

Ulistac's Wild Bees



A Haven for Bees

**Saint Catherine's Lace
buckwheat in the Bird &
Butterfly Garden**



My fascination with bees started many years ago after my wife had redesigned our home garden to a California native setup. While photographing flowers I noticed many bee species that I had not seen before. I was smitten. In the past few years I upgraded my camera gear and started studying the native bees of our state. After finding over a dozen species in our home garden, I sought to find more. I turned to Ulistac and was amazed at what I found. It's not too surprising, actually. Native bees coevolved with native plants, and Ulistac Natural Area has been progressing towards expanding its native plant collection.

The guide "California Bees & Blooms" states that there are about 1600 native bee species here in California. To date, I have found about a dozen bee species at Ulistac and I'm sure that there are more to be found. This small guide is a work in progress and, perhaps, you may find some of the species that I haven't.

Some bee species forage as specialists, meaning that they seek only a limited set of flowering plants for pollen and/or nectar. Other bees are generalist and will forage on a wide variety of flowers. Within those, some use a pattern called constancy. This means that once

they find a blossom that provides pollen or nectar, they continue to forage only on that type. Most of the bees I've found at Ulistac don't specialize but may use constancy. For example, we're almost guaranteed to find bumble bees on *Ceanothus* species flowers in winter and digger bees on *Helianthus* sunflowers in summer. The Saint Catherine's Lace buckwheat shown on the previous page attracts a wide variety of bees. Sages are in bloom mostly through spring and these attract many types of bees as well. There are too many plant species at Ulistac to list here but most will likely attract at least one kind of bee. Take a walk around the park and see what you can find.

On the cover: a Black-tailed bumble bee that's thoroughly dusted with pollen as she browses on a small-leaf *Ceanothus*, perhaps the 'Dark Star' variety.

Ulistac Natural Area



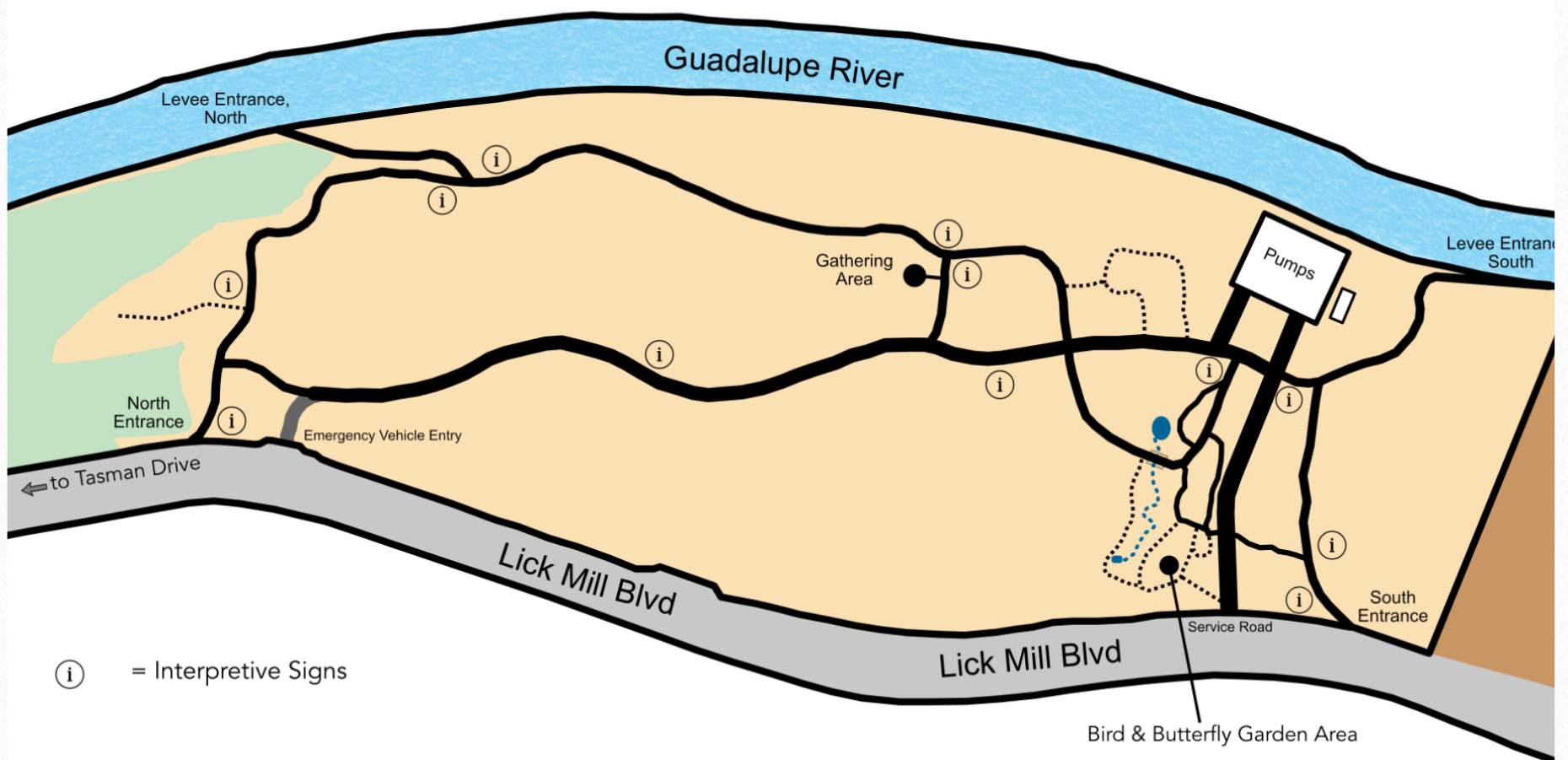
Ulistac is the short name of the park in the City of Santa Clara, but it is formally known as Ulistac Natural Area. Unlike common city parks, it is being kept in a more natural state. It offers abundant wildlife habitat and a serene place for park visitors to observe and enjoy nature.

Visiting Ulistac Natural Area throughout the year offers us wonderful views of the various seasonal blooms and the wildlife they support. Many mature flowering

plants, trees and shrubs can be found in the Bird & Butterfly Garden Area (see map on next page).

The above photo was taken in February and shows a large Buck brush *Ceanothus*, most likely *Ceanothus cuneatus* var. *fascicularis*. It is in peak bloom along with a Western redbud that's coming into its peak. These two tree-like shrubs attract a lot of bumble bees, honey bees and carpenter bees.

Ulistac Natural Area



A map of the area that includes interpretive sign markers. North is to the left.

Currently, it is best to start your bee search at the South entrance and proceed to the Bird & Butterfly Garden Area. I prefer to search on sunny mornings. Look for flowers and chances are that you'll find bees too. The map's bold black lines indicate paved or packed crushed granite trails while the dotted lines reveal wood chip lined paths.

In recent months teams of volunteers cleared weeds, sheet mulched wide areas and planted many new plants. Some of the new plants include small flowering annuals, shrubs and large trees. A recent project at the South entrance commenced in late 2017 but other areas are easy to spot with a short walk around the park. The images on the next page show an enhancement area that began in the fall of 2016. That area is just to the right (south) of the Gathering Area shown on the map above.



Figure 1.1 Dennis setting out cardboard for sheet mulching in December 2016.



Figure 1.2 The same area as the top photo, 6 months after planting, watering and weeding.

Wild Bees



Bumble bees are among the easiest to spot at Ulistac since they're abundant and fairly large. There are at least two common species to be found: the Yellow-faced and the Black-tailed. Shown above we see a female Yellow-faced bumble bee on a sage blossom in May. She can land, fold her wings back and walk around the flower cluster while foraging. Look closely at her hind leg and you'll see a widened area with hairs sprouting towards the front and rear, yet the center is clear of hairs. This is her

corbicula or pollen basket. She hasn't collected any pollen yet as she's seeking nectar at the time of the photograph. Bumble bees seek sages for nectar. Female bees collect and carry pollen back to their nests to feed their brood.

There are many different sage species at Ulistac, including white, black, purple, Cleveland, and Hummingbird. Some of these sages appear to have hybridized too.



**A Black-tailed
bumble bee female
browsing on a
Ceanothus in
February**

There are many *Ceanothus* varieties at Ulistac and most bloom in winter through spring. At the same time these flowers start to blossom the bumble bee founding queens emerge and begin building their broods. Note how the female shown above has collected pollen, moistened it and packed it onto her hind legs, giving the collection a sheen. Note, too, that the *Ceanothus* sends its anthers above the small flowers making it convenient for these bees to gather the pollen. She can land on these clusters and walk around with ease. Bees seek *Ceanothus* flowers mostly for pollen.

Besides the many *Ceanothus* plants at Ulistac there are many others that attract bees throughout most of the year. Bumble bees are on the wing most of the year except around October and November. Some of our warm winters have triggered founding queens to emerge in early December.



Honey bees are common at Ulistac.

Although not native to the Americas, honey bees have naturalized here, especially in the Mediterranean climate of the San Francisco Bay Area. Note that in the photo above this female doesn't have any pollen collected on her hind leg, indicating that she's only on these flowers for nectar (her tongue is extended into the flower). Looking closely we can see hairs extending through her compound eyes, a trait common only to honey bees. Note, too the female honey bees' extra wide corbicula (pollen basket).

This photo was taken in mid February in the Bird & Butterfly Garden Area. The shrub is most likely *Ribes indecorum*, a white-flowering currant. Bees seek *Ribes* species flowers for nectar or pollen. This time of year we can find many currants, manzanitas and *Ceanothus* species in full bloom.



A male long-horned bee drinking nectar from a sunflower blossom.

Long-horned bees are part of a group called digger bees due to the female's proficiency at digging into hard soil to build her nest. The extra long antennae of the males gains them the nick name "long-horned." Look closely at the photo: he's sipping nectar. He's also quite hairy which makes him a decent pollinator by simply feeding and browsing. The sunflowers are probably *Helianthus californicus* and they attract a wide variety of bees and other insects like flies and crab spiders. The plant shown above is quite tall—about 5 or 6 feet. Many of these sunflower plants are along the wooden fence that borders Lick Mill Boulevard.

Walking around the park we can see many low growing gum plant varieties that reach only about 2 or 3 feet tall. Gum plant blossoms resemble small sunflowers but are only loosely related. Each of these plant types appear to attract different kinds of bees.



This is a small female sweat bee. She's only about 3/8" long and is feeding on Pacific asters.

The photo above shows a Halictidae family bee, commonly called sweat bees due to their alleged pattern of landing on people to sip sweat. Note the yellow pollen collection on her hind leg (males don't collect pollen like this). We can see that she has more pollen on her abdomen and face, making her a wonderful pollinator. All of California's sweat bees are rather small or even tiny, making it difficult to study them. Their small size makes them ideal pollinators of small flowers. We have several species of sweat bees in the Santa Clara Valley.

The Asteraceae (Aster) family of flowers is very large and includes many genera (varieties). Pacific asters can be found blossoming in summer and most of these daisy-like flowers are great attractors of many types of bees. These particular asters grow in clusters that reach about 3 feet tall and wide. Groups of these can be seen adjacent to the paved service road in the Bird & Butterfly Garden.



The Valley carpenter bee males are easy to spot. He's feeding on milkweeds.

Valley carpenter bees are among the largest bees in North America; this one is just over an inch long. The UC Berkeley Urban Bee Lab staff nicknamed this species “Teddy Bear Bee” due to his unique color. Interestingly, the females are completely black. These giant bees are usually common in the Bird & Butterfly Garden area in late spring and through the summer. Carpenter bees chew into wood to build their nests.

Milkweeds were abundant in the summer after an assertive planting event a few years ago. That event was followed by a propagation project where seeds from the original batch were collected, germinated in small pots and then planted into the ground. The photo above shows the narrow-leaf milkweed plants but there are other species at Ulistac as well. Monarch butterflies also seek milkweeds on which to lay their eggs. Their caterpillars feed on the foliage. Some park visitors find a chrysalis or two among these plants.



**A wool carder bee
heads to a black
sage blossom for
nectar**

Shown above is a female wool carder bee, *Anthidium manicatum*. This species was introduced to the U.S. from Europe many years ago. They are called carder bees due to the female's pattern of combing or carding woolly fibers from plant leaves in order to line her nest. She'll make nest cells for each egg laid and partition them with more fibers. The photo reveals that she's only seeking nectar from the blossoms. Sage leaves lack the fibers she needs but other hairy-leaved plants are available at Ulistac. This photo was taken in May.

The black sage plant shown teemed with aggressive carder bee males that are very territorial. While attempting to mate with a carder bee female, they'd bump any other bee, even knocking them off a blossom. Interestingly, I observed that these males refrained from confronting wasps that were sipping nectar on the same sage. I suppose they know that wasps would win that fight. After all, wasps are carnivores.



**A small leaf cutter
bee on a gum plant
blossom**

Here we see a female *Megachile* leaf cutter bee feeding on a low-growing *Grindelia* gum plant in June. The white goo on the upper bud is the gum that the plant is named after. The bees are called leaf cutters due to the female's practice of cutting perfect circles or ovals from certain leaf margins. These females line their nest cavities with the cut leaf pieces, using the ovals to line the outer surface of the cavity (think of wallpaper) and the circles to set partitions between her newly-laid eggs. She'll then plug the cavity with leaf pieces.

The bee shown above is about the length of a honey bee but note the peculiar upturned abdomen while feeding and the pollen-carrying hairs on the underside of her abdomen. Her narrow legs have minimal hairs. Her head is wide, much like her cousin the wool carder bee shown on the previous page.



**A masked bee female
on another gum plant
blossom**

Here we see a female *Hylaeus* species masked bee on one of the low growing *Grindelia* flowers in July. The *Hylaeus* males have an additional yellow patch on their face that makes them look a bit masked, hence the common name. The females have just the two yellow markings inset of their compound eyes. The blossom center is only about an inch across, making this bee less than 1/4”.

Hylaeus females don't carry pollen outside their bodies and they don't have hairy legs or abdomens. In fact, they look like tiny wasps. These females carry pollen inside their bodies, leaving no outward sign that they've fed. We cannot tell from this photo whether she visited the blossom for pollen or nectar or both since she darted in, landed, walked around, faced my camera and took off within seconds.

The bees that have been found to date at Ulistac Natural Area:

Common bee names	Genus & Species
Black-tailed bumble bee	<i>Bombus melanopygus</i>
Yellow-faced bumble bee	<i>Bombus vosnesenskii</i>
Honey bee	<i>Apis mellifera</i>
Valley carpenter bee	<i>Xylocopa varipuncta</i>
Mountain carpenter bee	<i>Xylocopa tabaniformis</i>
Long-horned bee	<i>Melissodes</i> species
Masked bee	<i>Hylaeus</i> species
Sweat bee	Halictidae family: <i>Halictus</i> , <i>Agapostemon</i> , <i>Lasioglossum</i> species, Dialictus subspecies
Wool carder bee	<i>Anthidium</i> species
Leaf cutter bee	<i>Megachile</i> species

Follow John Kehoe’s Flickr photo stream here:

https://www.flickr.com/photos/johnjkehoe_photography/

Visit the Ulistac Natural Area website here:

<http://www.ulistac.org/>