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Butterflies of the Suusamy Valley, Kyrgyzstan (Lepidoptera, Diurna)

Amadeus DeKastle

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Butterflies of the Suusamyr Valley, Kyrgyzstan

(Lepidoptera, Diurna)

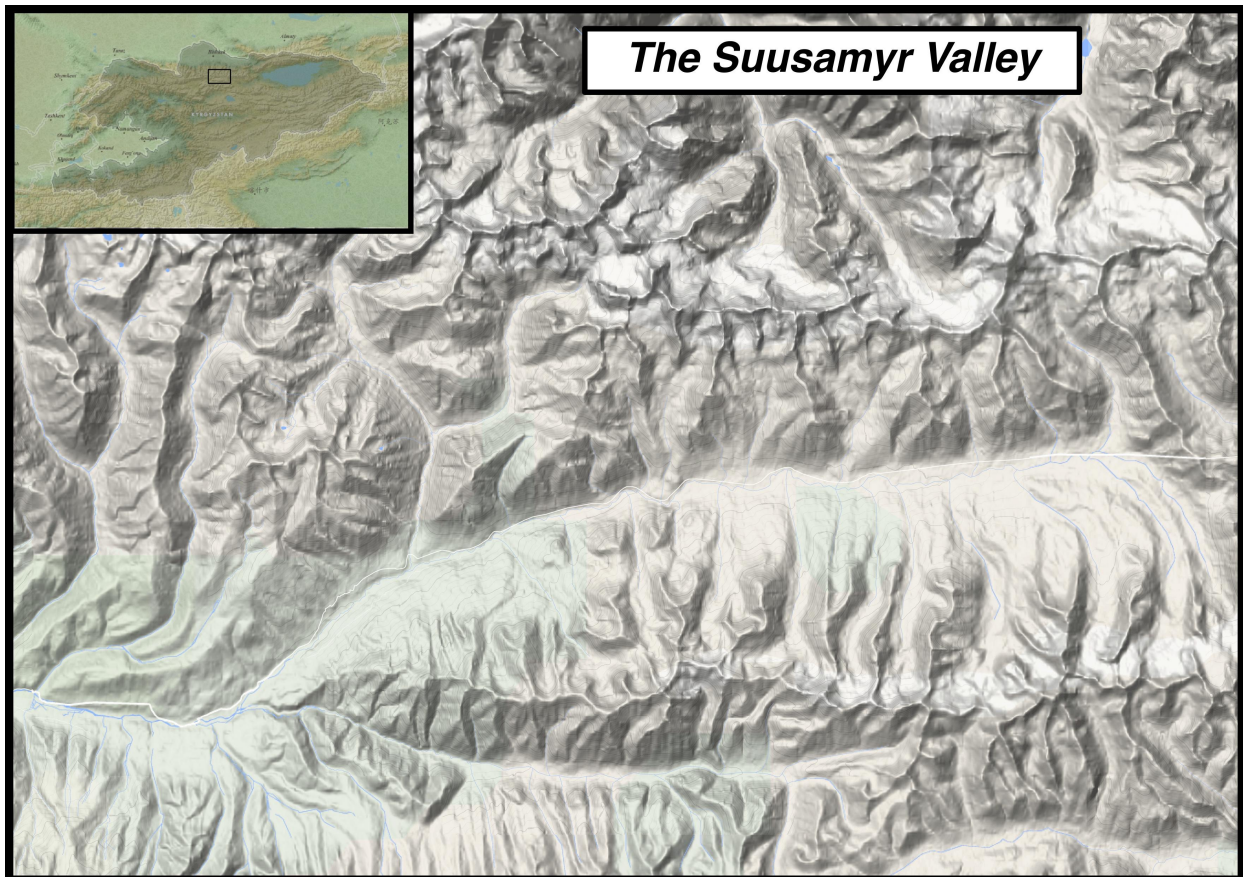
Amadeus DeKastle
2015

Abstract: This list of butterflies of the Suusamyr Valley contains 20 species. Each species is listed with the scientific name, common name (if applicable), flight times, elevation, habitat, food plants, and life cycle. In addition to their natural history, each species has an included distribution map.

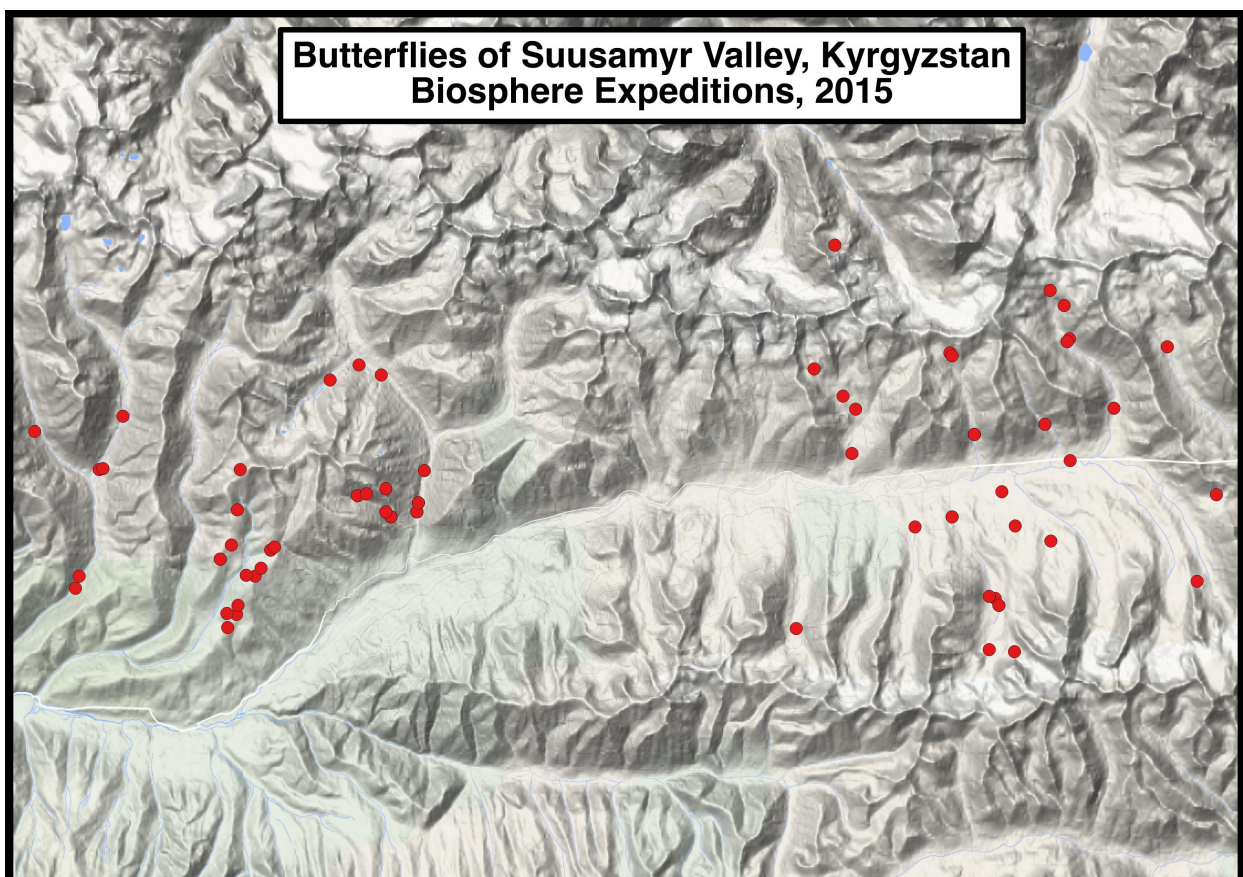
Introduction: Although the Suusamyr Valley is only 7-8 hours away by car from Bishkek, the capital city of Kyrgyzstan, this region is very poorly studied in regards to its ecology. Information on butterfly distributions in this region is lacking in most currently available resources. As a result, the 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. Citizen scientists from around the world were present during four two-week 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 file name on a spreadsheet and matching that with GPS coordinates taken at the time of the sighting. 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. 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 and Species List: 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 detailing the natural history of each observed species as well as a distribution map for each species.



Location of the Suusamyр Valley on the south side of the Ala-Тоо 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 Suusamyр Valley area studied, including data points for each butterfly observation.

Hesperiidae

Pyrgus malvae — Grizzled Skipper

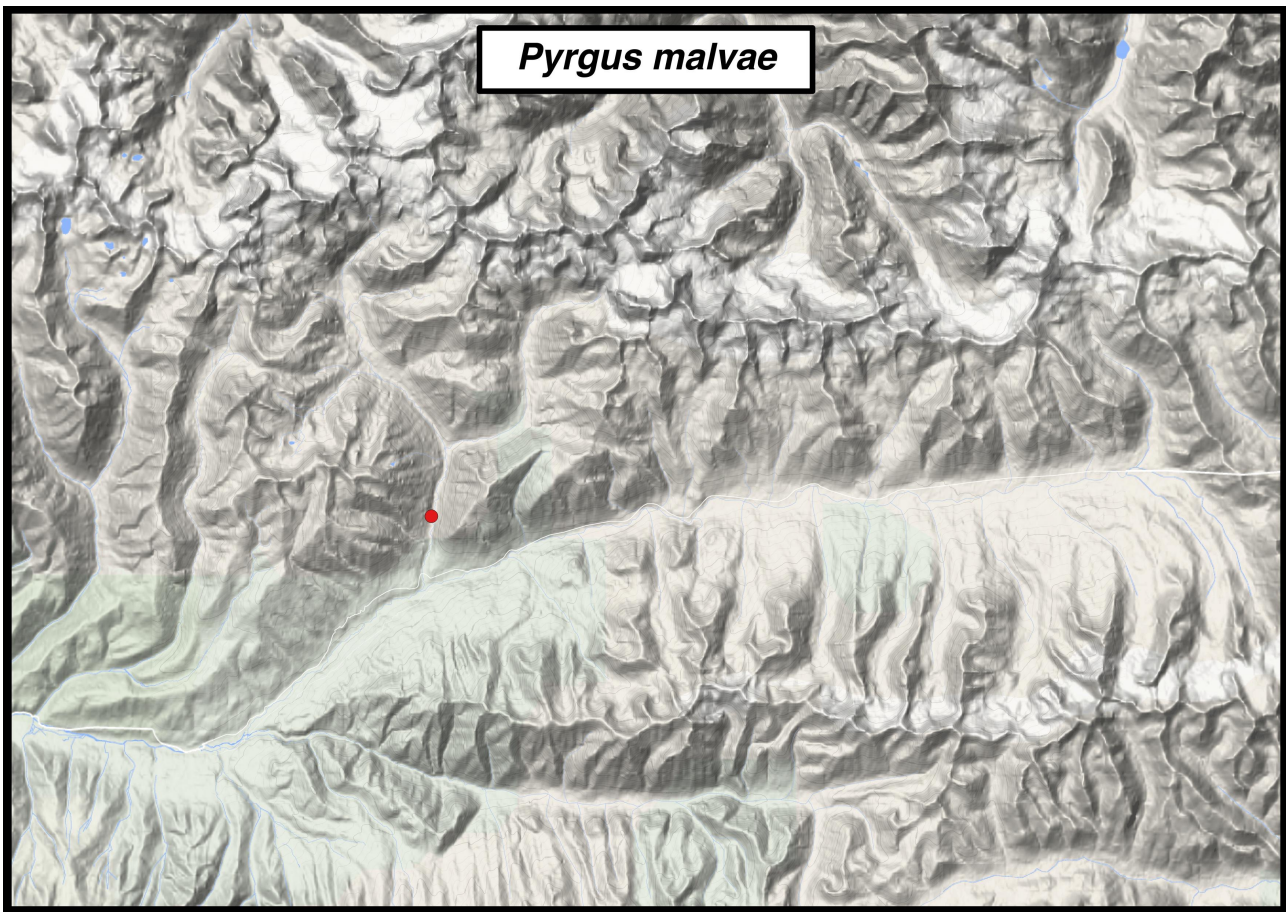
Flight Time: May to early July

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

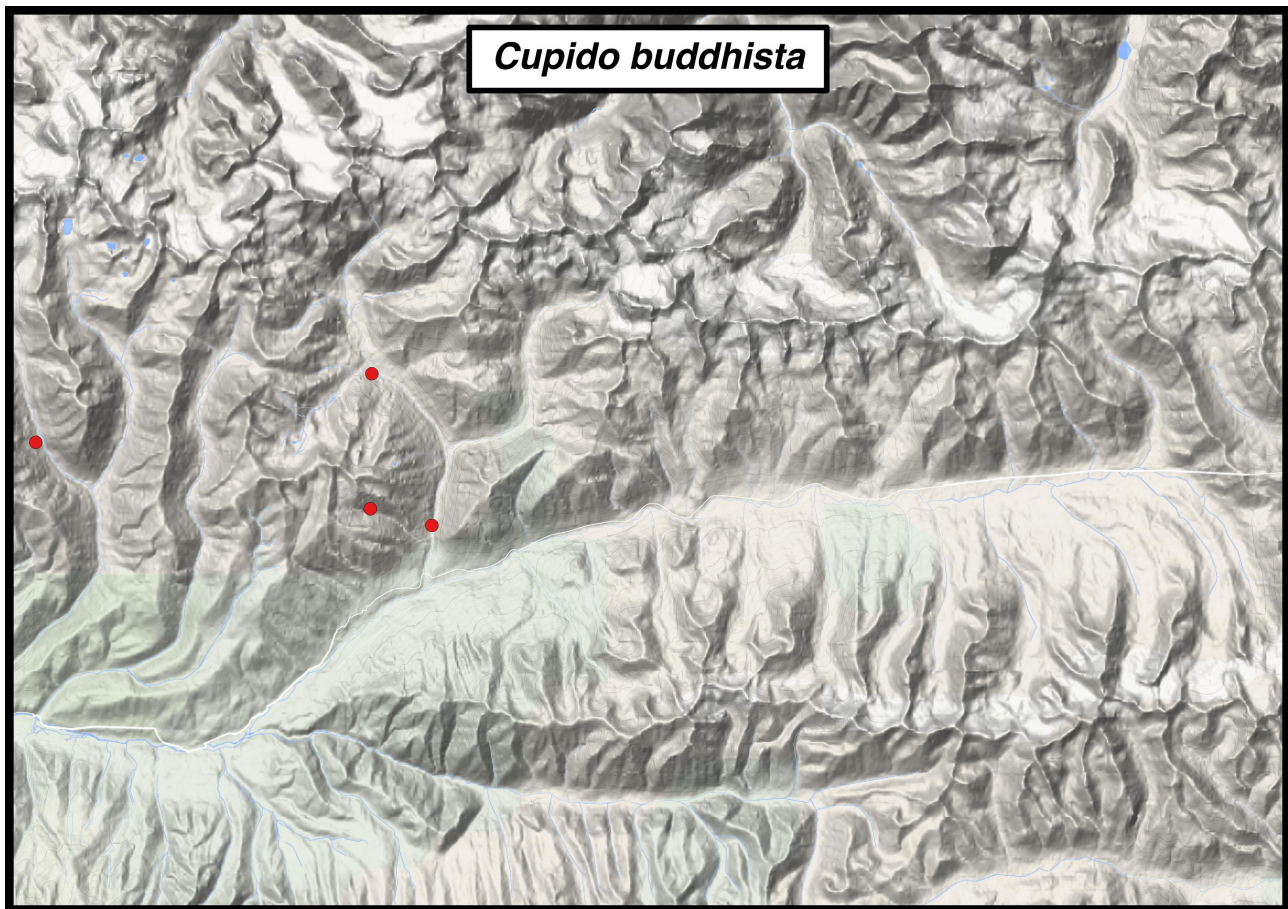
Flight Time: June to September

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**

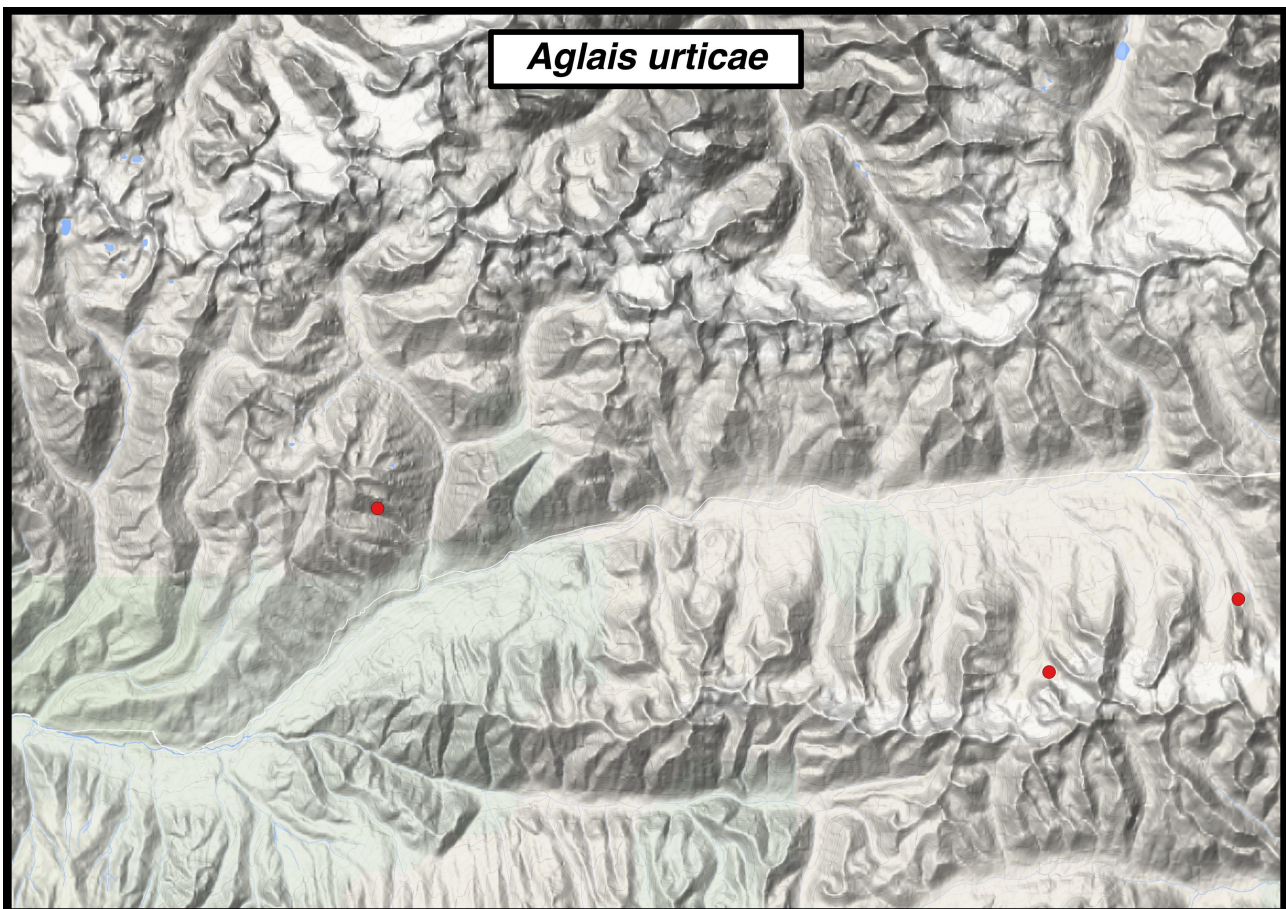
Flight Time: April to September

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 — No Common Name

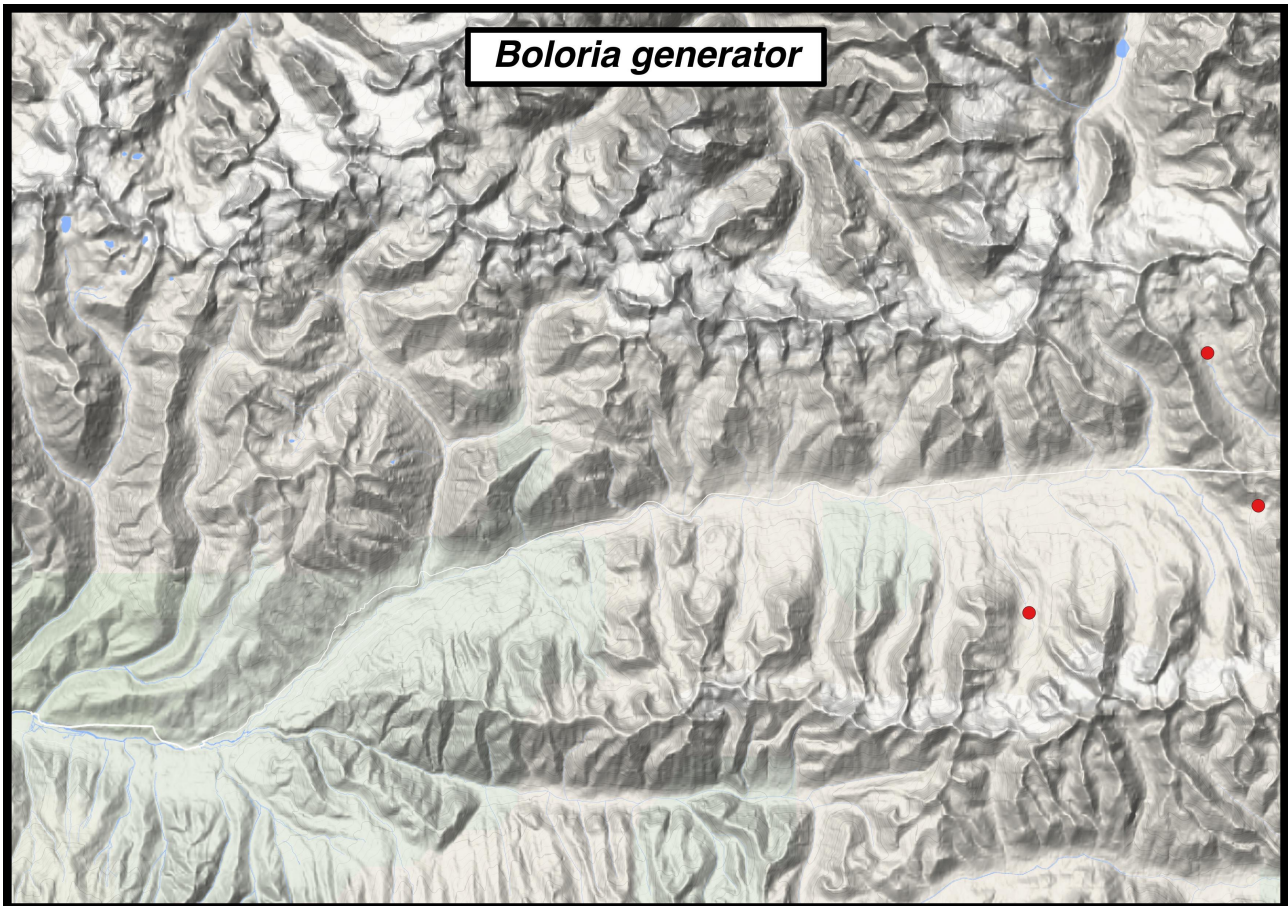
Flight Time: July to September

Elevation: 2500-4500m

Habitat: Moist mountain meadows and stream banks

Food Plants: *Polygonum alpinum* (Alpine Knotweed)

Life Cycle: N/A



Clossiana erubescens — No Common Name

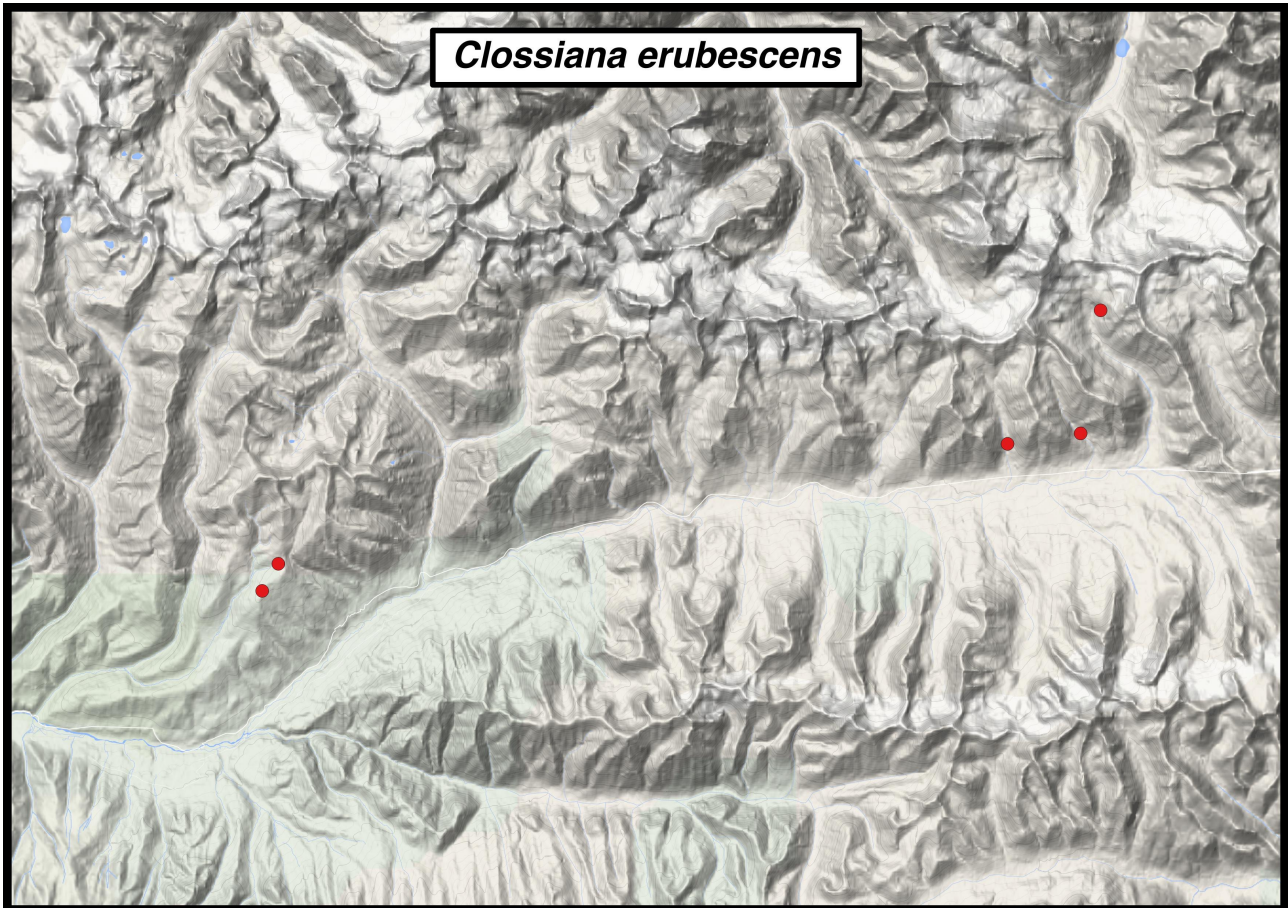
Flight Time: June to August

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

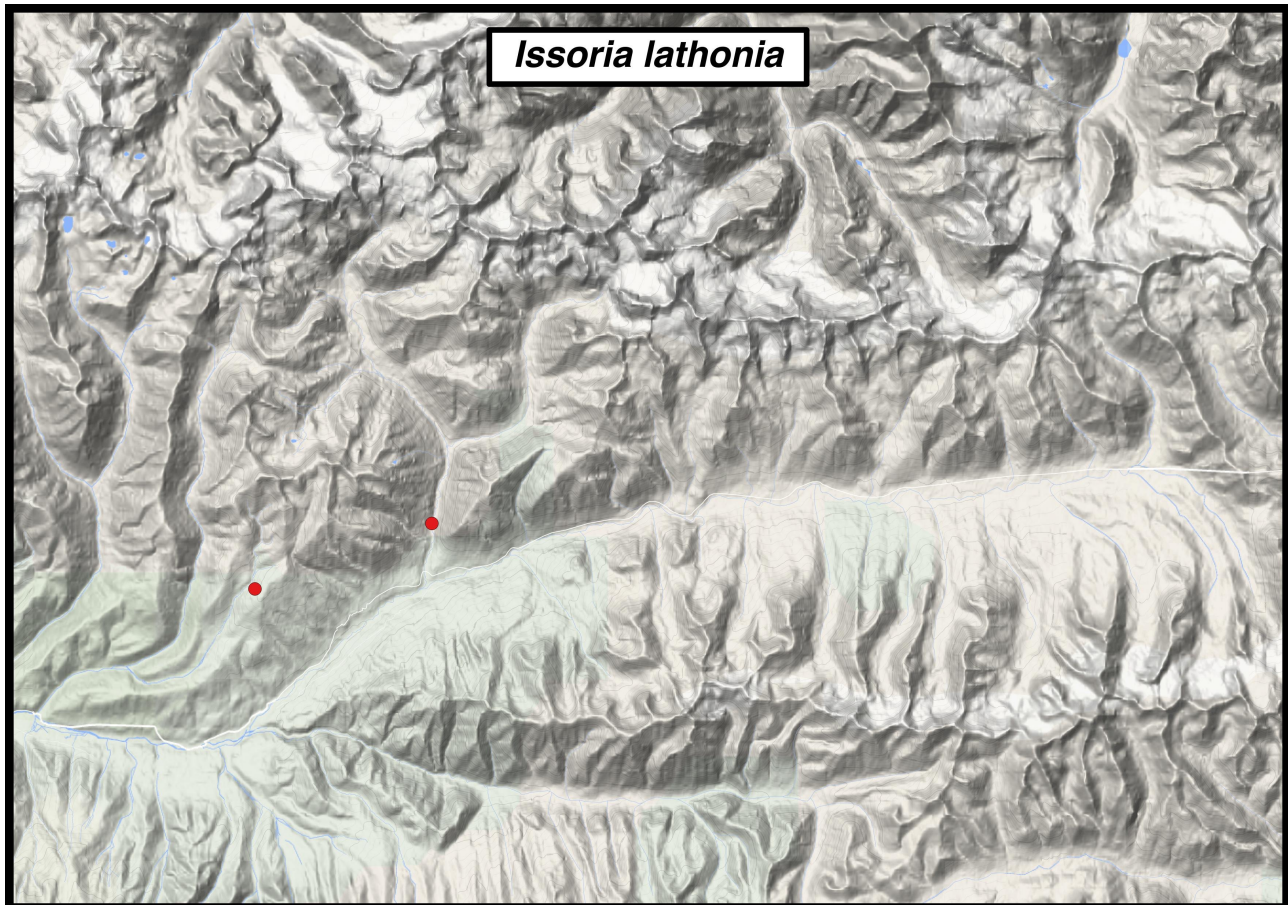
Flight Time: April to October

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 — No Common Name

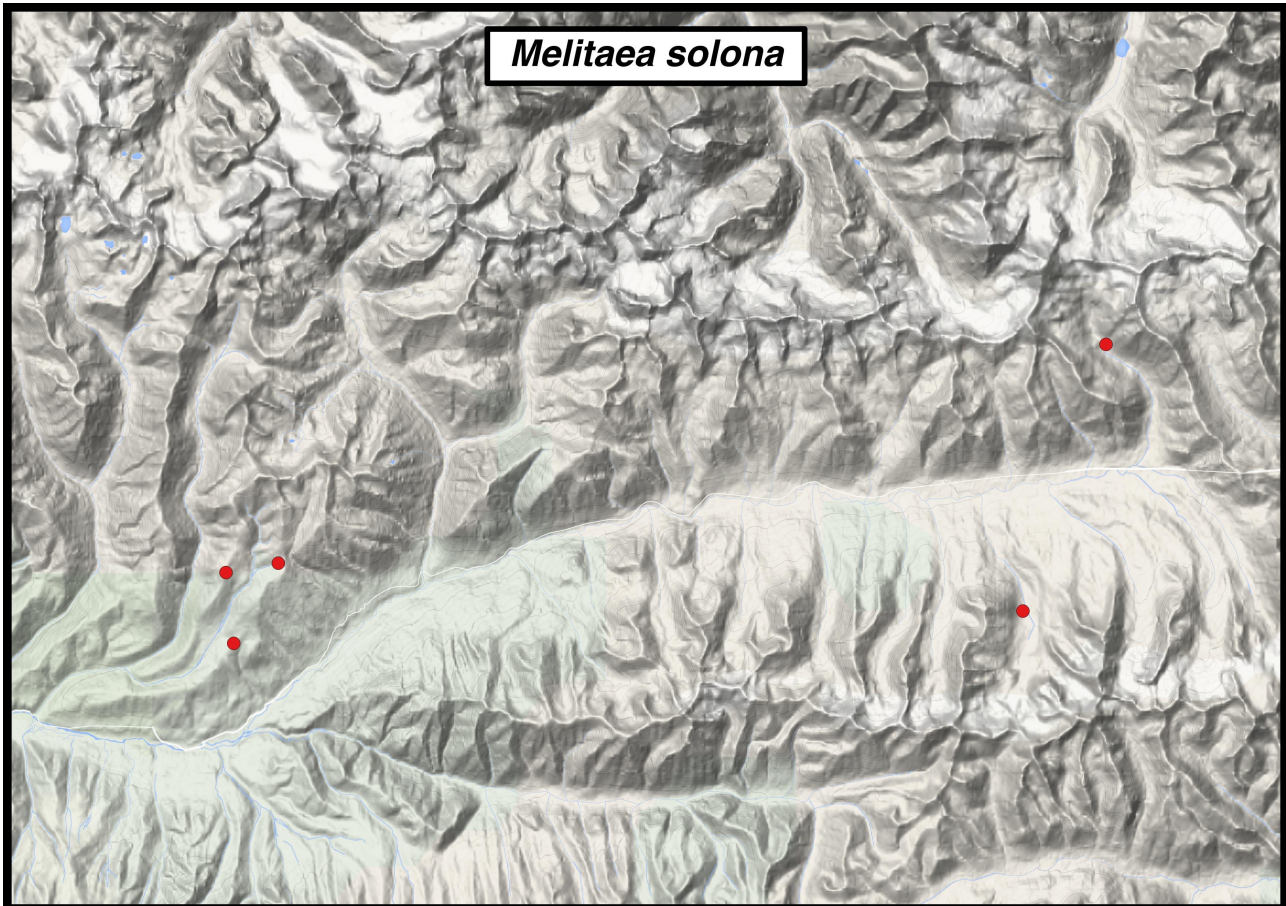
Flight Time: June to July

Elevation: 2700-4000m

Habitat: Humid alpine meadows

Food Plants: *Pedicularis* spp. (lousewort)

Life Cycle: N/A



Papilionidae

Papilio machaon — Old World Swallowtail

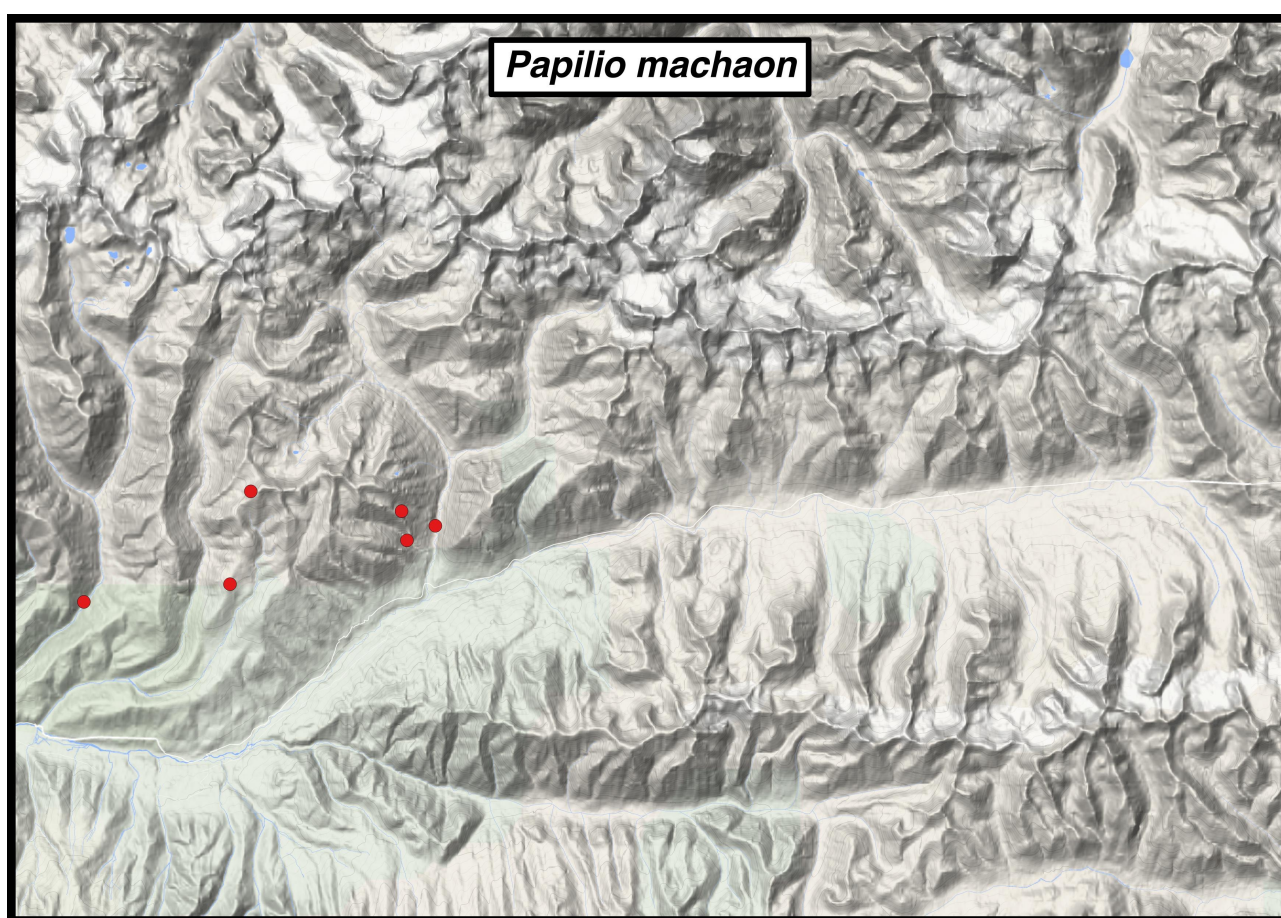
Flight Time: April to November

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 is possible for up to 3 years before adult emergence. Univoltine or bivoltine depending on location.



Parnassius delphius — Banded Apollo

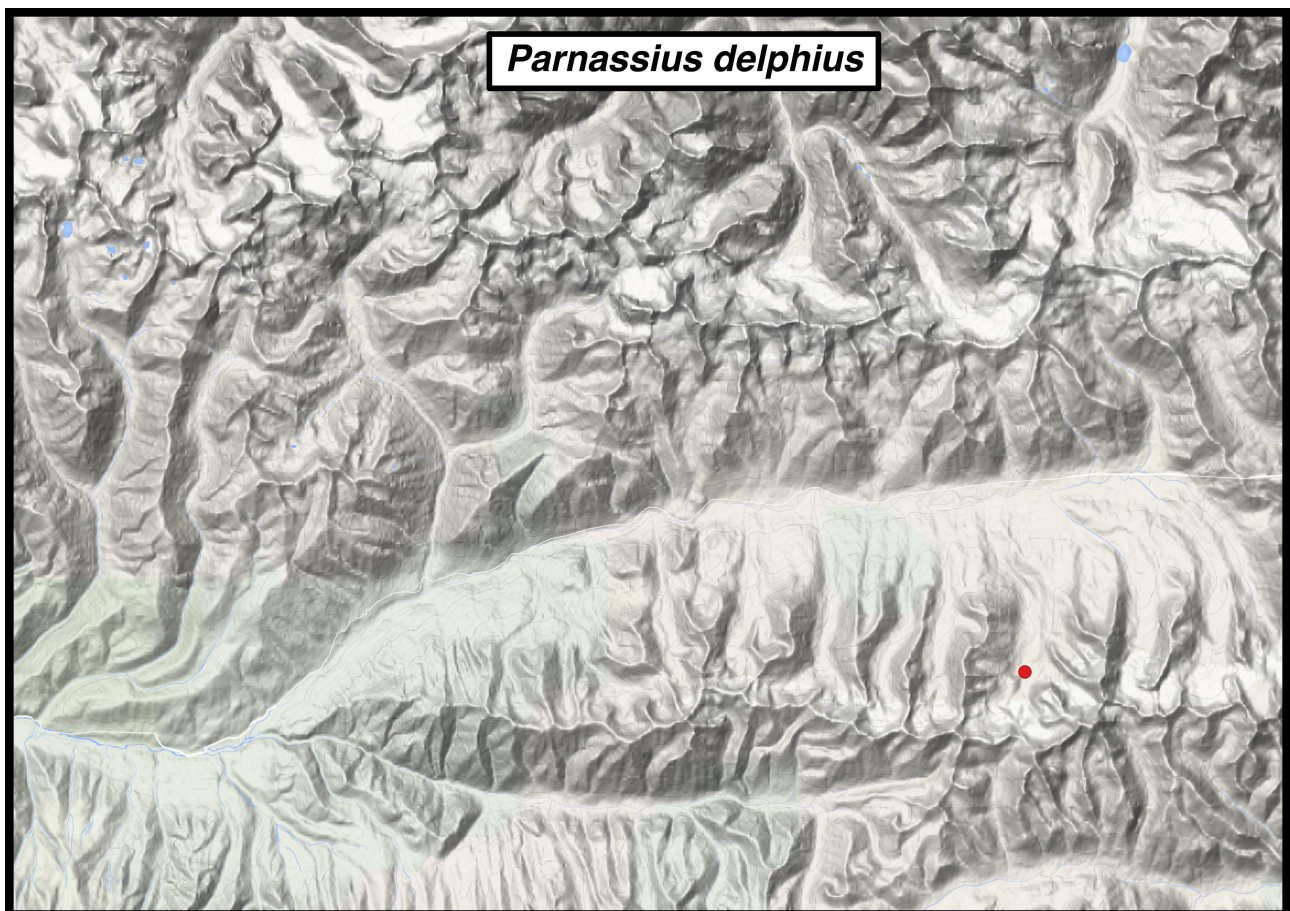
Flight Time: June to July

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 two year life cycle. Initially overwinters as an egg then hatches in spring. Larvae feed for one year and then overwinter as pupae the second winter.



Parnassius mnemosyne — Clouded Apollo

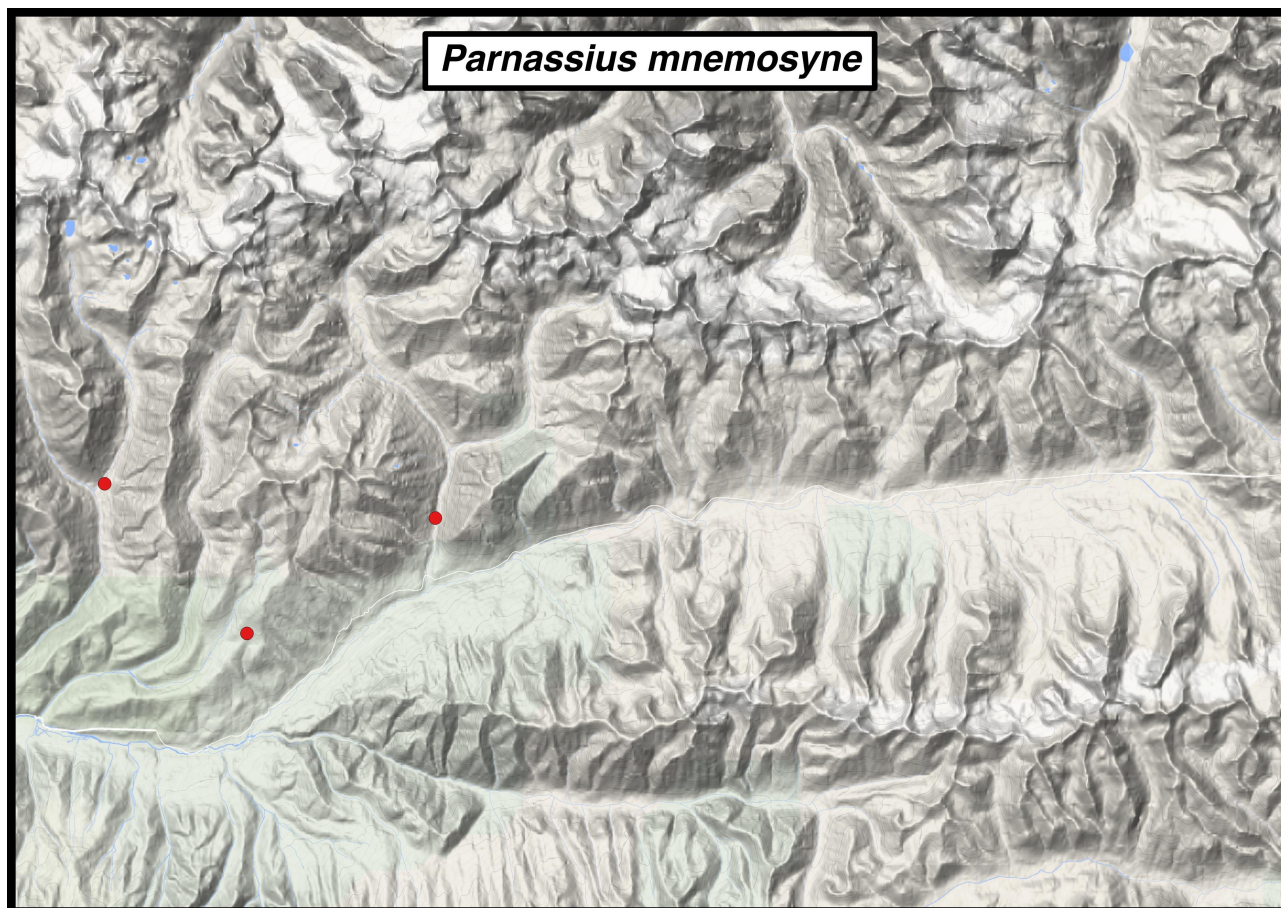
Flight Time: May to July

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

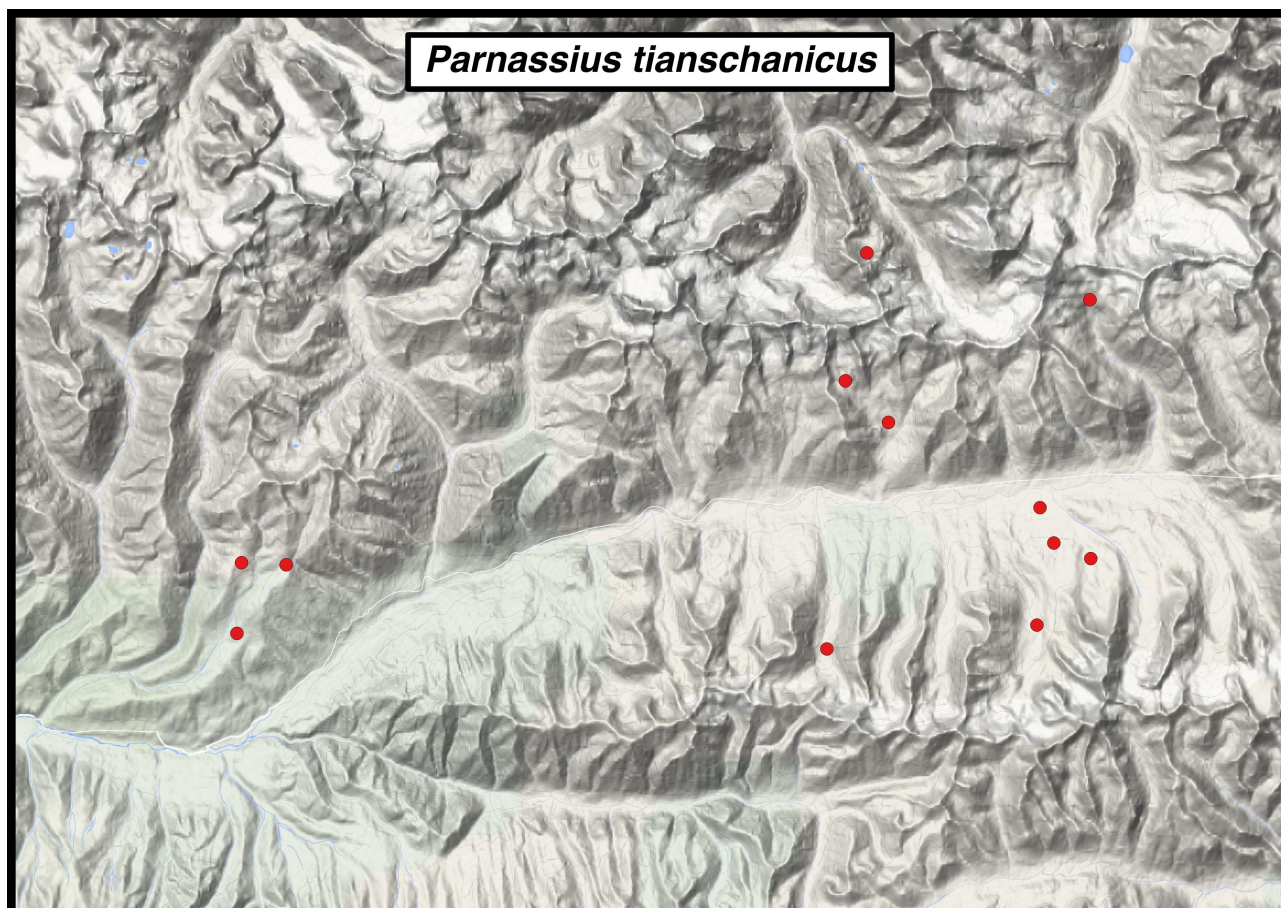
Flight Time: May to September

Elevation: 1700-3500m

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

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

Life Cycle: Overwinters as a larva.



Pieridae

Colias erate — Pale Clouded Yellow

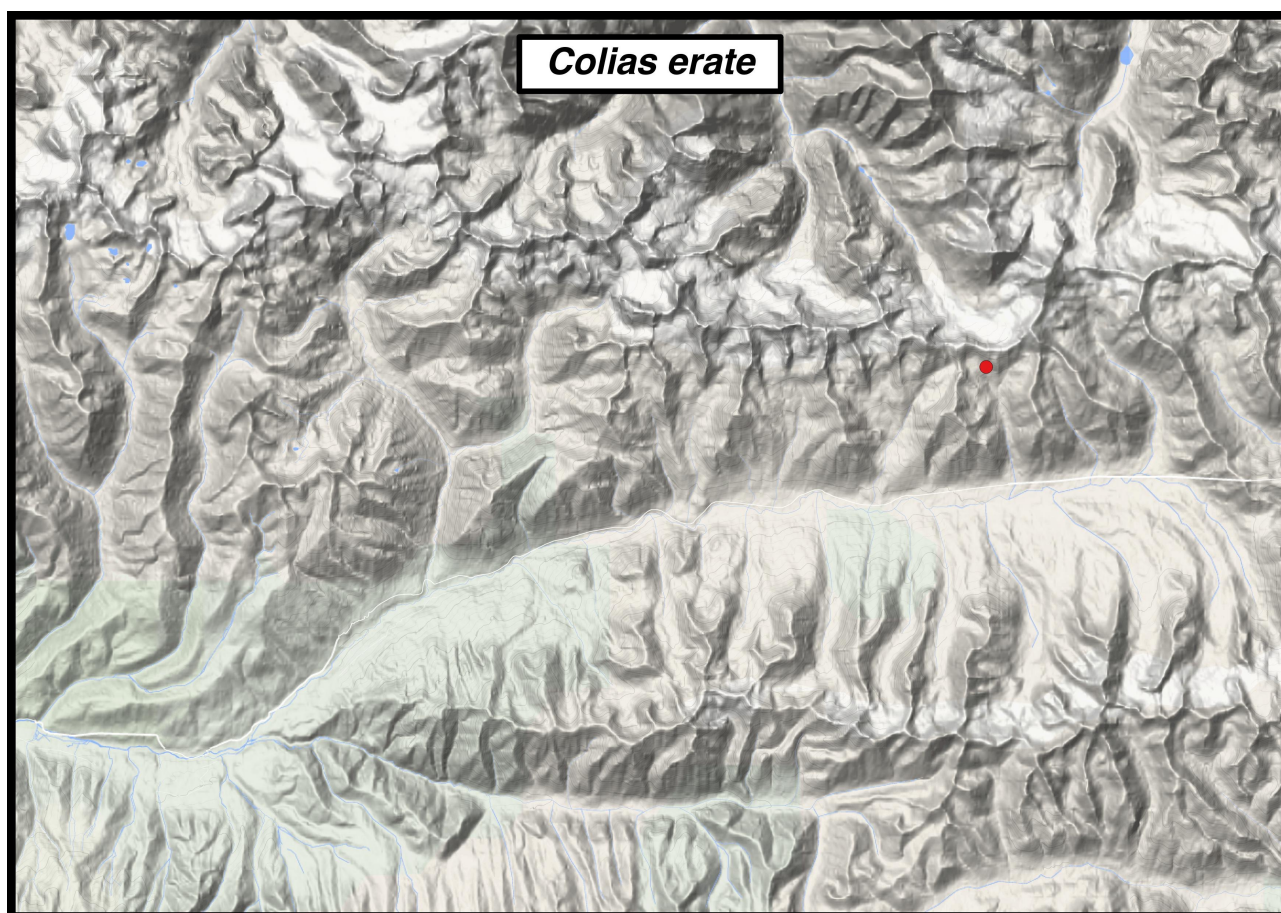
Flight Time: April to October

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

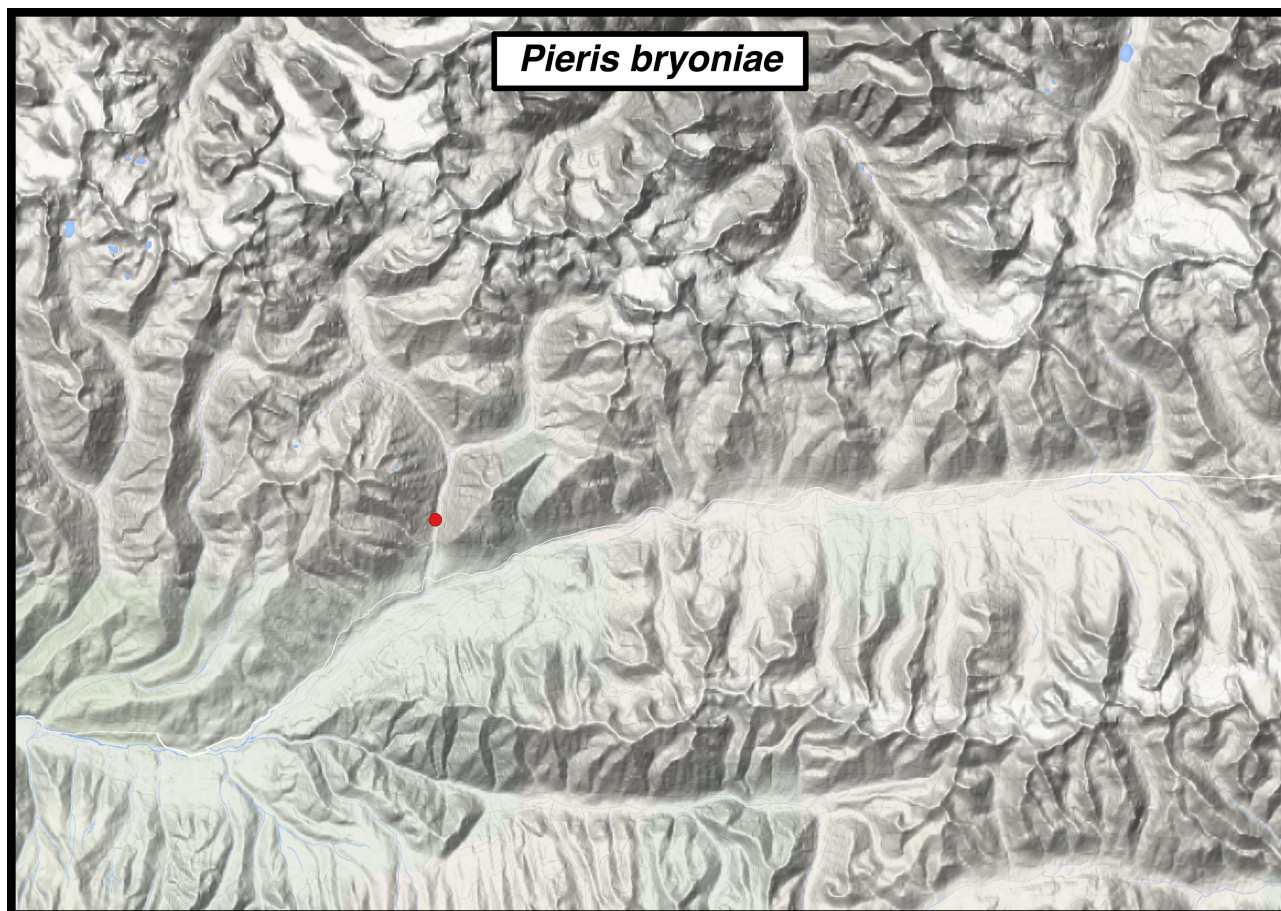
Flight Time: June to July

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

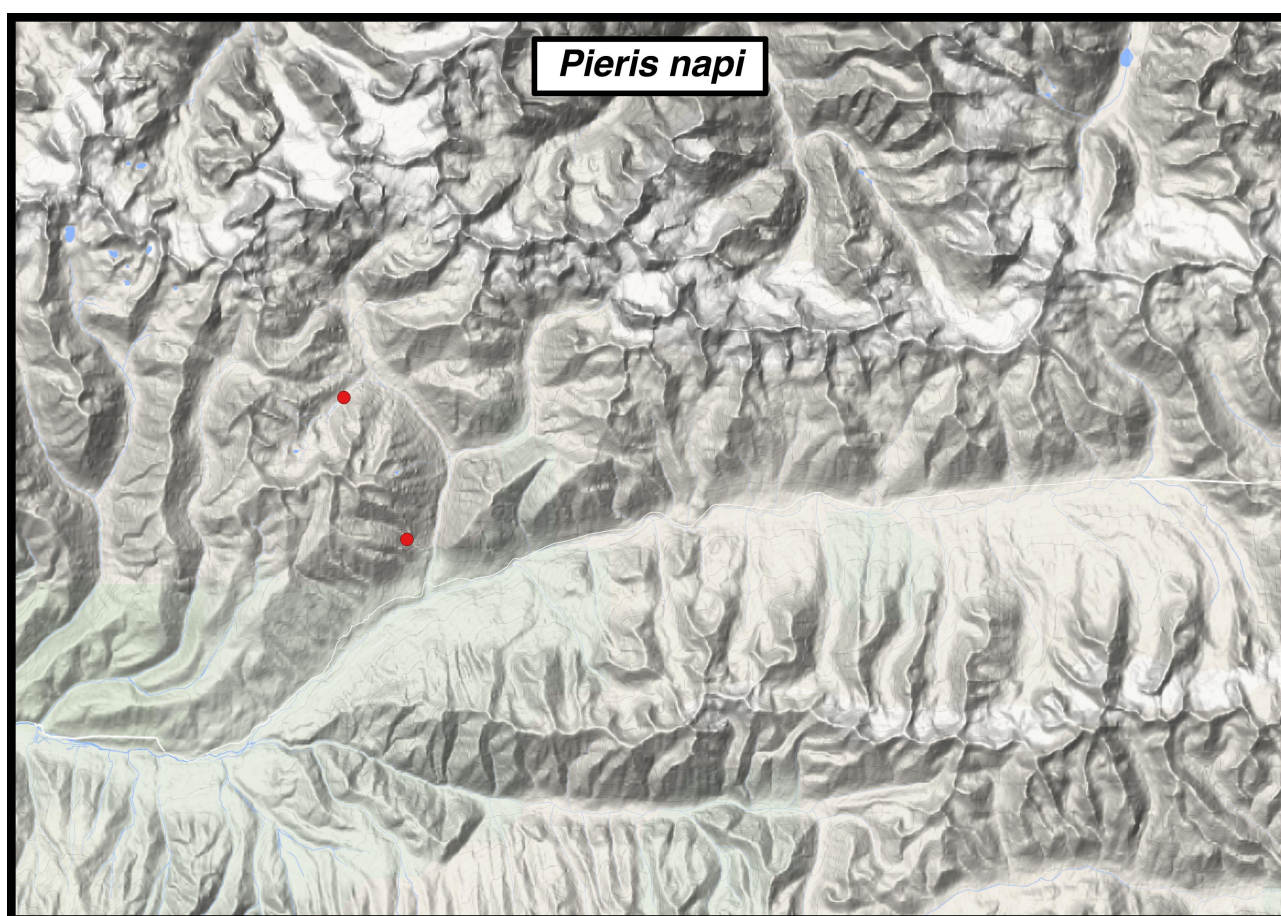
Flight Time: April to September

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

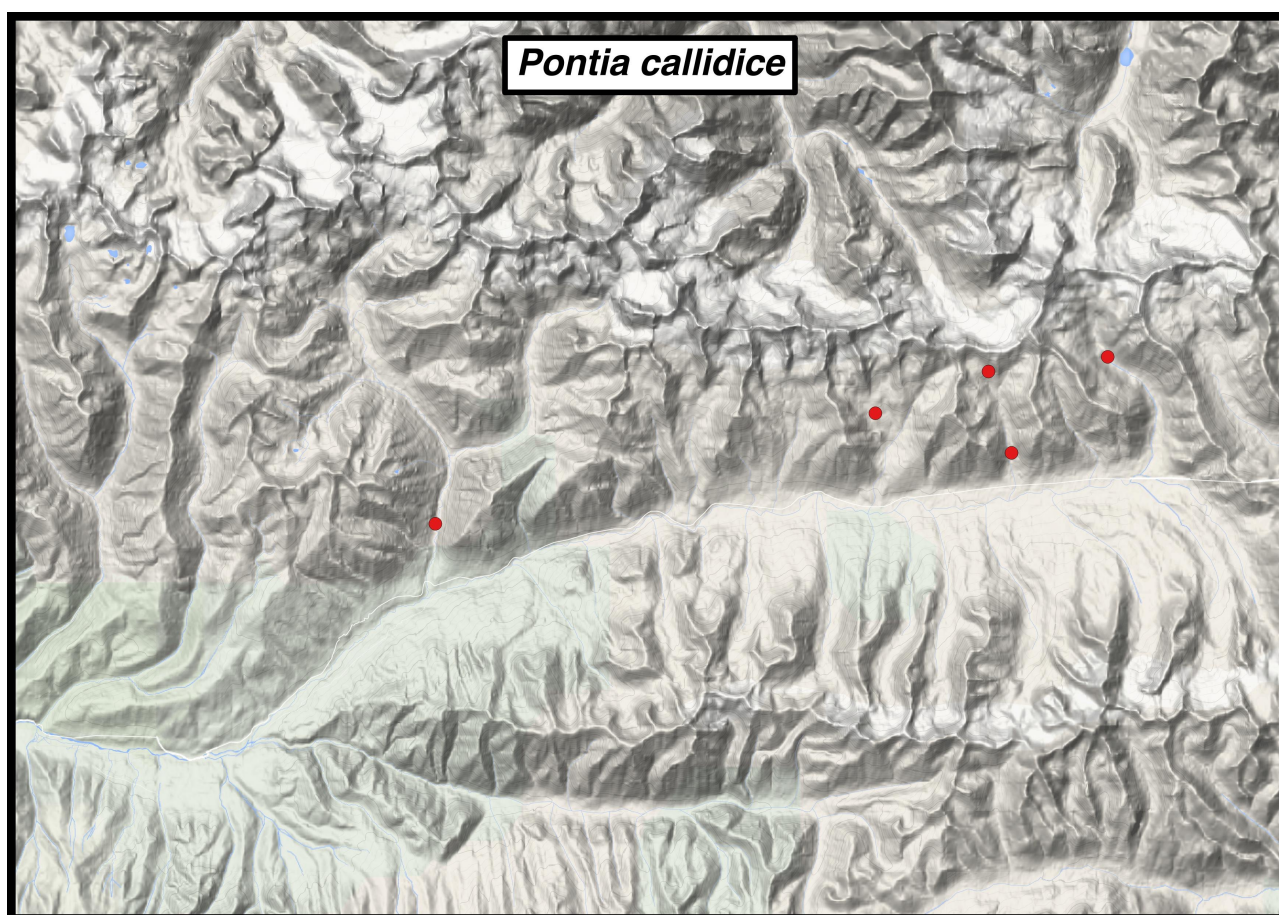
Flight Time: May to September

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

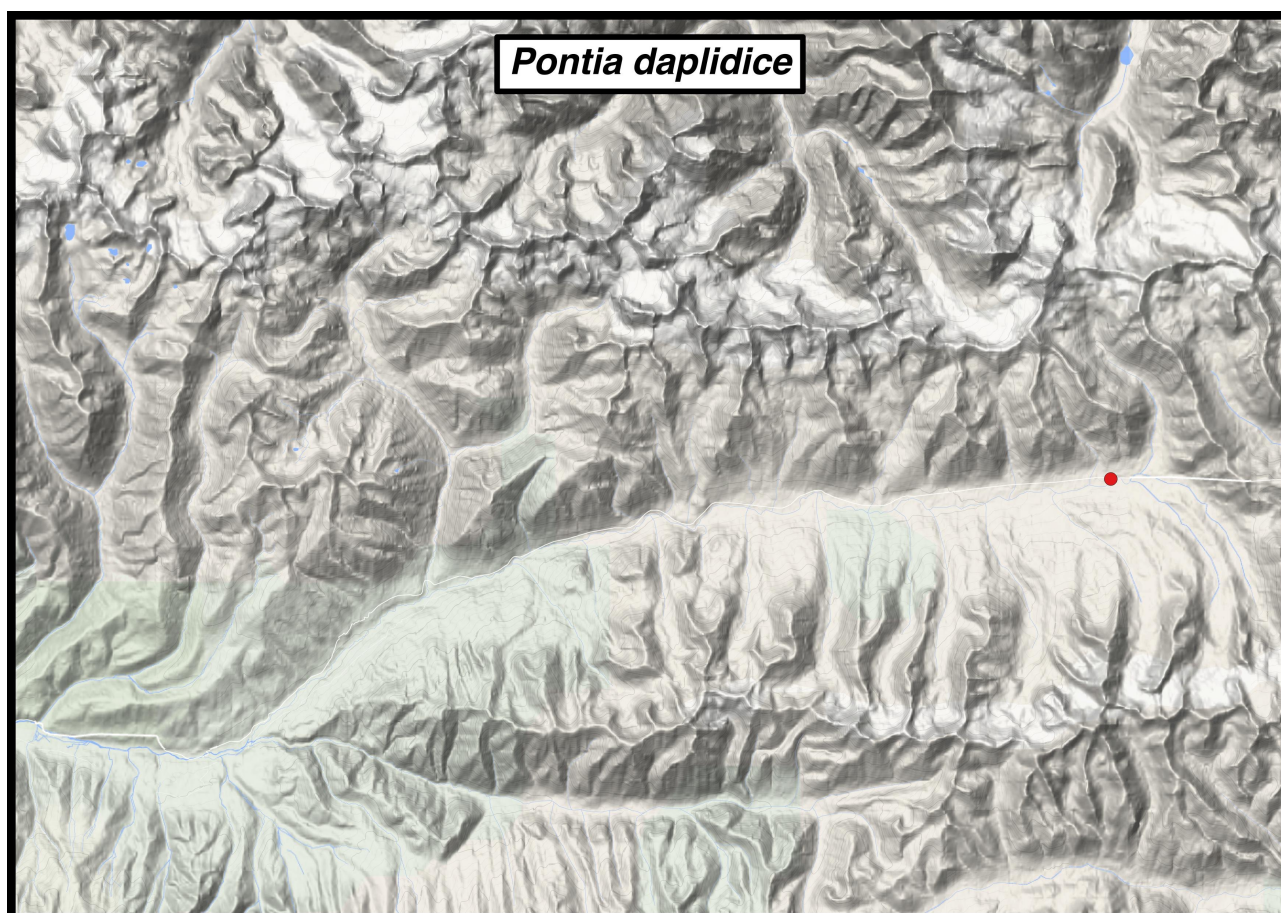
Flight Time: April to October

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 — No Common Name

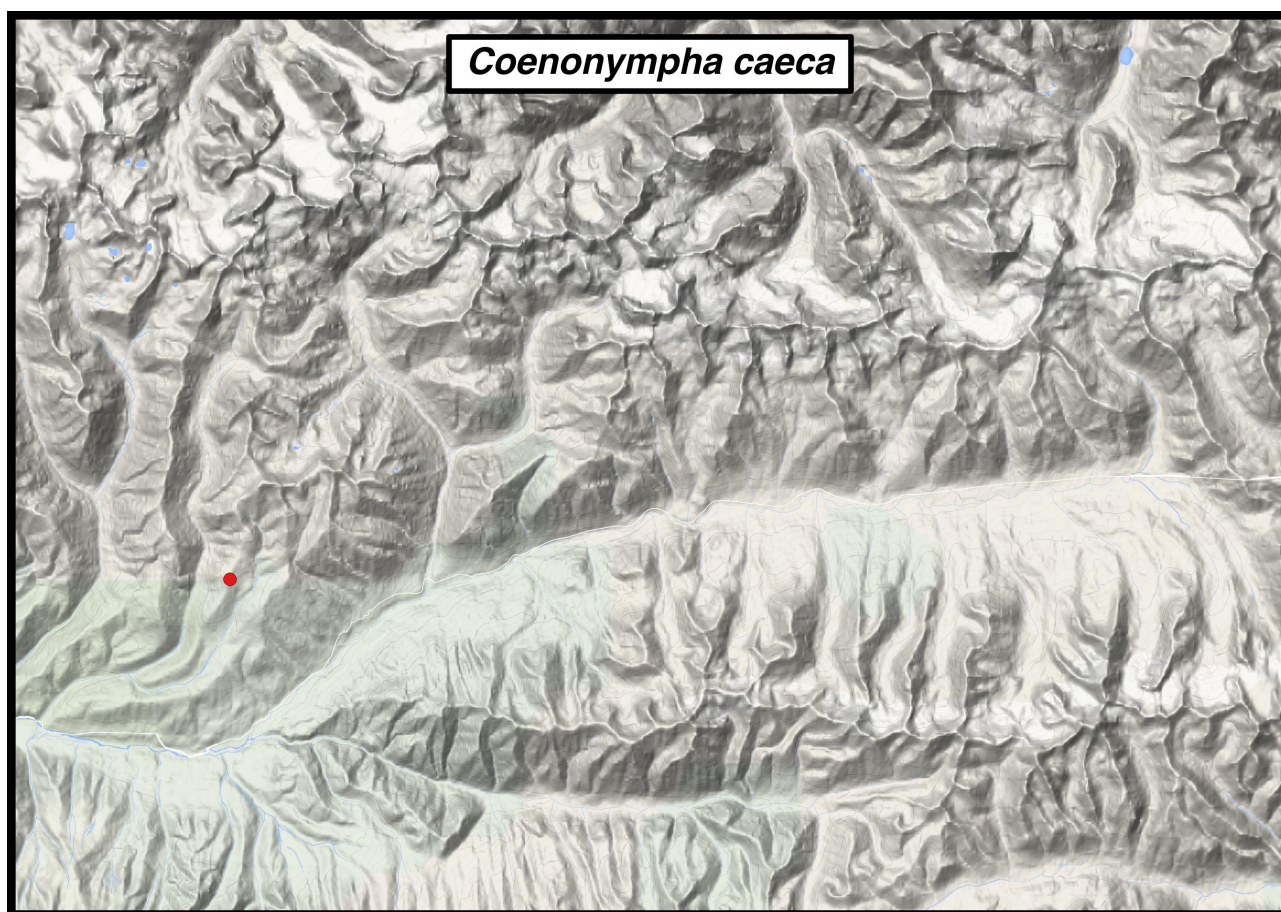
Flight Time: June to July

Elevation: 2000-3500m

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

Food Plants: *Carex spp.* (Sedge)

Life Cycle: N/A



Coenonympha sunbecca — No Common Name

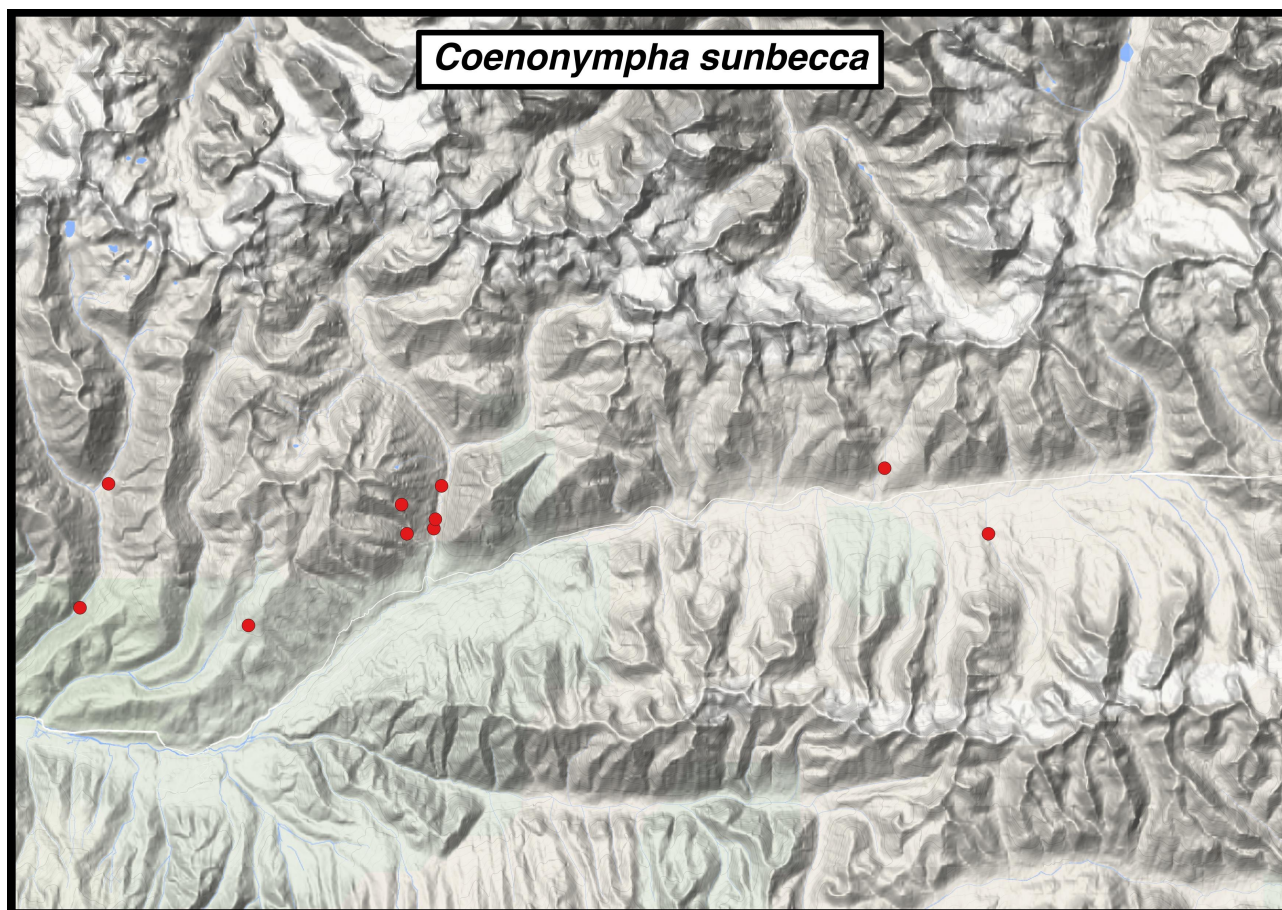
Flight Time: June to August

Elevation: 1500-3400m

Habitat: Sloped meadows and stream banks

Food Plants: Poaceae (Grasses)

Life Cycle: N/A



Erebia mopsos — No Common Name

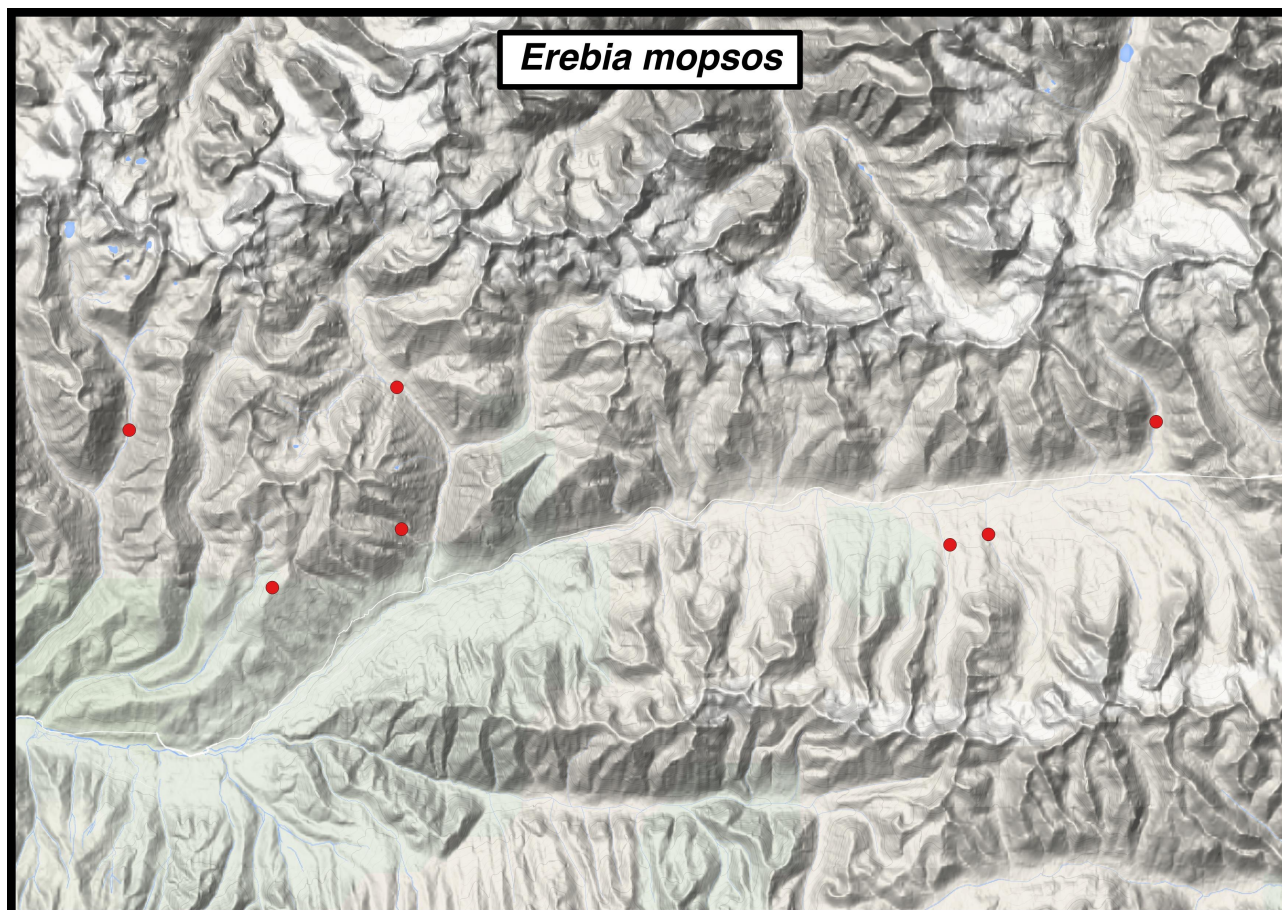
Flight Time: June to July

Elevation: 2800-3500m

Habitat: West, north, and northeast facing meadow slopes in subalpine and alpine areas.

Food Plants: *Festuca spp.* (Fescue)

Life Cycle: N/A



Erebia sokolovi — No Common Name

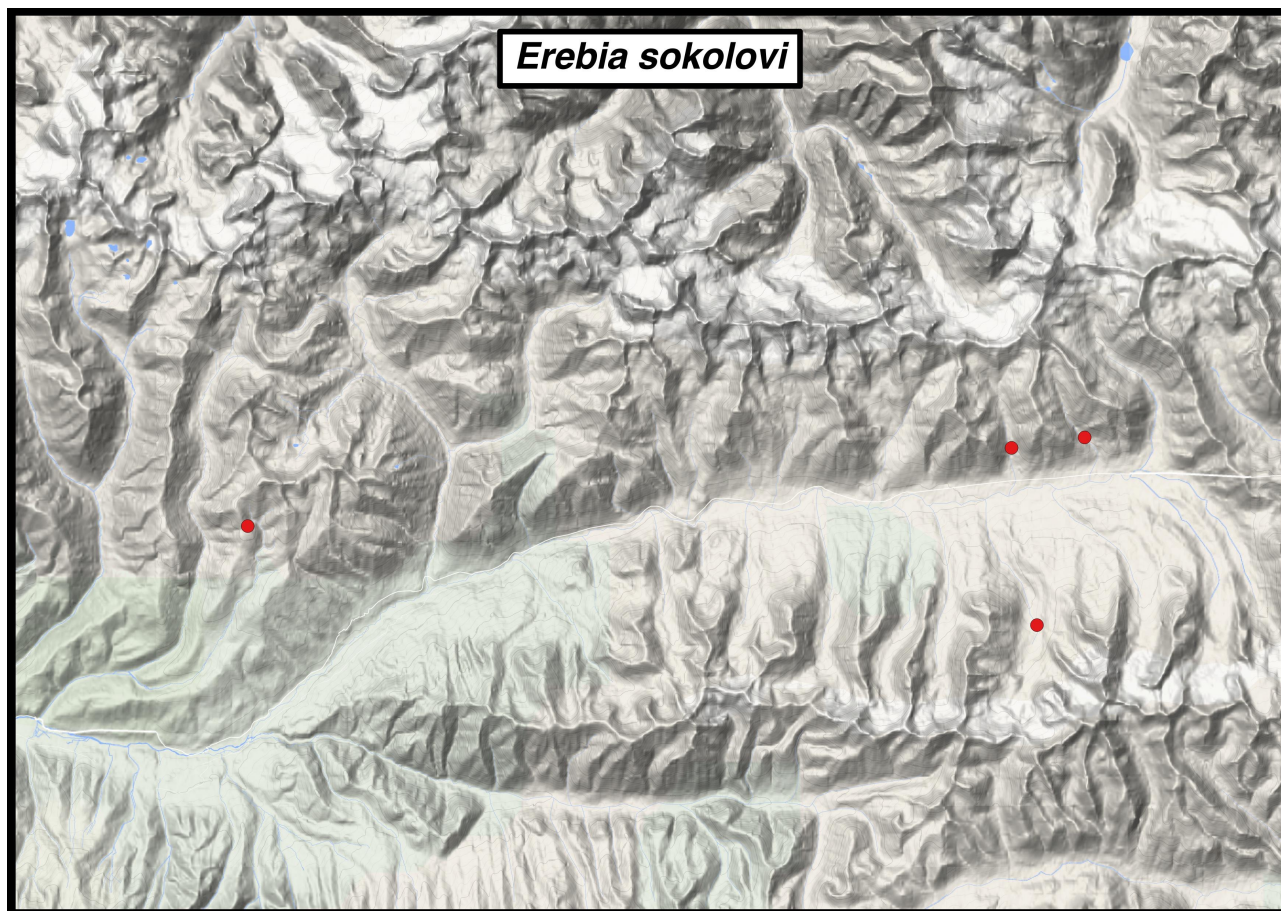
Flight Time: July to August

Elevation: 3000-3600m

Habitat: West, east, and north facing meadow slopes in subalpine and alpine areas.

Food Plants: Poaceae (Grasses)

Life Cycle: N/A



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