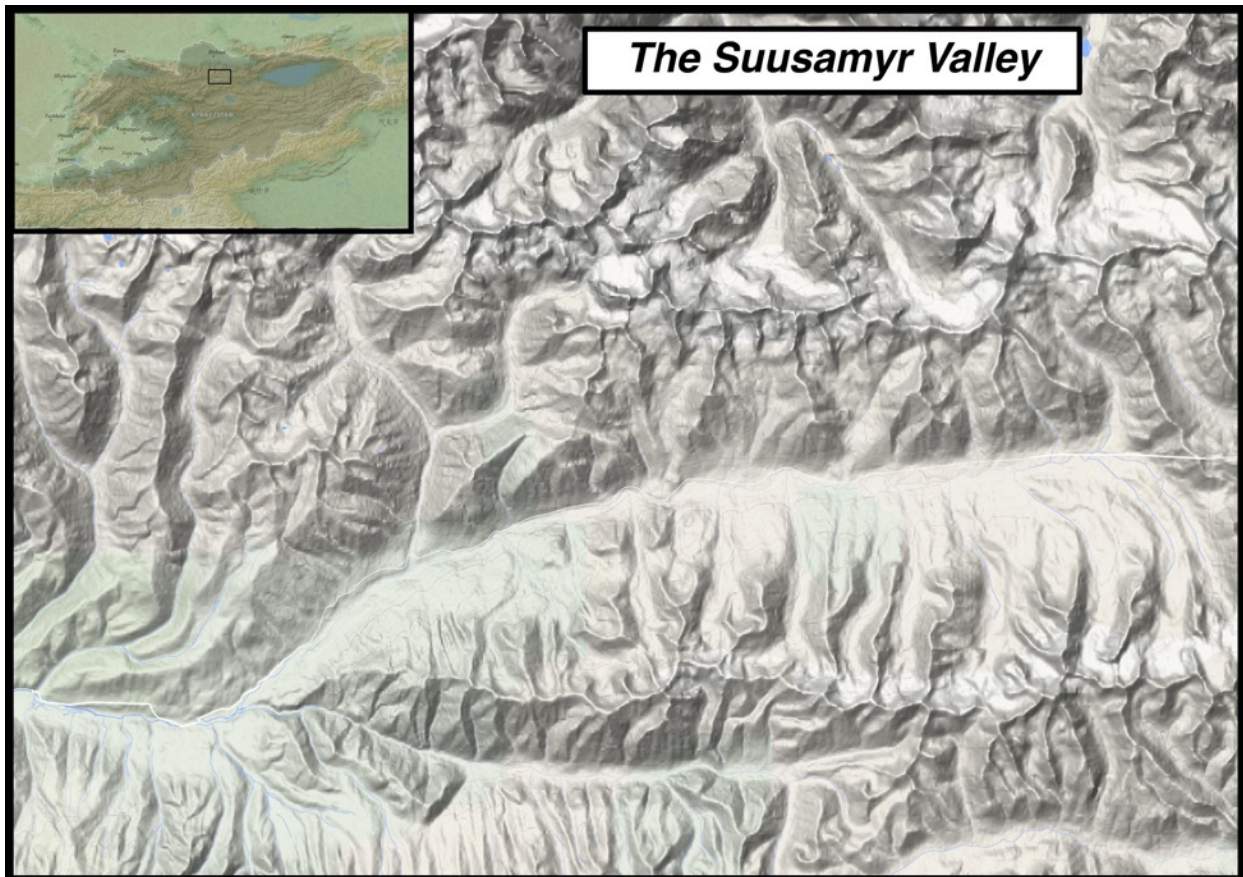
**Abstract:** During an expedition in the Suusamyr Valley, Kyrgyzstan, a list of butterflies that were discovered was created. This list contains 20 species. This article gives a brief overview of the region studied, a species list, as well as a species profile for each species. Each profile includes the butterfly's natural history, photographs, and a distribution map created using data collected during the expedition.

**Introduction:** Although the Suusamyr Valley is only 7-8 hours away by car from Bishkek, the capital city of Kyrgyzstan, this region is very poorly studied in regards to its ecology. Information on butterfly distributions in this region is lacking in most currently available resources. As a result, the data presented within provides new information that enhances our understanding of the distribution of many of these butterflies.

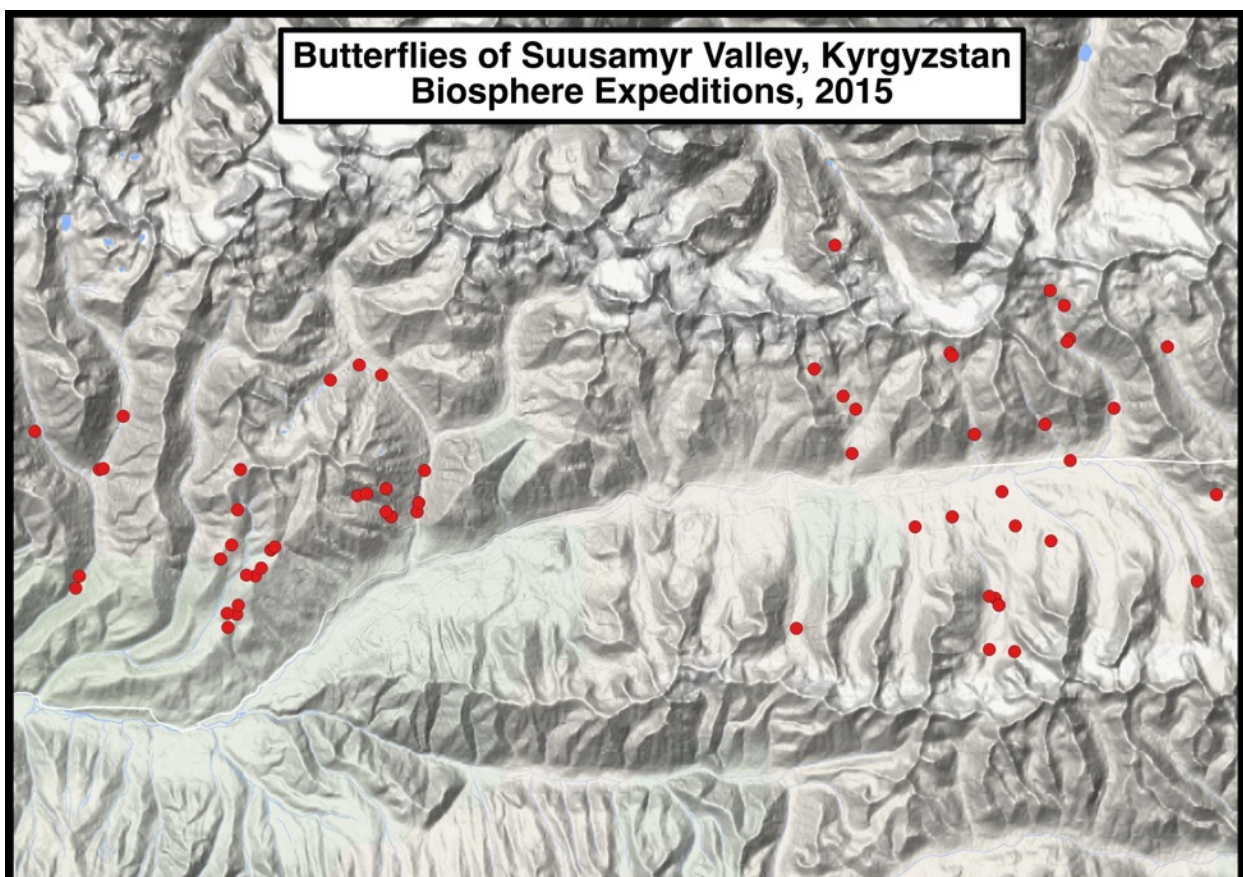
**Results:** Data was collected during the "Biosphere Expeditions: Tien Shan Expedition" during the summer of 2015 in July and August. Citizen scientists from around the world were present during four 12-day trips that the expedition took place over. Although the main duties of the expedition were not related to butterfly identification and distribution mapping, efforts were made by many members of the expedition to catalogue the butterflies seen. This was done by taking an image of the butterfly, writing down the image file name (determined by the camera) and GPS coordinates taken at the time of the sighting onto a provided spreadsheet. Identification verification was later done on the basis of these images, thereby providing the raw data for distribution maps. As this was only the first summer that this aspect of the expedition was implemented, the numbers are quite low, however, we expect future surveys to provide much more data, especially with the future implementation of the "Butterflies of Kyrgyzstan" smartphone application being produced by the author (available in 2016). In all, 20 species were identified with 77 individual sightings. All of these species provide new location data that is absent in other resources.

**Maps, Species List, and Species Profiles:** Included is a map detailing the location of all butterfly observations within the Suusamyr Valley. Following that is a species list ordered taxonomically by family and then alphabetically by species name (common name included when available). Lastly, a species profile that includes photographs, natural history and distribution maps is included for each species observed during the expedition.

\* All photographs and maps are the property of the owner (unless otherwise noted) and only permitted for use outside this article with proper permission.



Location of the Suusamy Valley on the south side of the Kyrgyz Ala-Too Mountain Range in Kyrgyzstan. Although just on the other side of the mountains from Bishkek, the ecology of this region of Kyrgyzstan is poorly studied due to accessibility issues.



Map of the Suusamy Valley area studied, including data points for each butterfly observation.

Butterflies of the Suusamyр Valley, Kyrgyzstan, Biosphere Expeditions, July - August 2015		
Family	Scientific Name	Common Name
Hesperiidae		
	<i>Pyrgus malvae</i>	Grizzled Skipper
Lycaenidae		
	<i>Cupido buddhista</i>	Buddhist Blue
Nymphalidae		
	<i>Aglais urticae</i>	Small Tortoiseshell
	<i>Boloria generator</i>	No Common Name (NCN)
	<i>Clossiana erubescens</i>	NCN
	<i>Issoria lathonia</i>	Queen of Spain Fritillary
	<i>Melitaea solona</i>	NCN
Papilionidae		
	<i>Papilio machaon</i>	Old World Swallowtail
	<i>Parnassius delphius</i>	Banded Apollo
	<i>Parnassius mnemosyne</i>	Clouded Apollo
	<i>Parnassius tianschanicus</i>	Large Keeled Apollo
Pieridae		
	<i>Colias erate</i>	Pale Clouded Yellow
	<i>Pieris bryoniae</i>	Dark Veined White
	<i>Pieris napi</i>	Green Veined White
	<i>Pontia callidice</i>	Lofty Bath White
	<i>Pontia daplidice</i>	<i>Bath White</i>
Satyridae		
	<i>Coenonympha caeca</i>	NCN
	<i>Coenonympha sunbecca</i>	NCN
	<i>Erebia mopsos</i>	NCN
	<i>Erebia sokolovi</i>	NCN



## Hesperiidae

### **Pyrgus malvae — Grizzled Skipper**

Flight Time: May to early July

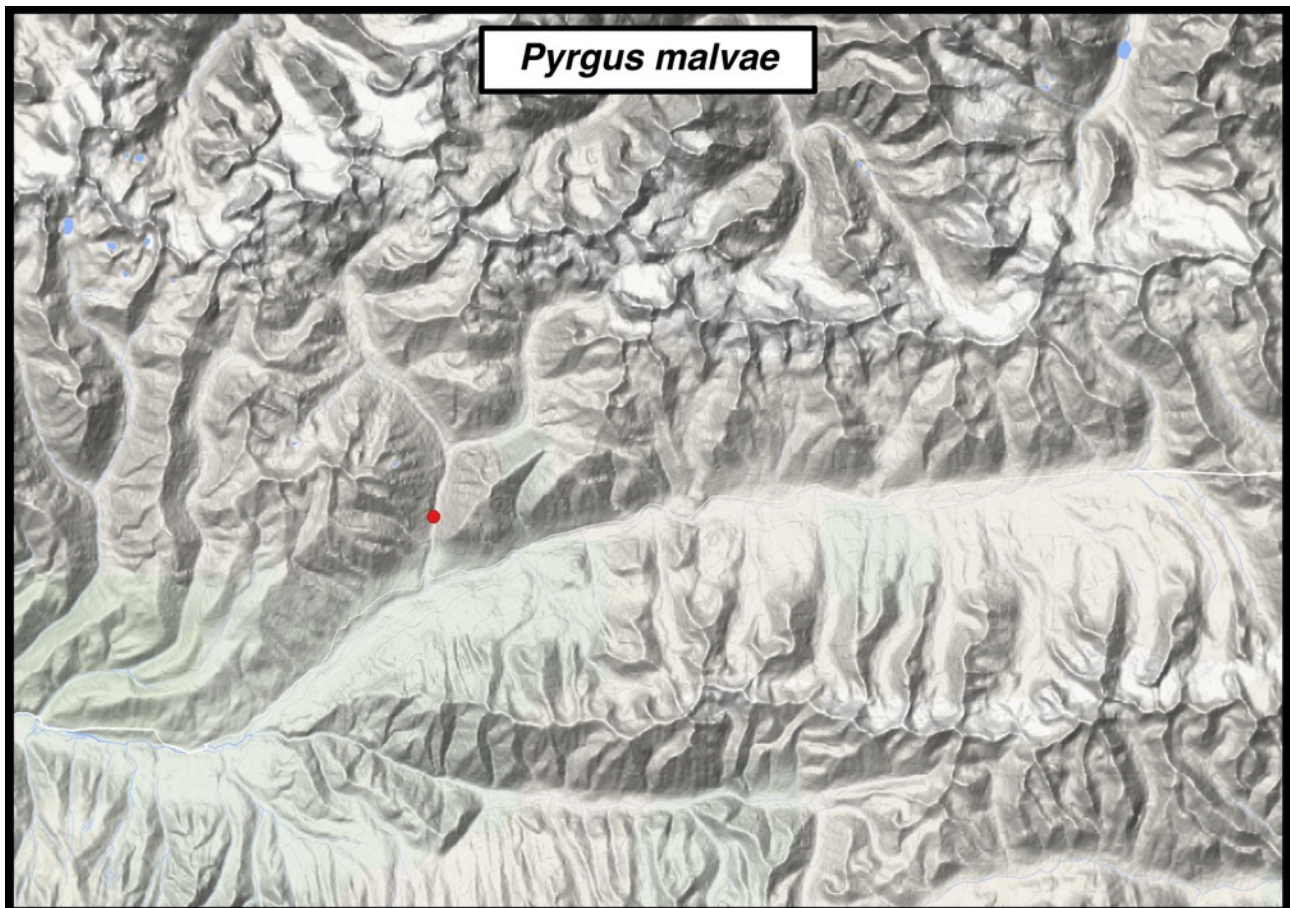
Elevation: 1000-3000m

Habitat: Forest clearings, mountainous  
meadows, steppes

Food Plants: *Potentilla spp.* (cinquefoil) and  
*Rosa spp.* (wild rose)

Life Cycle: Eggs laid singly on host plant.

Species overwinters as an egg. Likely  
univoltine.





## Lycaenidae

### **Cupido buddhista** — Buddhist Blue

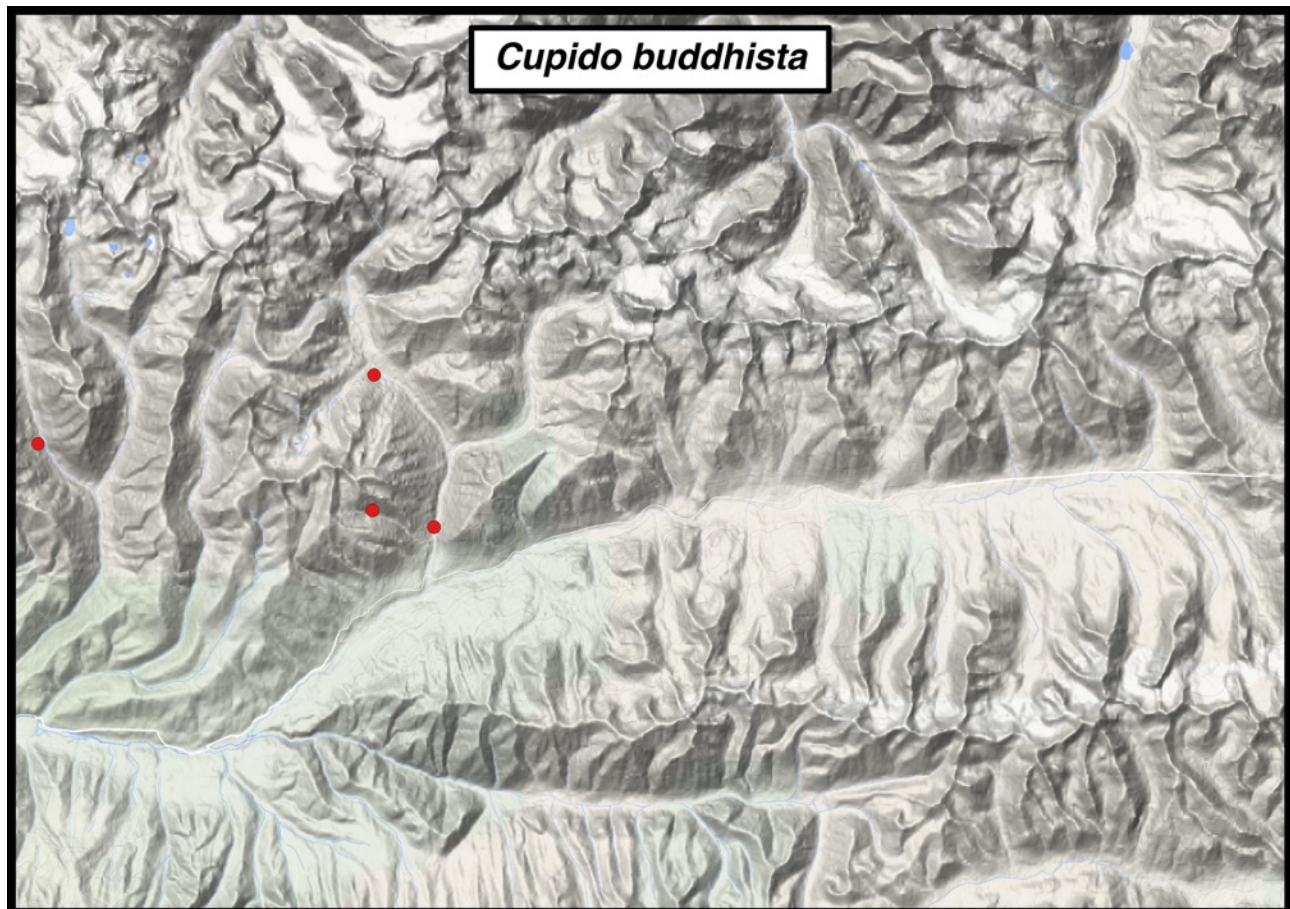
Flight Time: June to September

Elevation: 2300-3400m

Habitat: Alpine biomes with lots of herbaceous plants

Food Plants: *Oxytropis* spp. (locoweed)

Life Cycle: N/A





## Nymphalidae

### ***Aglais urticae* — Small Tortoiseshell**

Flight Time: April to September

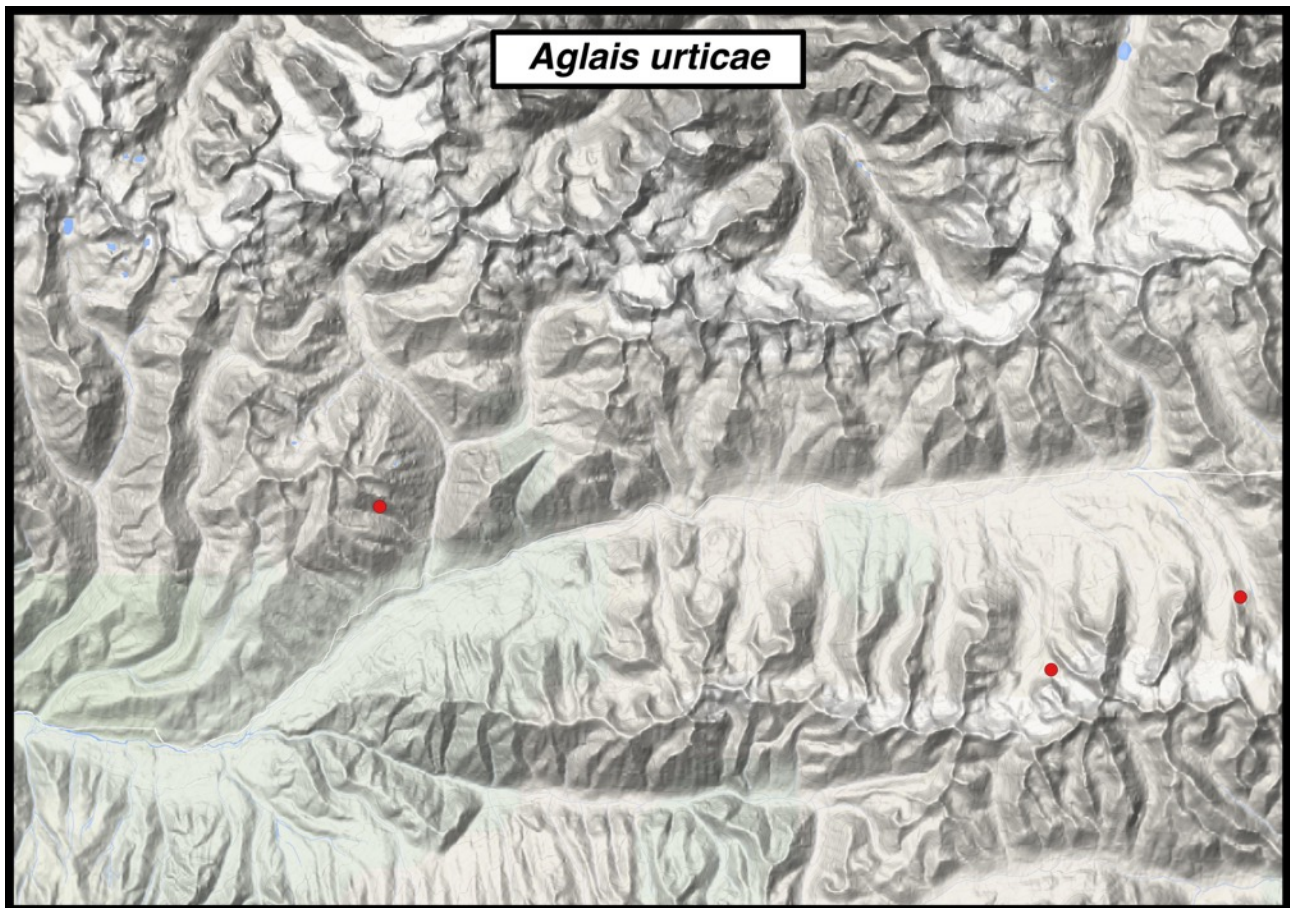
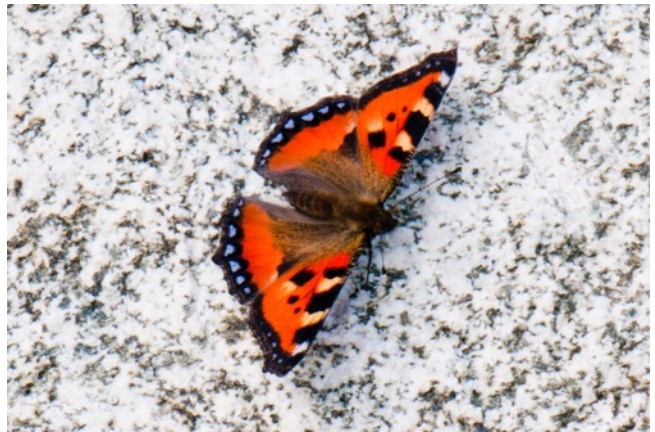
Elevation: Commonly found up to 3000m but  
can sometimes be found up to 4000m

Habitat: Open areas and mountain gorges  
with a high density of the host plant

Food Plants: *Urtica spp.* (stinging nettle)

Life Cycle: Adults overwinter in a state of  
hibernation begun around October.

They emerge during early spring.



**Boloria generator**

Flight Time: July to September

Elevation: 2500-4500m

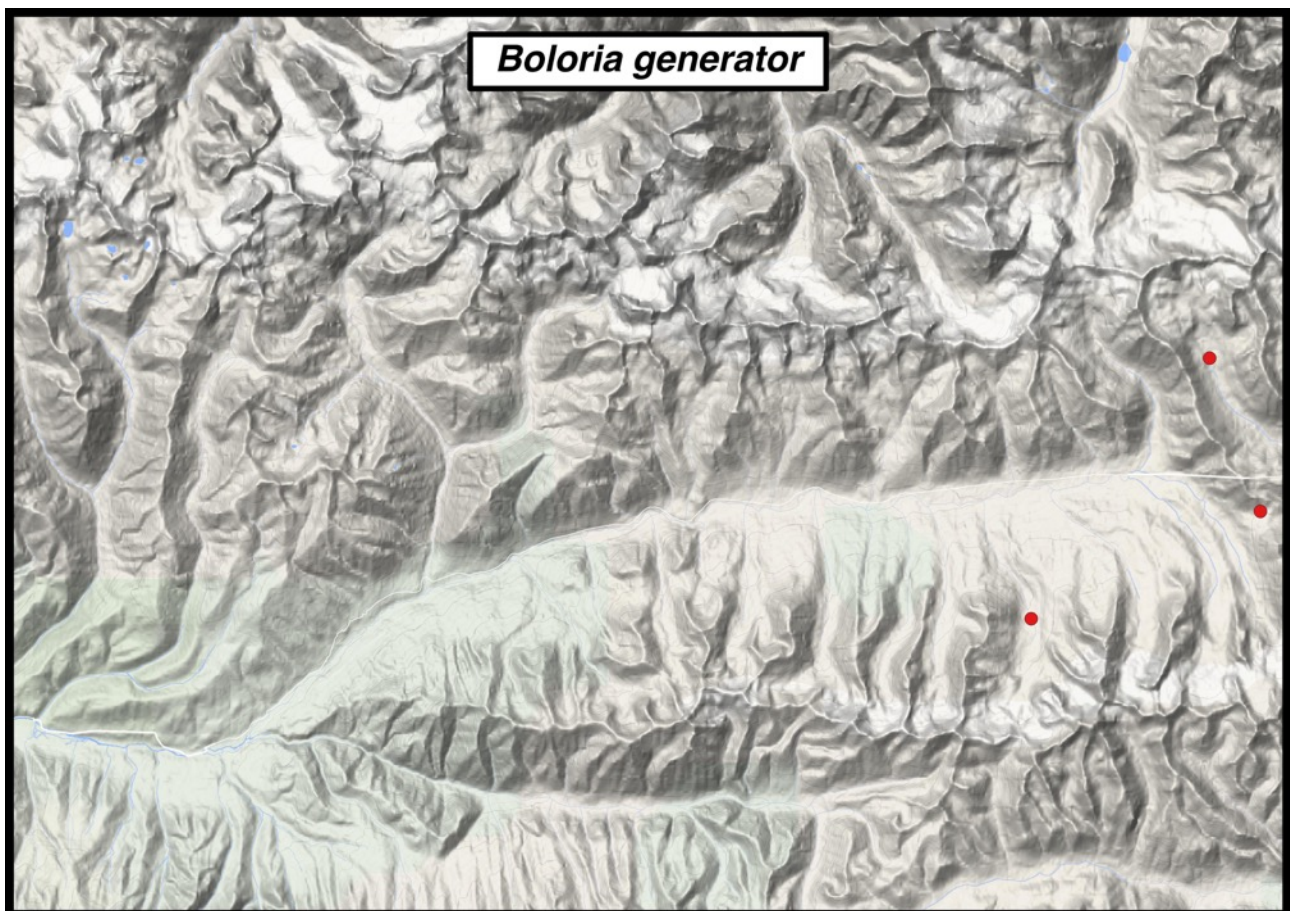
Habitat: Moist mountain meadows and stream  
banks

Food Plants: *Polygonum alpinum* (Alpine  
Knotweed)

Life Cycle: N/A



Photo courtesy of Barbara Schirmer





**Clossiana erubescens**

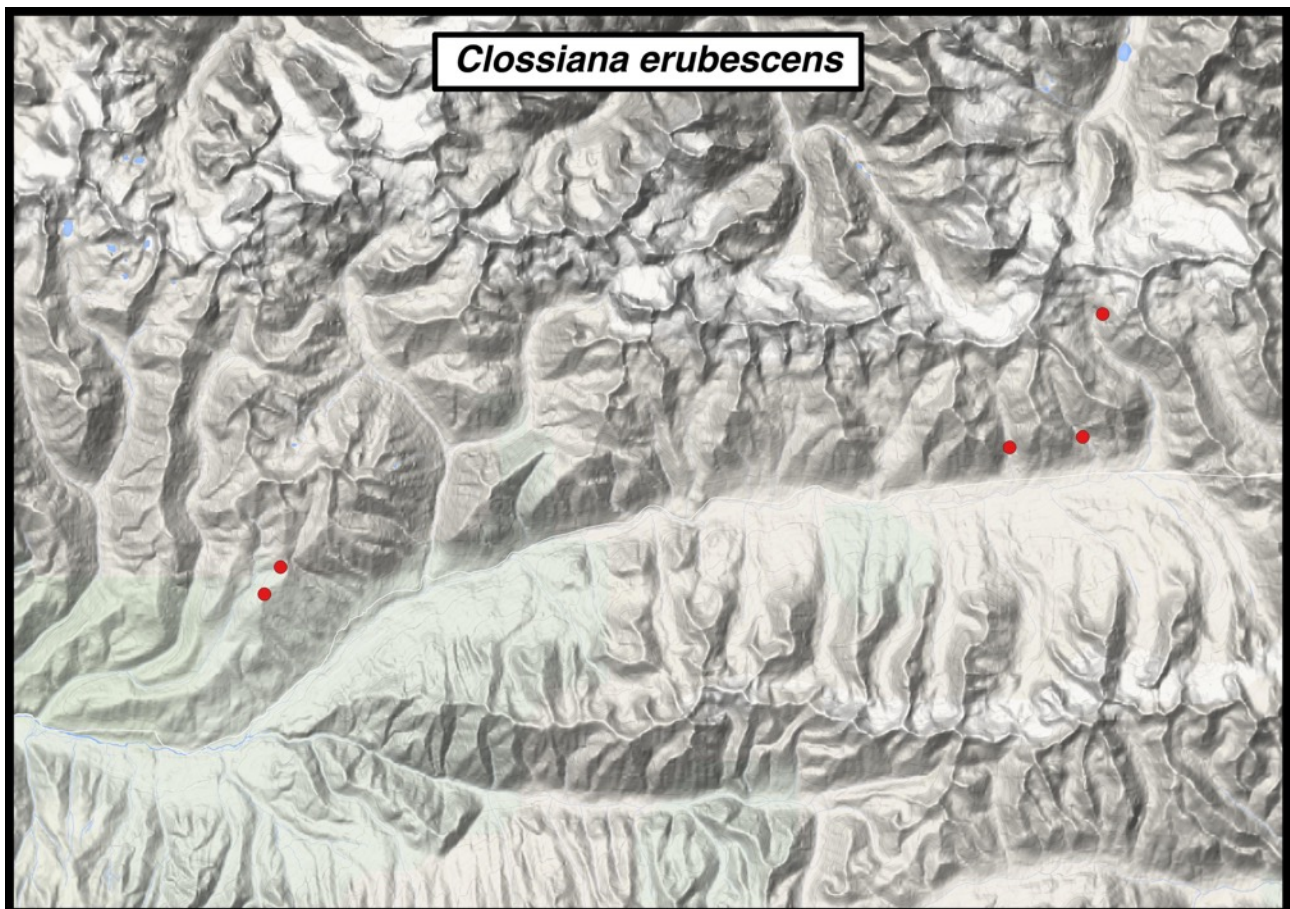
Flight Time: June to August

Elevation: 2000-3600m

Habitat: Mountain meadows and stream  
valleys

Food Plants: *Violaceae* (violets and pansies)

Life Cycle: N/A





***Issoria lathonia* — Queen of Spain****Fritillary**

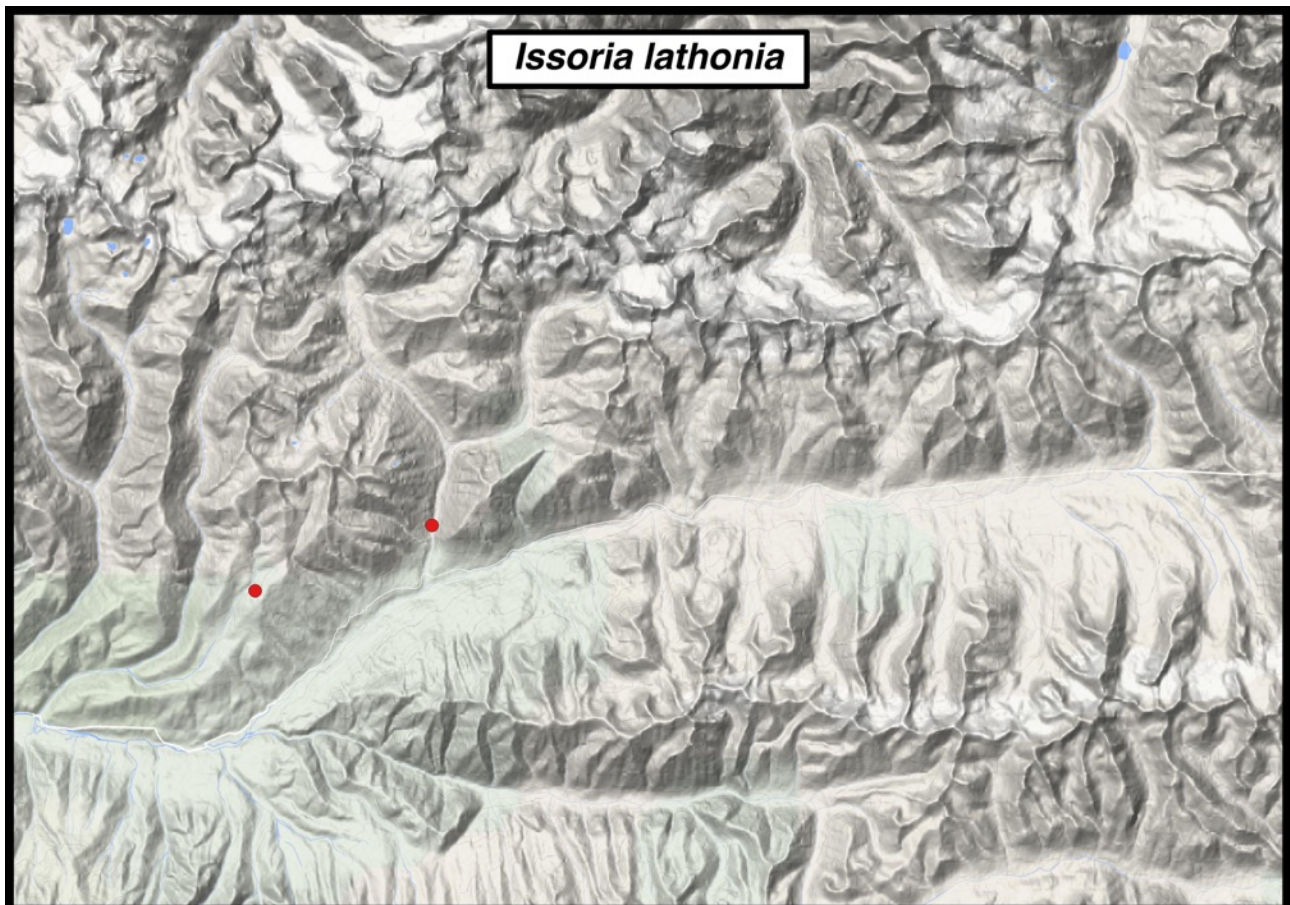
Flight Time: April to October

Elevation: Up to 3500m

Habitat: Low elevation plains up to subalpine biomes

Food Plants: *Violaceae* (violets and pansies)

Life Cycle: Species can overwinter as a larva or pupa. Bivoltine or multivoltine.





**Melitaea solona**

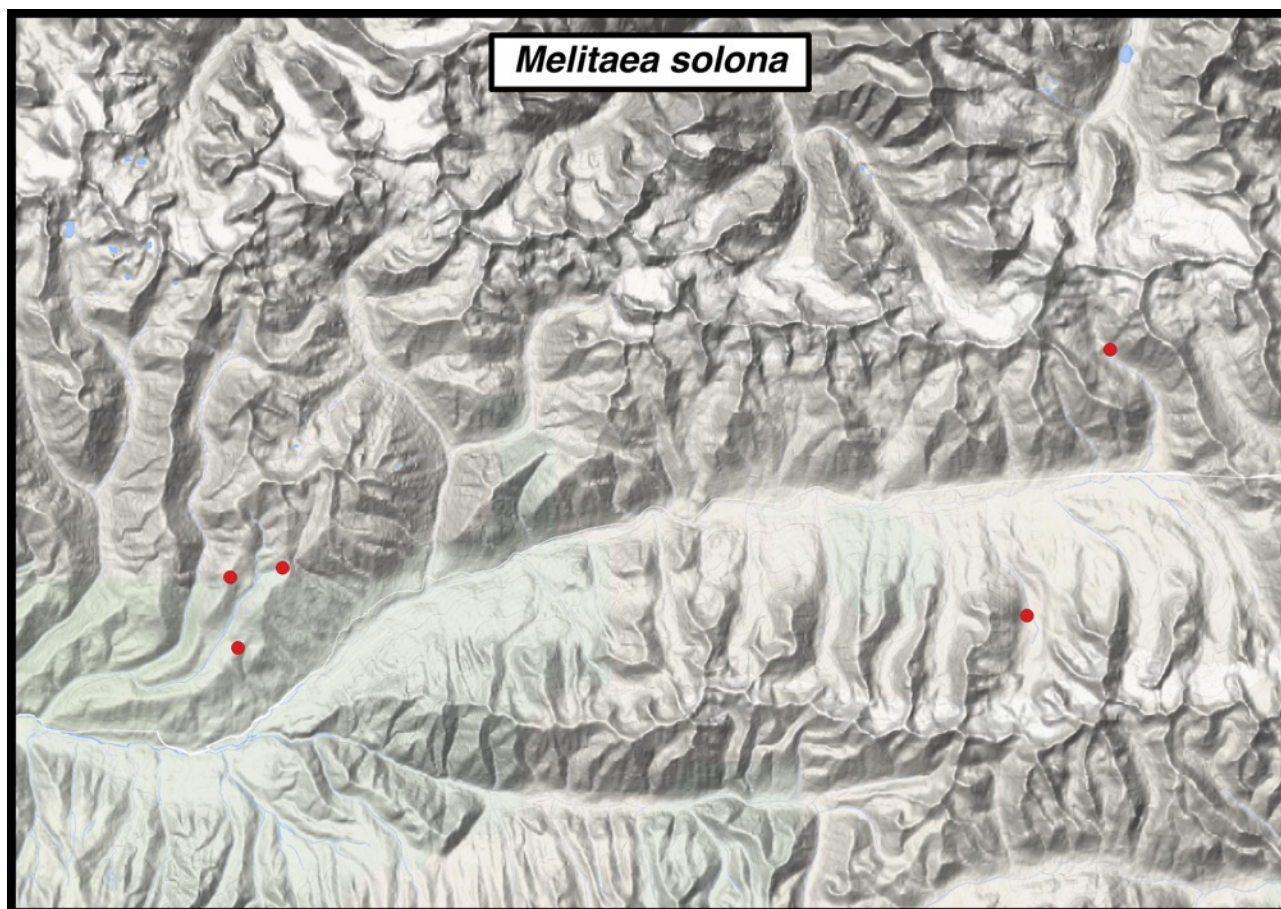
Flight Time: June to July

Elevation: 2700-4000m

Habitat: Humid alpine meadows

Food Plants: *Pedicularis* spp. (lousewort)

Life Cycle: N/A





## Papilionidae

### **Papilio machaon — Old World Swallowtail**

Flight Time: April to November

Elevation: N/A

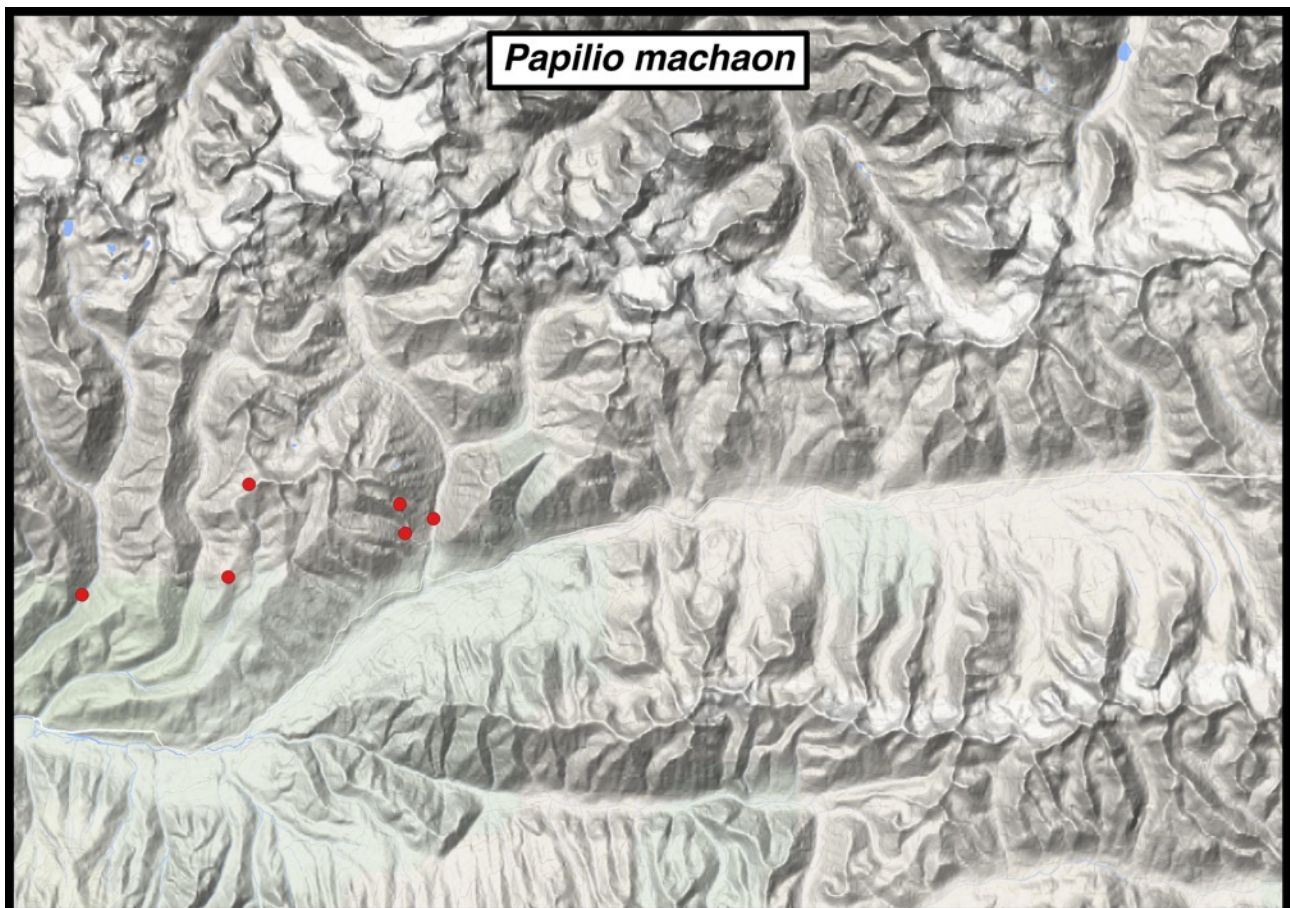
Habitat: Found in virtually any ecosystem from lowlands to high mountains.

Food Plants: *Prangos* spp., *Artemisia* spp. (Wormwood), *Haplophylum* spp., *Ferula* spp.

Life Cycle: Eggs laid singly on host plant.

Overwinters as a pupa. Pupal diapause up to 3 years before adult emergence.

Uni or bivoltine depending on location.





**Parnassius delphius — Banded Apollo**

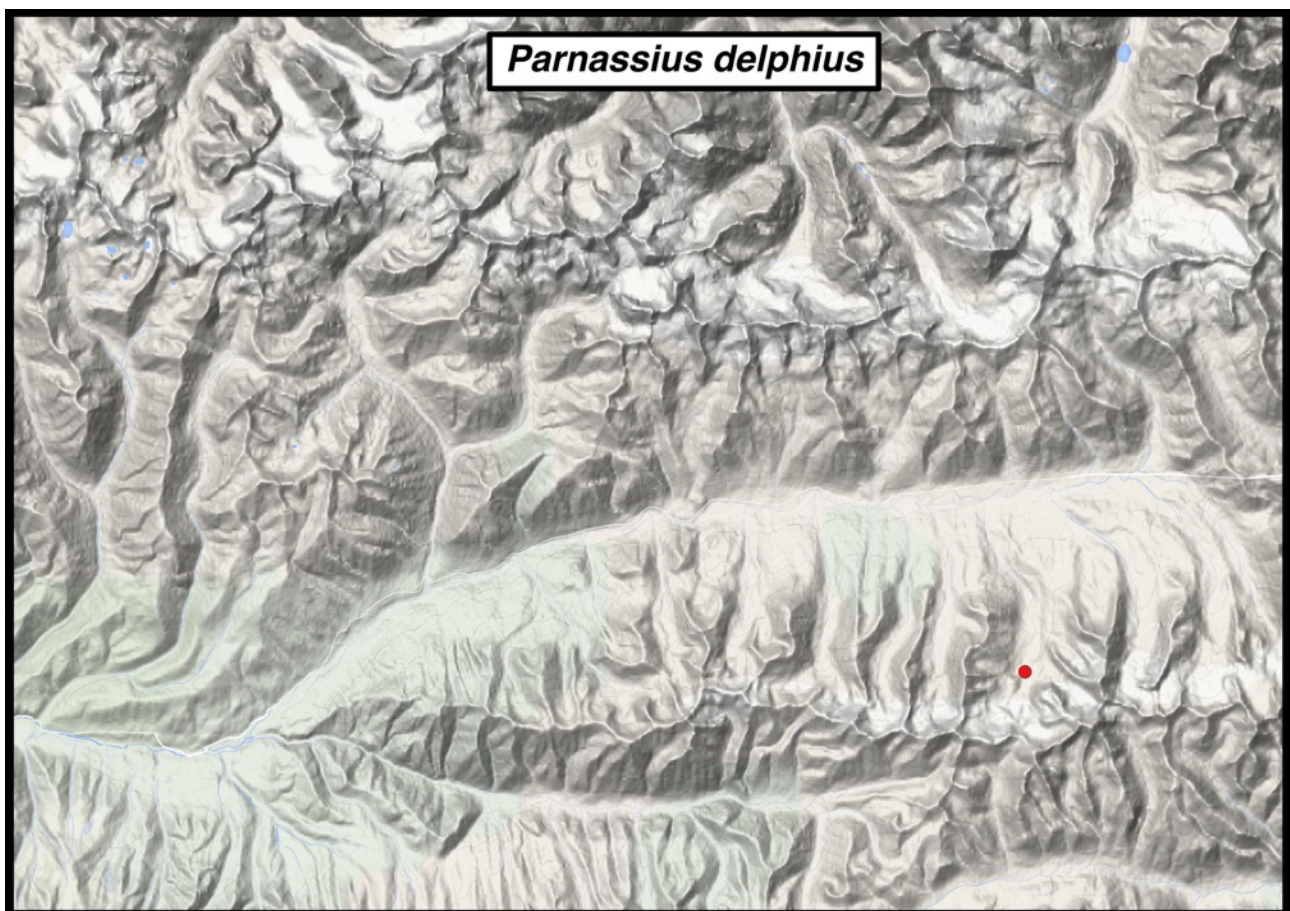
Flight Time: June to July

Elevation: 3000-4000m

Habitat: Western facing rocky slopes, scree fields, and mountain meadows.

Food Plants: *Cysticorydalis fedtschenkoana*,  
*Corydalis tenella* (Discreet Corydalis),  
*Corydalis gortschakovi*

Life Cycle: Follows a 2 year life cycle. Initially overwinters as an egg hatching in spring. Larvae feed for 1 year then overwinter as pupae the second winter.





**Parnassius mnemosyne — Clouded****Apollo**

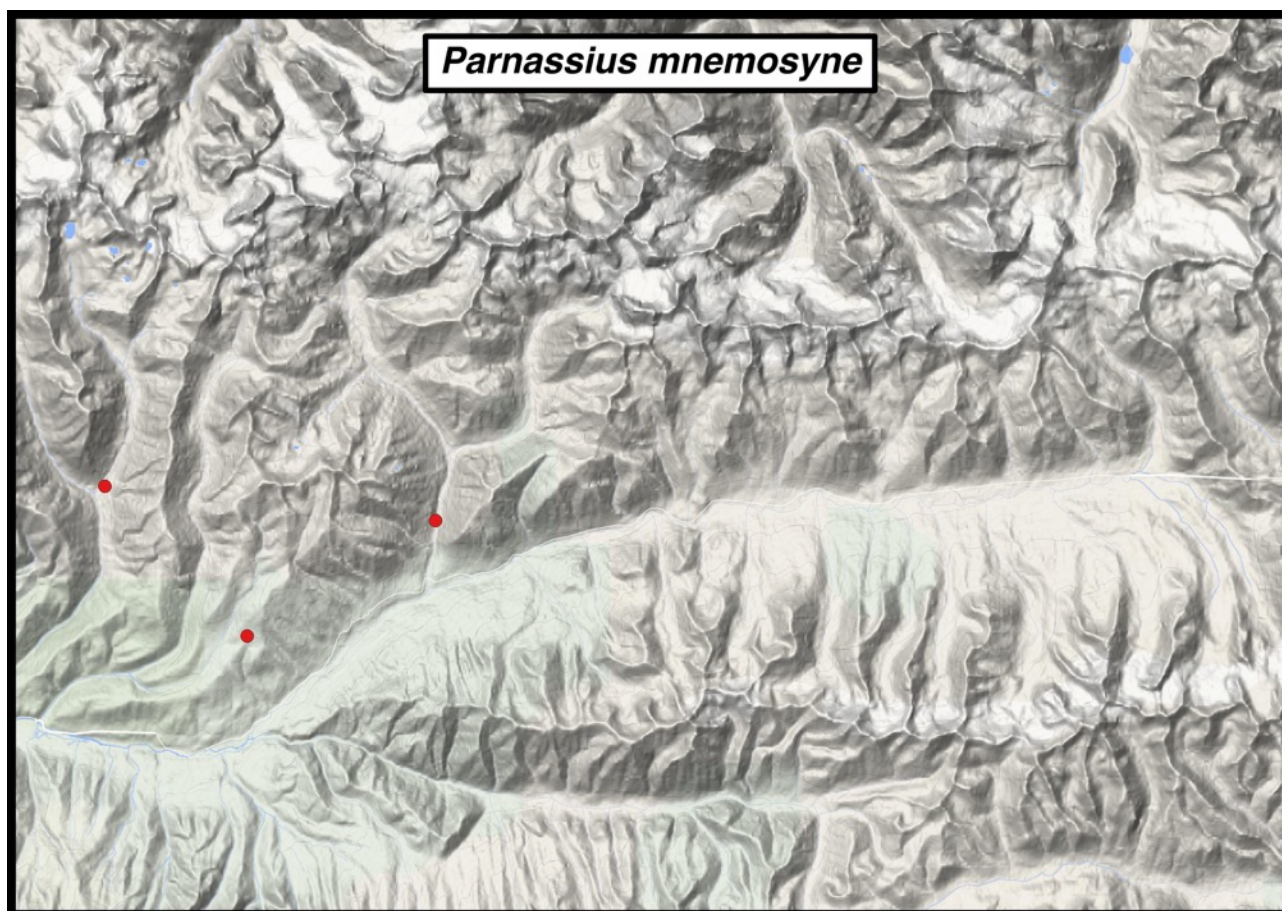
Flight Time: May to July

Elevation: 1300-3000m

Habitat: Grassy stepped slopes as well as  
mountain valleys and river terraces

Food Plants: *Corydalis ledebouriana* and  
*Corydalis glaucescens*

Life Cycle: Overwinters as an egg.





**Parnassius tianschanicus — Large Keeled Apollo**

Flight Time: May to September

Elevation: 1700-3500m

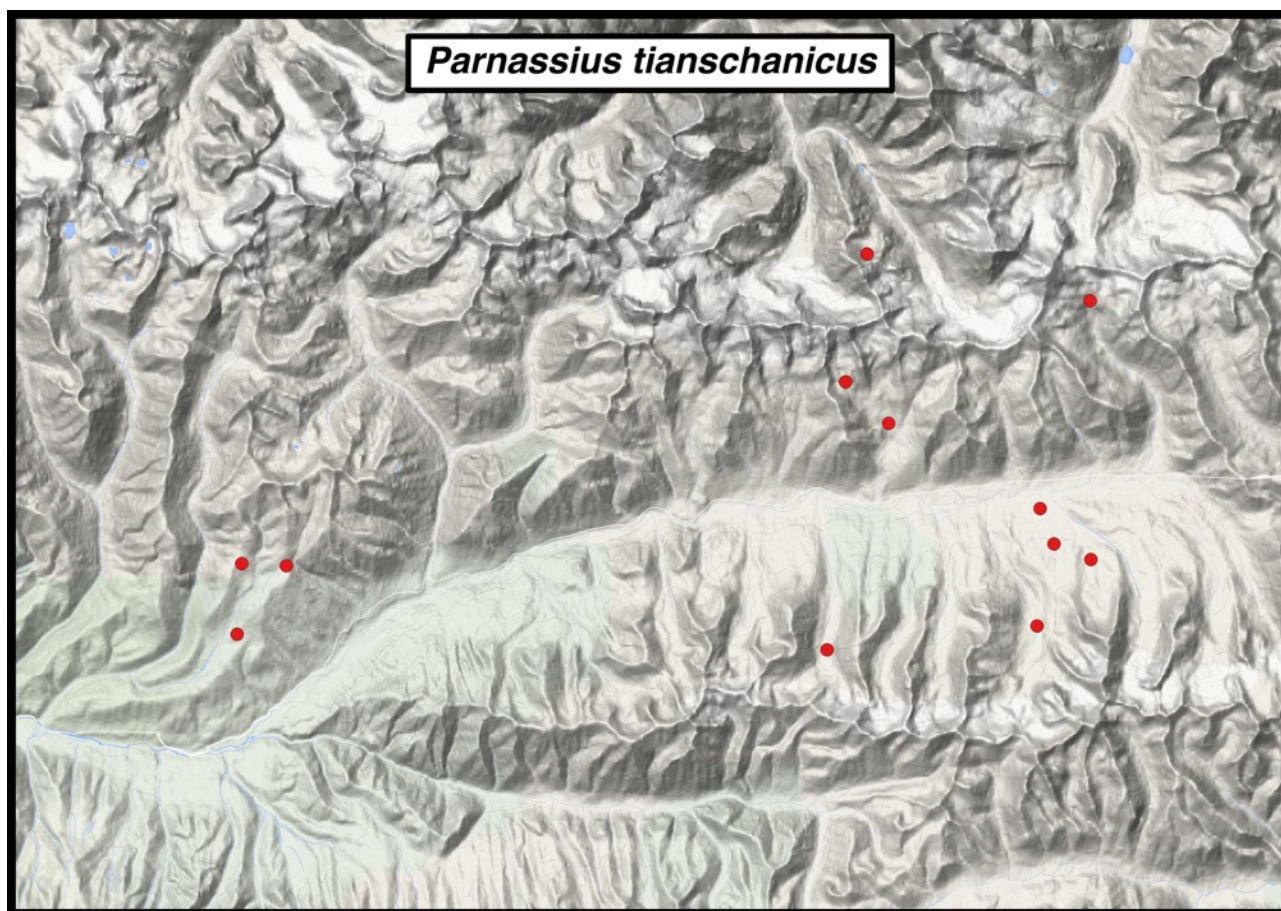
Habitat: East and south facing rocky slopes in subalpine and alpine areas.

Food Plants: *Rhodiola* spp., *Sedum ewersii* (Stonecrop), *Sedum hybridum*

Life Cycle: Overwinters as a larva.



Photo courtesy of Peter Sporrer





## Pieridae

### **Colias erate — Pale Clouded Yellow**

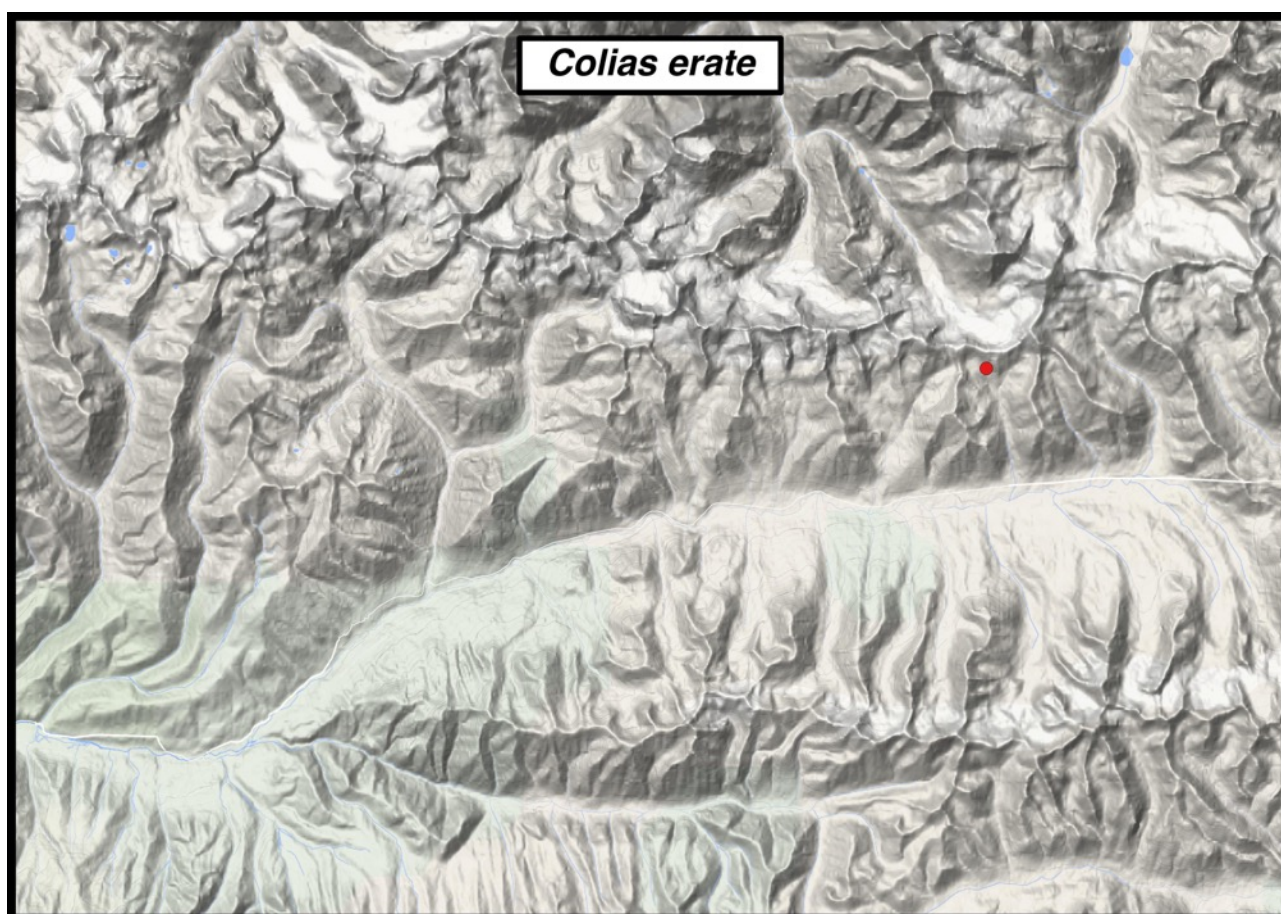
Flight Time: April to October

Elevation: Up to 3300m

Habitat: Steppes, fields, and mountain meadows.

Food Plants: *Onobrychis* spp. (Sainfoin),  
*Medicago* spp. (Burclover), *Trifolium*  
 spp. (Clover), *Trigonella* spp  
 (Fenugreek), *Alhagi* spp. (Camelthorn)

Life Cycle: Bivoltine. Overwinters as either a pupa or larva.





**Pieris bryoniae — Dark Veined White**

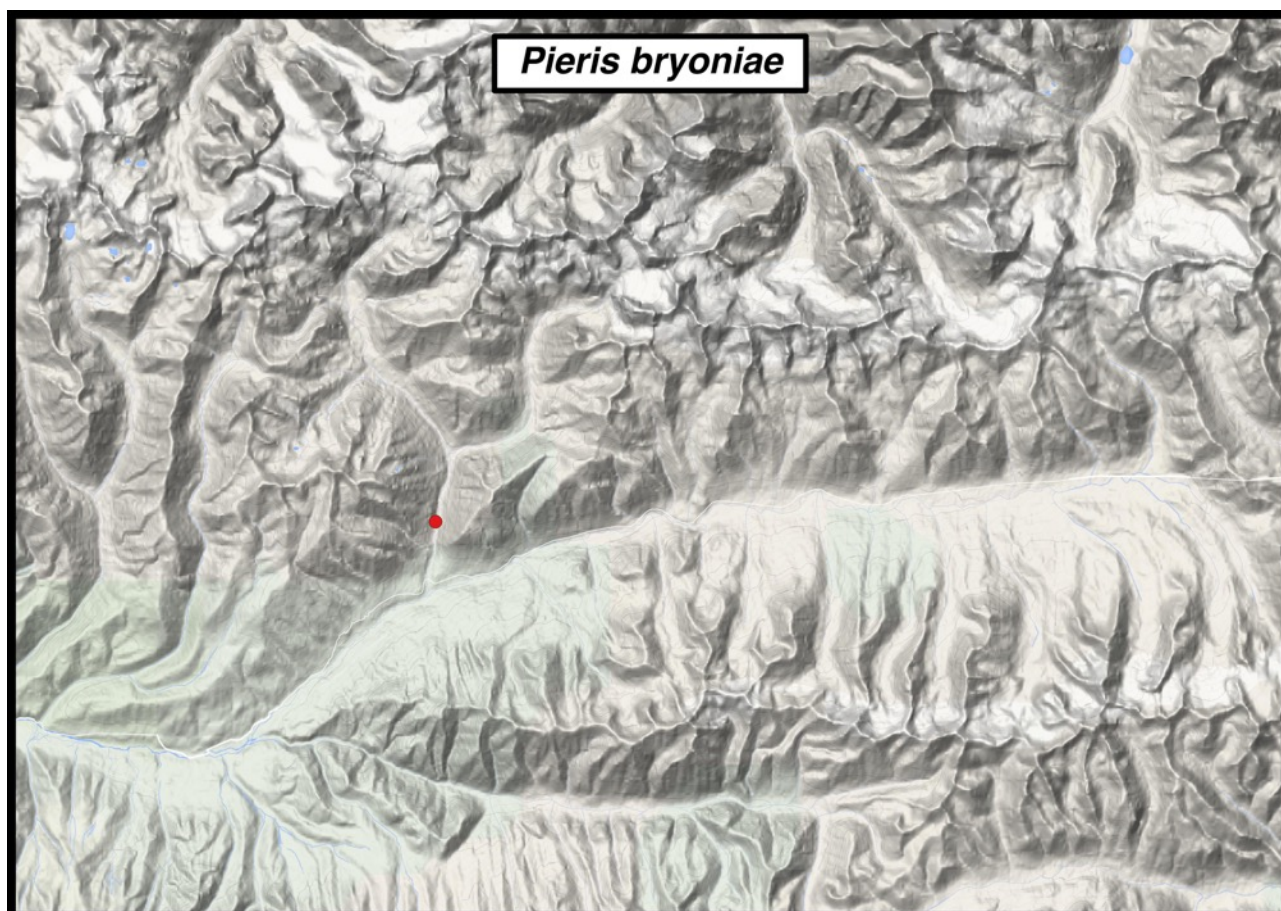
Flight Time: June to July

Elevation: Up to 2700m

Habitat: Damp foothills and meadows

Food Plants: *Thlaspi spp.* (Pennycress)

Life Cycle: Overwinters as a pupa.





### **Pieris napi — Green Veined White**

Flight Time: April to September

Elevation: Up to 3000m

Habitat: Meadows and river valleys

Food Plants: *Brassica* spp. (Cabbage),

*Cardamine* spp. (Bittercress), *Alyssum*

spp., *Arabis* spp. (Rockcress), *Barbarea*

spp. (Winter Cress), *Descurainia* spp.

(Tansymustard), *Erysimum* spp.

(Wallflower), *Sisymbrium* spp. (Rocket),

*Thlaspi* spp. (Pennycress), *Draba* spp.

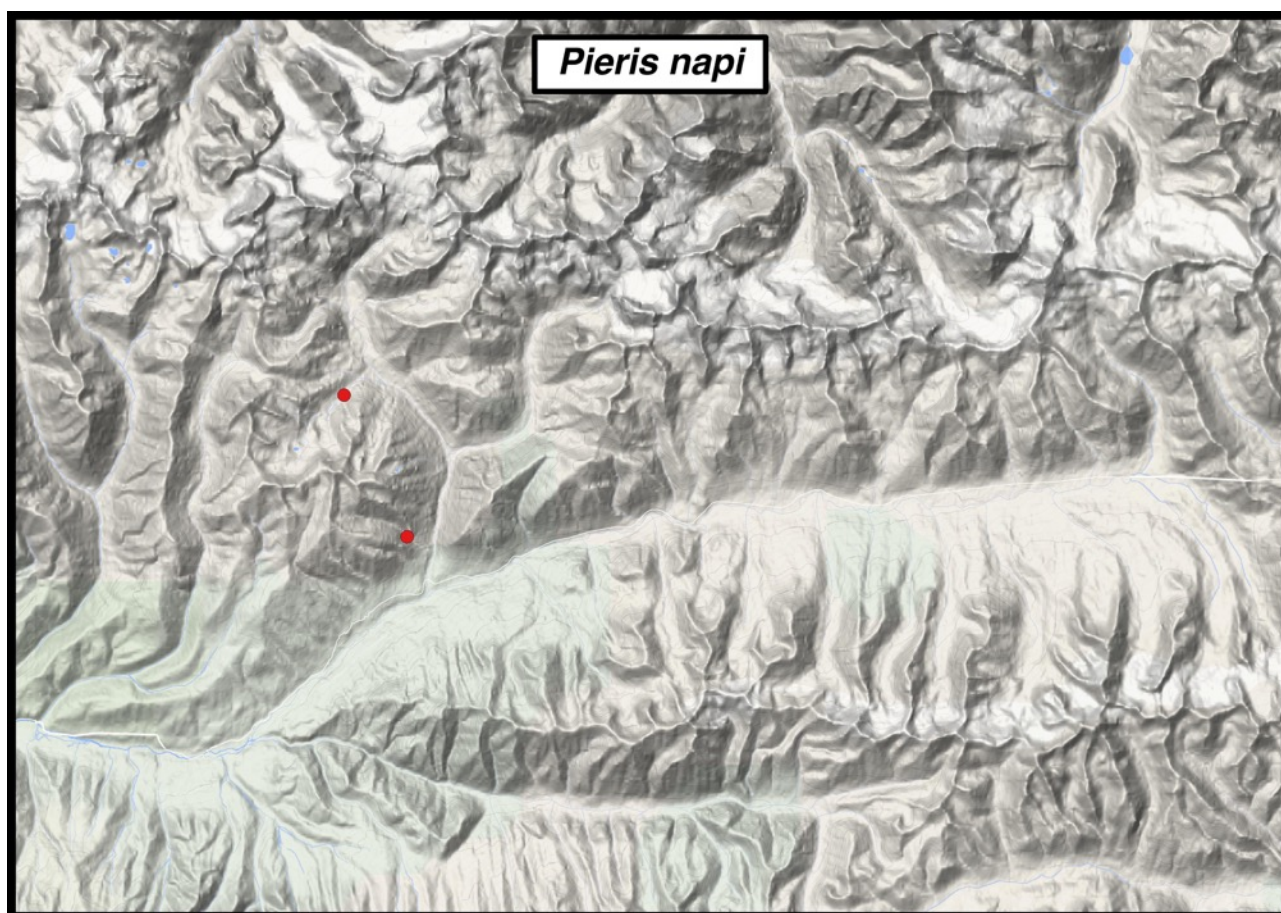
(Whitlow-grass), *Lepidium* spp

(Peppercress), *Reseda lutea* (Wild

Mignonette)

Life Cycle: Bivoltine or multivoltine depending on the altitude. Eggs are laid singly.

Overwinters as a pupa.





### **Pontia callidice — Lofty Bath White**

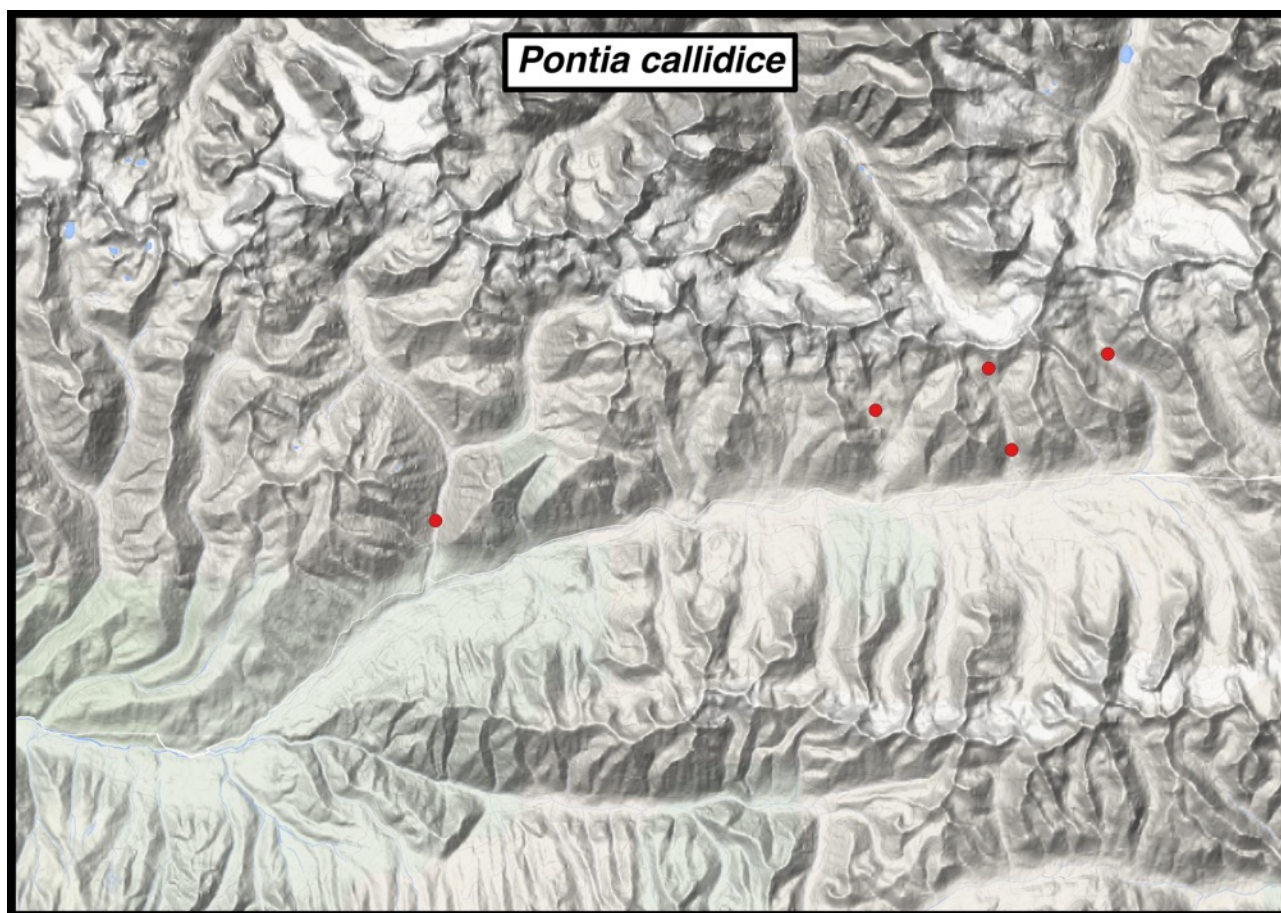
Flight Time: May to September

Elevation: 2000-4500m

Habitat: South facing river valleys and steppe slopes.

Food Plants: *Brassica* spp. (Cabbage),  
*Alyssum* spp., *Arabis* spp. (Rockcress),  
*Barbarea* spp. (Winter Cress),  
*Descurainia* spp. (Tansymustard),  
*Erysimum* spp. (Wallflower),  
*Sisymbrium* spp. (Rocket), *Thlaspi* spp.  
(Pennycress), *Draba* spp. (Whitlow-  
grass), *Lepidium* spp. (Peppercress),  
*Reseda lutea* (Wild Mignonette),  
*Orostachys* spp. (Chinese Hat)

Life Cycle: Bivoltine. Second generation hibernates as a pupa.





### **Pontia daplidice — Bath White**

Flight Time: April to October

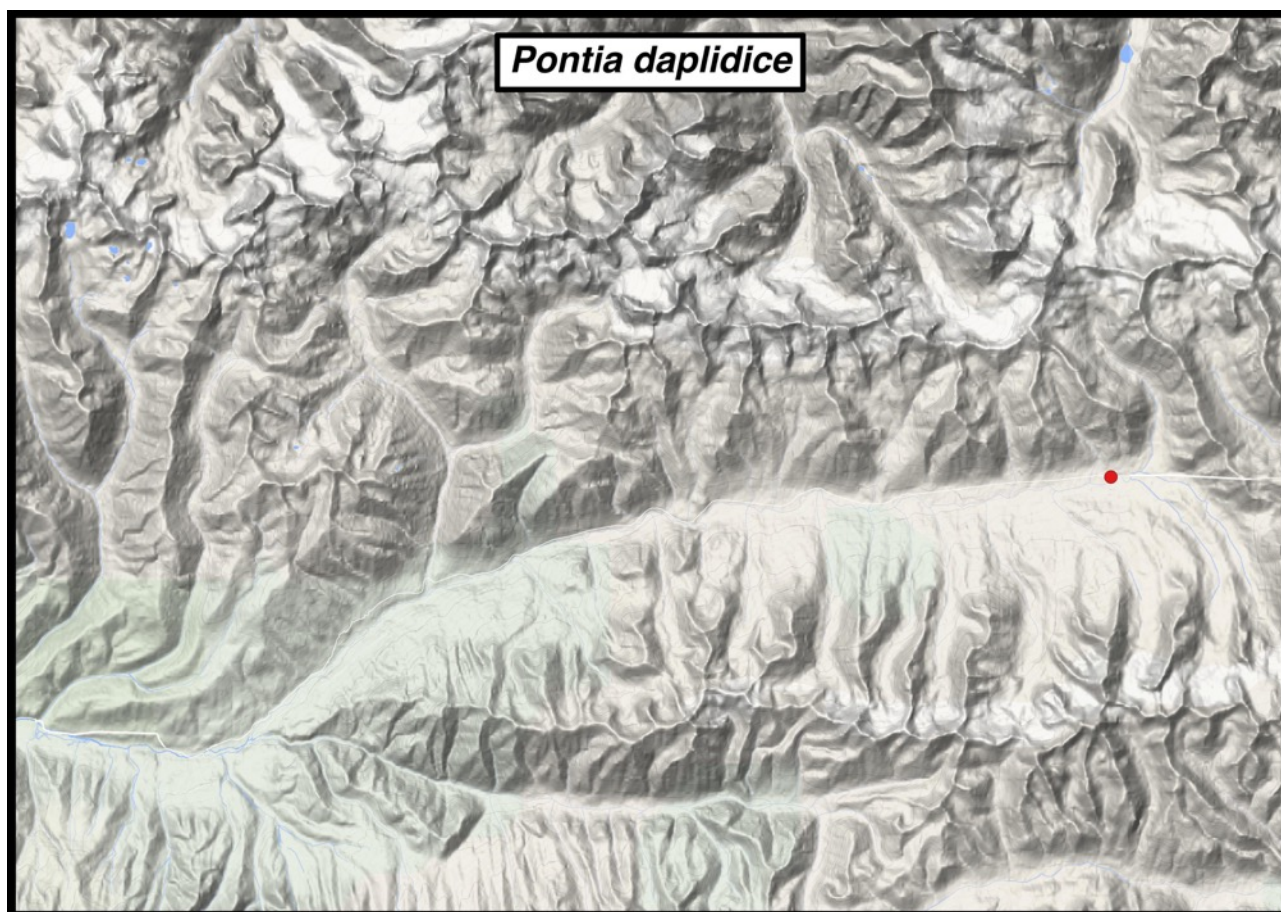
Elevation: 500-4000m

Habitat: Deserts, steppes, river valleys.

Food Plants: *Alyssum* spp., *Arabis* spp.

(Rockcress), *Berteroa* spp. (Hoary Alison), *Erysimum* spp. (Wallflower), *Sisymbrium* spp. (Rocket), *Thlaspi* spp. (Pennycress), *Turritis* spp. (Rockcress), *Reseda lutea* (Wild Mignonette), *Vicia* spp. (Vetch), *Lathyrus* spp. (Sweet Pea), *Pisum* spp. (Pea), *Trifolium* spp. (Clover)

Life Cycle: Multivoltine. Overwintering generation does so as a pupa.



## Satyridae

### **Coenonympha caeca**

Flight Time: June to July

Elevation: 2000-3500m

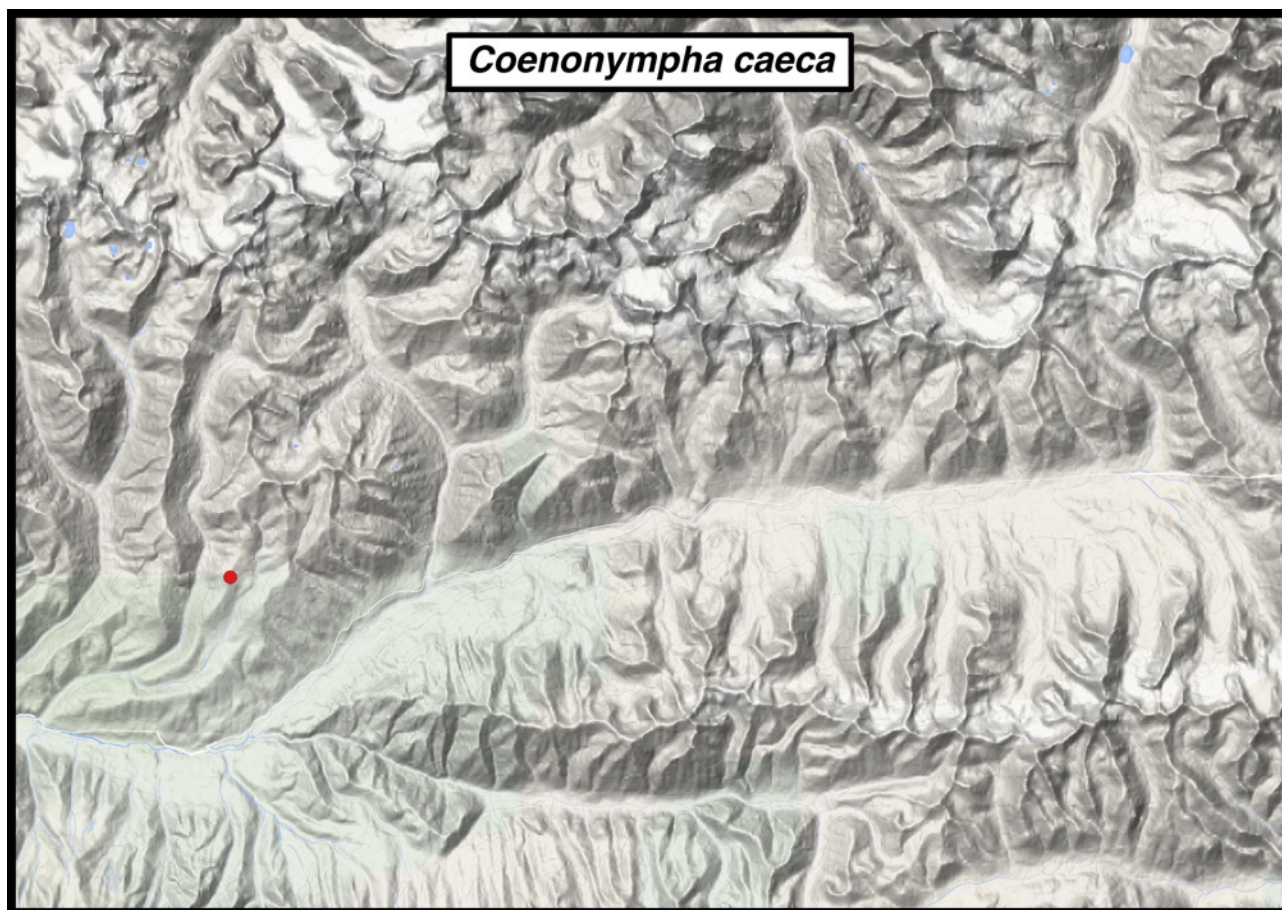
Habitat: Alpine meadows, stream banks, and  
          stoney slopes that face eastward

Food Plants: *Carex spp.* (Sedge)

Life Cycle: N/A



Photo courtesy of Rahat Yusubalieva





**Coenonympha sunbecca**

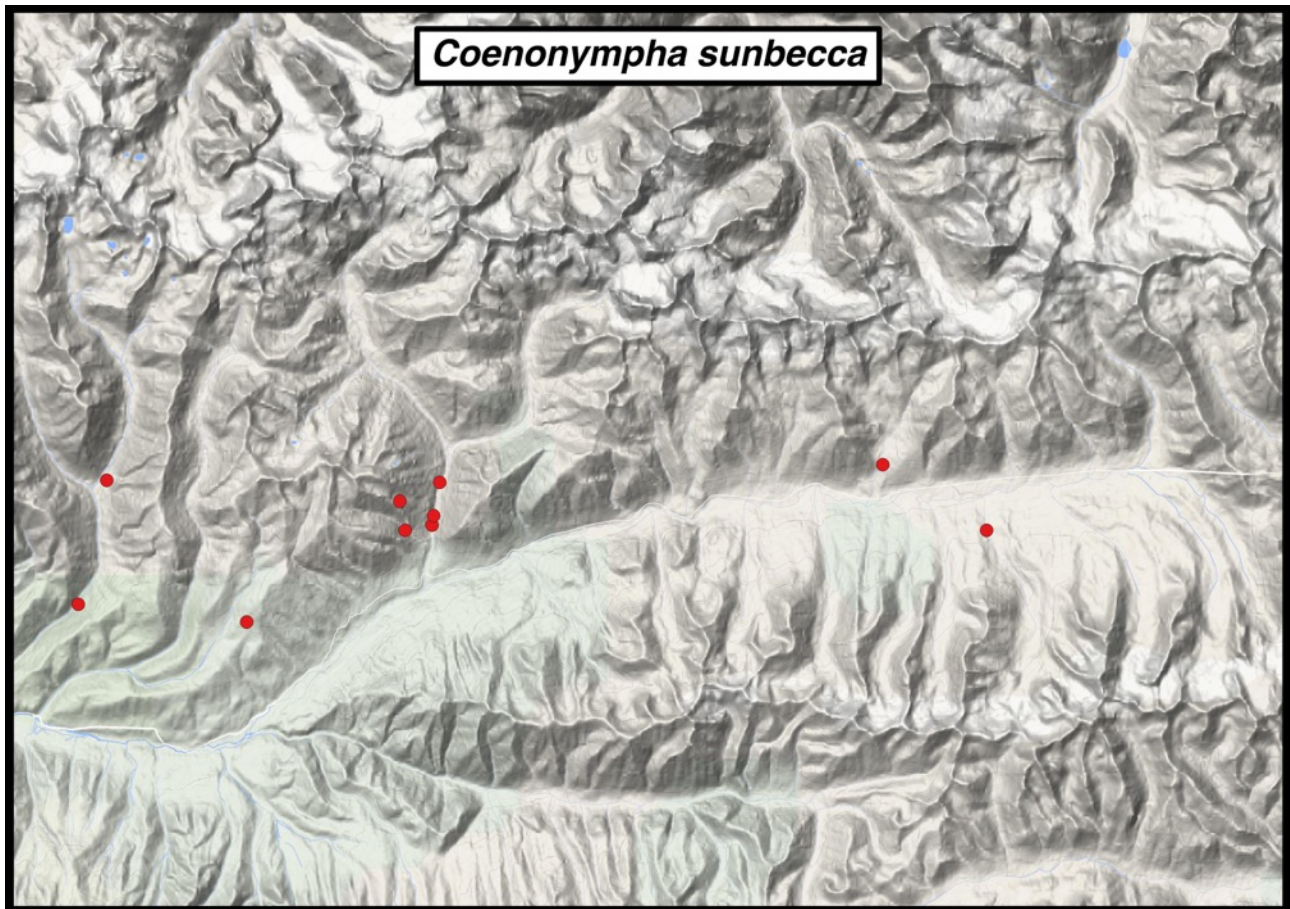
Flight Time: June to August

Elevation: 1500-3400m

Habitat: Sloped meadows and stream banks

Food Plants: Poaceae (Grasses)

Life Cycle: N/A



**Erebia mopsos**

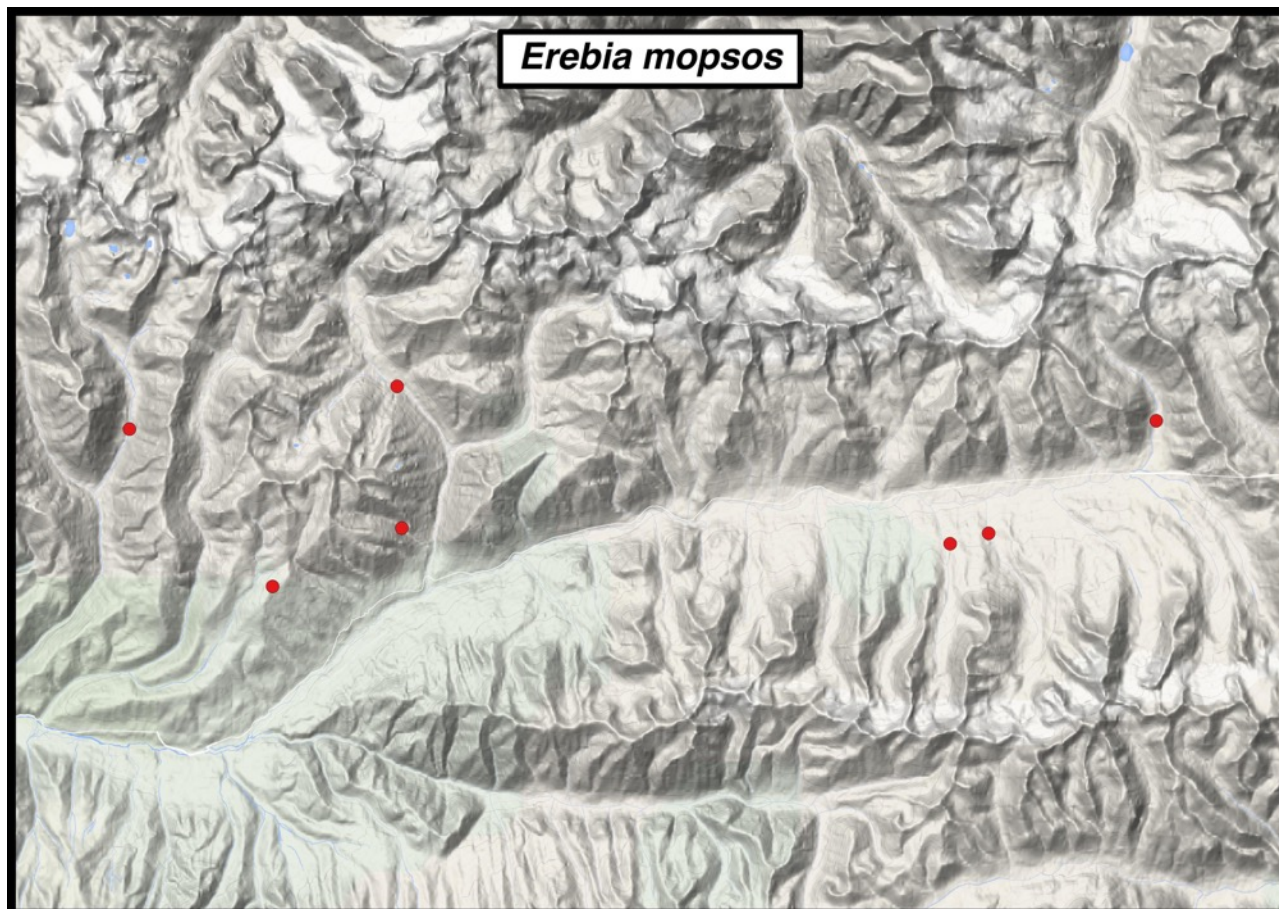
Flight Time: June to July

Elevation: 2800-3500m

Habitat: Meadow slopes in subalpine and alpine areas.

Food Plants: *Festuca spp.* (Fescue)

Life Cycle: N/A





**Erebia sokolovi**

Flight Time: July to August

Elevation: 3000-3600m

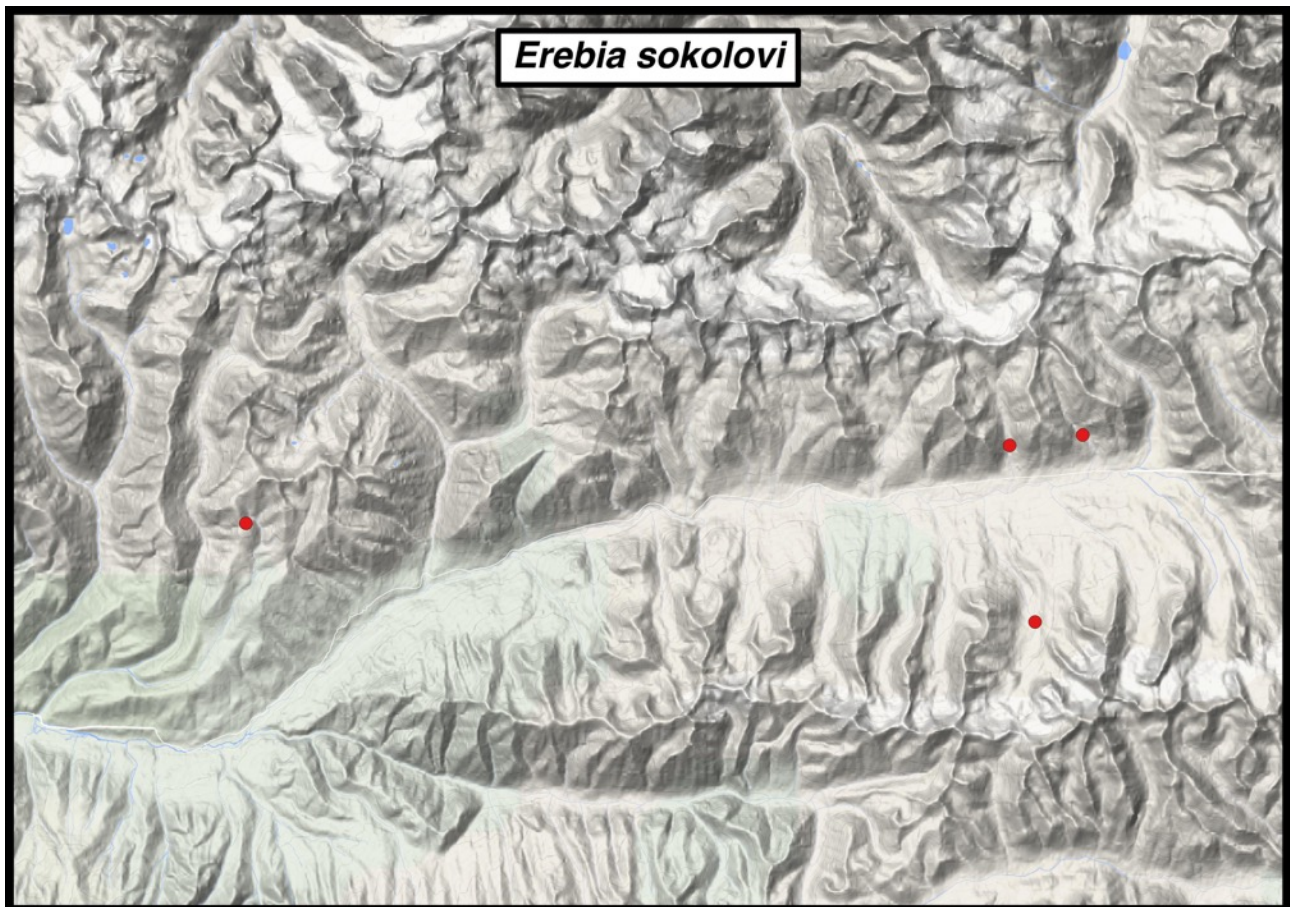
Habitat: Meadow slopes in subalpine and  
alpine areas.

Food Plants: Poaceae (Grasses)

Life Cycle: N/A



Photo courtesy of Peter Sporrer



**Resources:**

- Ackery, P.R., (1975). A Guide to the Genera and Species of Parnassiinae (Lepidoptera: Papilionidae). *Bulletin of the British Museum (Natural History) Entomology*. 31(4)
- Korb, S.K. (2011). A Distributive List, Biotope Preferences and Flight Periods of Butterflies of North Tian Shan (Lepidoptera, Diurna). *Atalanta*. 42(1-4). 149-189.
- Toropov, S. A., Zhdanko, A. B. (2006). The Butterflies (Lepidoptera, Papilionoidea) of Dzhungar, Tien Shan, Alai and Eastern Pamirs, Volume 1: Papilionidae, Pieridae, Satyridae, Bishkek
- Tshikolovets, V. V. (2005). The Butterflies of Kyrgyzstan, Brno-Kiev