

## Colorado Insect of Interest

# Painted Lady

**Scientific Name:** *Vanessa cardui* (Linnaeus)

**Order:** Lepidoptera ((Butterflies, Moths, Skippers)

**Family:** Nymphalidae (Brush-footed Butterflies)

**Identification and Descriptive Features:** The painted lady is a large butterfly marked predominantly with orange and black. White spots tip the forewing; dark eyespot markings occur on both the upper and lower sides of the hind wing. Wing span ranges from 5-9 cm with females being somewhat larger than males. Summer forms of the butterfly also are larger and brighter than winter forms and develop bluish “pupils” of the eyespots.

The developing larvae are found on host plants amongst loose webbing. The caterpillars are notably spiny and early stage larvae are pale brown. As they age they become variably marked with black and yellow, with considerable range in the overall coloration.



**Figure 3.** Webbing produced by painted lady larva on Canada thistle.



**Figure 1.** Painted Lady.



**Figure 2.** Painted lady showing markings of the wing underside.

**Distribution in Colorado:** Following its annual spring migration the painted lady may be found anywhere in the state. However, it is primarily a species of fields and open areas. They are also common visitors to flowers in yards and gardens.

The painted lady is one species that many school children have encountered as rearing one of these is now almost a rite of passage in elementary school classes. It is also the butterfly species commonly used for release at weddings and other celebratory events.

The painted lady is the most widely distributed butterfly in the world. It may be found not only throughout North America and Central America but also occurs in Africa, Europe and Asia.

**Life History and Habits:** The painted lady is a highly migratory species that is almost constantly in motion. During

winter, they vacate most of the US remaining active only in parts of the extreme southwestern states and northwestern Mexico, particularly Baja Mexico.



**Figures 4, 5.** Painted lady larvae. An older larva is at the top a young one at the bottom.

In late spring, they move northward as host plants emerge in spring. The size of these migrations varies tremendously from year to year and is most dependent on the occurrence of spring rains in their overwintering areas. When a favorable precipitation pattern occurs, painted lady populations can explode and subsequently may enter Colorado in spectacular migration in late spring. During these years the painted lady is often the most common butterfly over extensive areas of the western US; however, it may become very rare the following season if unfavorable weather occurs in the overwintering range.

Larvae have a wide range of food hosts but primarily feed on plants in the families Asteraceae (Compositae), Boraginaceae, and Malvaceae. Various thistles are particularly common hosts and the name “thistle caterpillar” is sometimes given to this species. During outbreak years the caterpillars may extensively defoliate thistle in late

spring, sometime then wandering in large numbers in search of new host plants. Common mallow and hollyhock are other common host plants commonly eaten, but many other plants are more incidentally eaten, including sunflowers and soybeans. (Artificial diets are available and used for most school projects.)

Eggs are laid singly on leaves of host plants and are cream colored and lined with ridges. Eggs hatch in 3-5 days the developing larvae construct a loose shelter of silk among the leaves within which they feed and develop. Larval development can be rapid, typically involves 5 instars, and is normally completed within two weeks.

The full grown larvae then migrate in search of a protected site to pupate. They attach the end of the body with a bit of silk and hang suspended downward before molting to the pupal stage. Initially the pupal stage is in the form of a greenish chrysalis but this changes to a predominately silver/gray. The adult butterfly emerges in about a week after pupation.



**Figure 6.** Chrysalis of a painted lady.

Following their annual colonization of the state there may be several generations produced

annually in Colorado. During late summer painted ladies may be seen in a southerly migration and none survive winter outdoors in the state.

**Related Species:** Three other *Vanessa* species also may be found in Colorado. All have a similar size and are marked with orange and black, although patterning differs:

The **American painted lady**, *Vanessa virginiensis* (Drury), is distinguishable from the painted lady by the presence of two large eyespots on the underside of the hind wing and the underside of the forewing has large areas of rosy coloration. Larvae develop on various members of the sunflower family (Asteraceae).

The **West Coast lady**, *Vanessa annabella* (Field), is quite similar to the painted lady but can be distinguished by differences by an orange bar on the front edge of the forewing and has a more orange-brown hue. The West Coast lady is more common in western Colorado, but can stray throughout the state and larvae feed on various mallow family (Malvaceae) plants.

The **red admiral**, *Vanessa atalanta* (Linnaeus), is the most boldly marked of the *Vanessa* species, with bright red-orange striping of the upper wings that contrast with the overall dark brown-black color. It is primarily a woodland species and larvae develop on nettles.

The painted lady is sometimes mistaken for the better-known **monarch butterfly**, *Danaus plexippus* (Linnaeus). However, the monarch is a substantially larger butterfly with darker orange and black striping patterning that allow it to be easily distinguished from the painted lady. Larvae of the monarch are boldly striped caterpillars that develop on milkweeds. They can be locally common but usually are much less abundant in Colorado than is the painted lady.