

SPECIES FACT SHEET

Common Name: “The Coastal Greenish Blue” - Insular Blue (subspecies of Greenish Blue)

Note: This species is being referred to as the Coastal Greenish Blue because the common name Insular Blue can be confused with another subspecies of Greenish Blue (*Plebejus saepiolus insulanus*).

Scientific Name: *Plebejus saepiolus littoralis* (Emmel, Emmel, Mattoon 1998)

Phylum: Arthropoda

Class: Insecta

Order: Lepidoptera

Family: Lycaenidae

OR/WA BLM and FS Region 6 Units where Suspected or Documented:

Pyle (2002) lists Curry, Coos, and Lane counties in Oregon as having documented sites. The species is also found in Del Norte County in California (Emmel et al. 1998).

There are three known sites. The Rock Creek/Big Creek site in Lane County appears to occur on Siuslaw National Forest land.

The site on the north side of Coquille River mouth is on state and private lands in Coos County. The Cape Blanco site includes US Coast Guard and Oregon State Parks land in Curry County. The site in California is near Fort Dick in Del Norte County.

The Oregon Natural Heritage Program lists the Coast Range, California and Curry and Lane Counties.

Technical Description:

Larval:

At ssp. level *littoralis/insulanus* level it is undescribed.

Description of species *Plebejus saepiolus*:

Green or pale green with white lateral line edged with red or pink (Allen et al. 2005). Pyle also states that caterpillars, have green and reddish forms (Pyle 2002).

Adult:

Description of species *Plebejus saepiolus*:

Size 1 – 1¼” (26-32mm). Sexes dimorphic.

Male upperside of wing: A grainy blue with green overtones, a black border, and a distinct black bar in the FW cell.

Female upperside of wing: blue brown to copper, often with orange and sometimes with blue at the base.

Male underside of wing: light gray with turquoise scaling at the base.

Female underside is tan to brownish gray, sometimes with blue at the base.

Male and female undersides have various black spotting but almost always have one or more pairs of pronounced, opposing spots near the anal angle of the hind wing, marginal dashes faced by submarginal chevrons, capping a subtle orange or rusty patch between them (female lacks orange zig-zags of copper) (Pyle 2002; Opler 1999).

P.s. littoralis is differentiated from other greenish blue subspecies by having fewer black spots with unique white halos and is slightly larger than other Greenish Blue subspecies (Pyle 2002). The species is considered a distinct and valid subspecies Emmel et al. 1998; Pyle pers. com. 2005).

Life History:

Most life history details of this coastal subspecies appear to be unknown or have not been published. According to (Emmel et al. 1998) the subspecies flies in a single brood from early May to mid June. Specimens have been collected from 26 May (Rock Creek) to 3 July (Coos County Line, worn specimen), with most collection dates for the month of June. (Evergreen Aurelian records)

There is additional information for the species.

Caterpillars are found on leaves of clovers from April – June (Allen et al. 2005) Adults are on the wing from late April to mid August, peaking in June – July. (Pyle 2002; Opler 1999). Eggs are laid in clover flowers (*Trifolium monanthum*, *T. longipes*, *T. wormskioldii*, and probably others) (Pyle 1981). The species overwinters as early instar caterpillar in flower head of host clover (Allen et al. 2005).

Range, Distribution (Current and Historic), and Abundance:

Historic - Little is known about the historic distribution. Historical data shows the coastal subspecies present from Lake Earl, Del Norte Co., CA; in Oregon, from Curry County- 2 mi N Gold Beach;

Cape Blanco; on Coos County line; Coos County- Coquille River Lighthouse; Lane County- Rock Creek; Lincoln County- De (Devils) Lake. A single record from Clatsop County (near Elsie) may have been due to a mislabeled specimen (Warren 2005).

Current - Greenish Blue's range extends throughout the western and northern United States and transborder Canada (Pyle 2002). *P.s. littoralis* is found in Curry and Coos counties and a mid-coastal colony in Lane County in Oregon (Pyle 2002) as well as in Del Norte County in California (Emmel et al. 1998).

The Oregon Natural Heritage Program lists locations as Curry and Lane Counties. Specifically it has been found at Rock Creek/Big Creek site on Siuslaw National Forest. The Lighthouse, N side of Coquille River mouth also appears to be on Siuslaw National Forest land and at Cape Blanco on US Coast Guard and Oregon State Parks land. It is also found on the immediate coast of Del Norte County (Emmel et al. 1998)

Habitat Associations:

Typically along stream edges, bogs, or wet meadows but also along drier sites that have blooming clovers such as roadsides and open meadows. The name *littoralis* means “of the shore”....”; also “...found on the immediate coast...”; and “...sand dunes...” are all they say in the description of the ssp. *littoralis*.

The colony at the Coquille River Lighthouse favored the moist depressions in the lee of sand dunes along the access road.

Threats:

Undocumented at this time, but may include the conversion of coastal habitat to homes, succession of moist meadow or dune habitat to shrub/woodland habitat, competition from weeds, trampling by humans, livestock or offroad vehicles, or other natural ecological factors. Some of these same threats have been documented for the Seaside Hoary Elfin (Ross 2005) and the Oregon Silverspot, butterflies that are also confined to coastal habitats.

Conservation Considerations:

Surveys (ssp. *littoralis/insulanus*) can be used to more accurately determine the current distribution of the Coastal Greenish Blue and to establish its local relative abundance and the threats to populations wherever they occur. Historical sites could be visited first to determine the presence/absence of the butterfly there. Searches for additional populations could also be conducted, given the paucity of historical records for the taxon.

Scale is important when managing habitat for at risk butterflies. Division of a site into several management units is important, with butterfly habitat within a site evenly divided among these management units. Individual units could be managed in a rotation that assures at least 2/3 of the habitat is left unmanaged at any one time (Dana 1991), with three growing seasons between management activities in any one unit. This rotation should allow sufficient time for numbers to rebuild before the next management action (Dana 1991).

More study is needed to determine management actions at known sites. Managers may need to consult with an expert in managing habitat for butterflies before moving forward on restoration projects or projects that may adversely impact the sites.

Other pertinent information (includes references to Survey Protocols, etc):

Conservation status:

Heritage Global Rank: G5T1T3

Heritage State Rank: California (SNR-Unranked), Oregon (S1-Critically Imperiled), Washington (SNR - Unranked)

BLM Status: Bureau Sensitive Species

USFS Status: No status

ELECTRONIC ATTACHMENTS:

- (1) Survey Protocol**
- (2) Key to Identification of the Species**
- (3) List of References**

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Survey Protocol

Below is a general survey protocol for butterfly searches that can be adapted to the *P.s. littoralis*. It is recommended that searches be conducted by an expert in butterfly identification and survey or personnel trained by an expert.

All sites should be surveyed during the following environmental conditions.

Minimum temperature: Above 60 degrees F.

Cloud cover: Partly sunny or better. On cooler days the sun can play a very important role in getting butterflies to take to the air. On warmer days (above 60 degrees F), direct sunlight is less important, but a significant amount of the sun's energy should be coming through the clouds to help elevate the temperature of basking butterflies.

Wind: Less than 10 MPH. On windy days, butterflies will drop out of the air if they cannot maintain their direction and/or speed of flight.

Time of day: Between 10AM and 6PM. Success is most likely during the warmest parts of the day.

Time of year: Typically June – July. Currently occupied sites should be checked before the start of the search as flight times may vary due to weather conditions in the spring and early summer.

Follow this protocol after arriving at each potential site.

1. Approach the site and scan for any butterfly activity, as well as suitable habitat.
2. Fill out all of the site information on your datasheet.
3. Walk through the site slowly (about 5 minutes to walk 100 meters), look back and forth on either side, approximately 20 to 30 feet out. Do best to walk in a path such that you cover the entire site with this visual field, or at least all of the areas of suitable habitat.
4. If you leave the path you are walking to look at a particular butterfly, do your best to return to where you left your path when you resume walking/searching through the site.
5. When a suspected (*Plebejus saepiolus littoralis*) is encountered, net the butterfly to confirm its identification.
6. Record all data for sites whether butterflies are seen or not. In this way, we document both new sites, as well as our overall search effort.

Key to Identification of the Species

Butterfly field guides (such as Pyle 2002) are probably the best source of pictorial “keys”. It is best to refer to a butterfly guide when trying to identify this species.

Plebejus saepiolus: Size 1 – 1¼” (26-32mm).

Male upperside of wing: A grainy blue with green overtones, a black border, and a distinct black bar in the FW cell.

Female upperside of wing: blue brown to copper, often with orange and sometimes with blue at the base.

Male underside of wing: light gray with turquoise scaling at the base.

Female underside is tan to brownish gray, sometimes with blue at the base.

Male and female undersides have various black spotting but almost always have one or more pairs of pronounced, opposing spots near the anal angle of the hind wing, marginal dashes faced by submarginal chevrons, capping a subtle orange or rusty patch between them (female lacks orange zig-zags of copper) (Pyle 2002; Opler 1999).

P.s. littoralis is differentiated from other greenish blue subspecies by having fewer black spots with unique white halos and is slightly larger than other Greenish Blue subspecies (Pyle 2002).

Similar species:

Boisduval's Blue (*Icaricia icarioides*) is larger and has white spots or white-encircled black spots on underside of hind wing.

Sivery Blue (*Glaucopsyche lygdamus*) is more iridescent on upperside and has more regular row of round black spots on underside of hind wing (Opler 1999).

Image: *littoralis*- see Pyle 2002 (page 247).

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NatureServe Explorer:

<http://www.natureserve.org/explorer/servlet/NatureServe?searchName=Plebejus+saepiolus+littoralis>

NatureServe Explorer:

<http://www.natureserve.org/explorer/servlet/NatureServe?searchName=Plebejus+saepiolus+insulanus>

United States Geological Survey / Northern Prairie Wildlife Research Center website on Greenish Blue. For the United States:

<http://www.npwrc.usgs.gov/resource/distr/lepid/bflyusa/usa/261.htm>

Oregon Natural Heritage Program. 2003. Oregon Natural heritage Plan. Department of State Lands, Salem, OR. 167pp.

Personal Communication

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