

# Häagen-Dazs Honey Bee Haven 2017 Annual Report

University of California Department of  
Entomology and Nematology

December 2017



## **Häagen-Dazs Honey Bee Haven Annual Report**

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Prepared by Christine Casey, Academic Program Management Officer, December 2017

Thanks to everyone who volunteered, donated, or visited – in person, at an event, or online – in 2017. Your support and enthusiasm for our mission of teaching about bees and the plants they need are constant reminders of why the Haven matters. This year saw record visitor numbers as well as new programs and activities.

### **SUPPORT**

#### ***Financial***

The Haven continues to rely on grants and donations for our funding. A breakdown of FY2017 expenses is given in Appendix I. As is appropriate for our mission, over half – 56% – of expenses were for plant material and educational programs. Grants that will cover my salary were secured in 2016 from the [USDA-NIFA Specialty Crops Research Initiative](#) and the [California Department of Food and Agriculture's \(CDFA\) Specialty Crops Block Grant Program](#). Work on the funded projects is well underway. Special thanks go to the [UC Davis College of Agriculture and Environmental Sciences](#) for bridge funding that provided support before grant funds were available.

Receipt of these grants represents an exciting expansion of our outreach programs as well as a move into research, broadening the scope of the work we do at the Haven. These grants will also provide funding to hire undergraduate assistants. We continue to rely on individual donations to support garden operating expenses. Tremendous thanks go to all individuals and organizations that support the Haven!

#### ***Volunteers***

The Haven volunteer team continues to grow, with work taking place weekly on Tuesday mornings and monthly on the second Saturday. Volunteers contributed 278 hours of garden maintenance and 68 hours of outreach in 2016; this has an in-kind value of more than \$5000. Volunteers with 25 or more hours of service are recognized in the garden. The number of service organizations and corporate volunteer groups that help in the garden also increased in 2017.

### **PLANTINGS**

I continue to replace declining plants and add new selections. As always, plant choices are informed by research and careful observation. The Haven is more than “just” a garden: existing beds are being redefined to better reflect our mission as an outdoor museum dedicated to bees and the plants that support them. Our plantings are not random, but are a curated collection available for public viewing and study. In keeping with this, new bee identification and information displays will be installed in 2018. Two examples are: 1) new ceanothus plantings that will be grouped together so that visitors can clearly see the differences and similarities in this diverse group of California natives and the bees that use them; and 2) a central planting bed is being devoted exclusively to the Lamiaceae, an extremely important plant family for bees.

I also plan to enlarge our food garden. Plant resources on our web site and blog continue to be updated to reflect these changes and make it easier for visitors to plan their own bee gardens. For example, the plant list is now available in a sortable Excel version with Sunset growing

zones. By early 2018 the plant list will include map locations so visitors may find specific plants in the garden. Another improvement in 2018 is the debut of QR tags on plant labels that link to bee identification resources.

Record-setting temperatures were a challenge for both plants and volunteers this year. Our water storage tank and booster pump system worked well this summer, but some of the system components are failing; we continue to seek support for a new irrigation system.

## **FOOD DONATIONS**

All produce grown in the Haven in 2017 was donated to the [Yolo Food Bank](#). The total donated was 165 pounds, including 19 pounds of apples, 56 pounds of tomatoes, 22 pounds of eggplant, and 11 pounds of peppers. This will increase next year as our fruit trees come into production and we expand our food growing area.

## **GARDEN OUTREACH PROGRAMS**

### ***Bee gardening classes***

I continue to teach classes for the public about bee gardening. We also partnered with the [California Center for Urban Horticulture](#) to teach a September workshop about research and bee gardens, with all proceeds supporting the Haven. We plan to make this an ongoing collaboration. A bee-watching class is also planned for 2018.

### ***Children's activity area***

A children's activity area has been installed in the Haven to coincide with our CDFA grant, "The ART of the specialty crops-pollinator connection: Awareness, Relevance, and Training." More details on this are in Appendix II.

### ***Events and guided tours***

In addition to public events, guided tours are given from mid-March to mid-October. In 2017, 1330 visitors attended events and tours at the garden; the affiliation of visitors is shown in Appendix III. This is a 26% increase from 2016.

### ***Off-site events***

The Haven also participated in a number of off-site programs in 2017; we reached 1840 visitors via these programs. Program details are listed in Appendix III. This is a 48% increase from 2016.

### ***Media coverage***

The garden was covered in print and blogs in 2017. Links to each are given in Appendix III.

## **VIRTUAL HONEY BEE HAVEN**

### ***Social media***

Our [Facebook page](#), [Bee Gardener blog](#), [Twitter](#), and [Flickr](#) accounts are updated regularly and serve as additional sources of bee gardening information. A [California Specialty Crops-Bee Connection blog](#) and [Facebook page](#) related to our California Department of Food and Agriculture Specialty Crops grant is also available.

### ***Web resources***

The [garden web page](#) is updated regularly and serves as another source of information for bee gardeners. It is also the online portal for garden tour reservation.

## RESEARCH

A significant new area for the Haven in 2017 was research. Our largest research project, “Protecting Pollinators with Economically Feasible and Environmentally Sound Ornamental Horticulture” is part of a national effort. Teams from around the US are studying the commonly sold ornamental plants in their area to determine bee foraging preferences. This information will be used by nursery growers to market “bee friendly” plants. While this designation is often used now, depending on the location or vendor there may be little research data to back up these claims.

Sampling was done both in the Haven and in a field plot about two miles from the Haven. The latter consisted of five replications of fifteen plants arranged in a randomized design. Sampling began in mid-July and continued into September; we will sample from February to August in subsequent years.

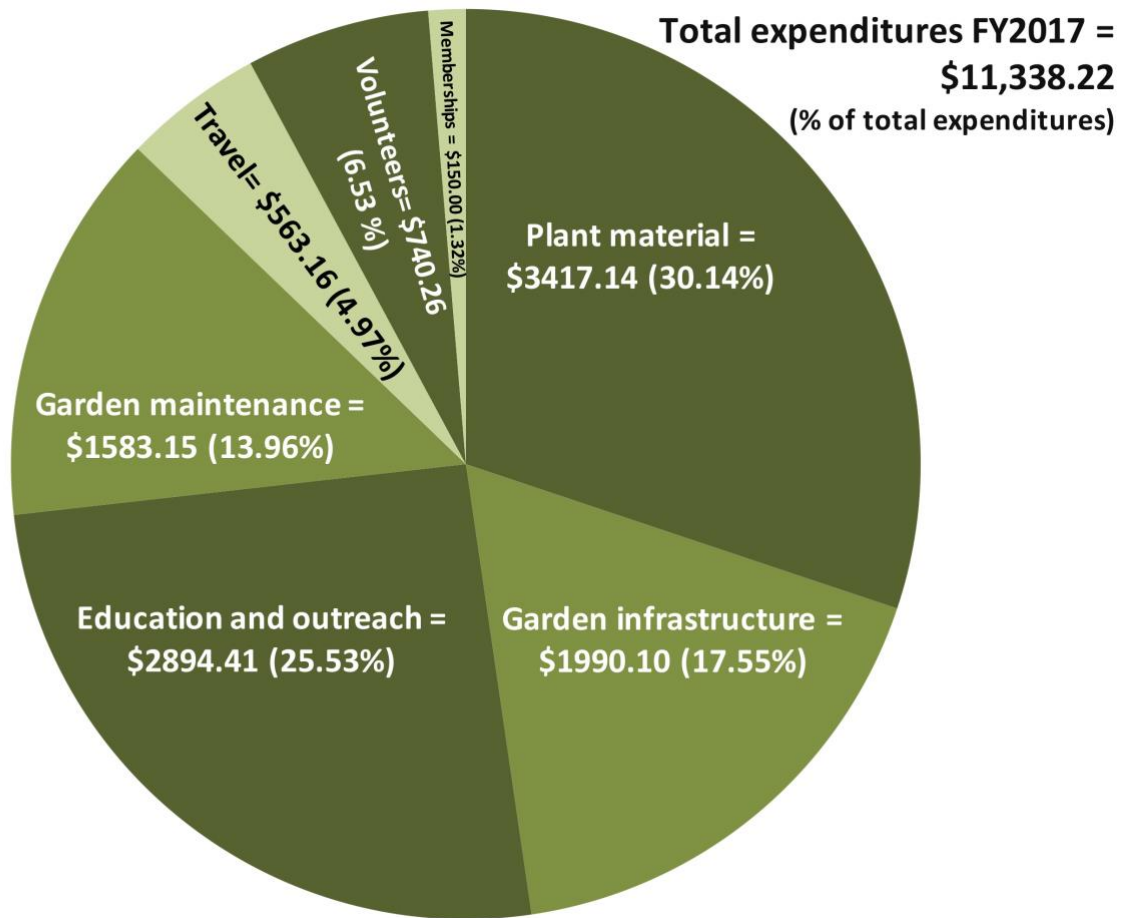
Complete results are shown in Appendix IV. Student assistants Paola Pomeroy (left) and Cody Kiniry (right) did the data collection:



## CONCLUSION

The Haven’s 2017 was marked by record visitor numbers, record temperatures, and expansion into new programs and areas. Thanks to all our volunteers and supporters for making this possible. We could not do it without you! I look forward to doing even better in 2018.

## Appendix I. Honey Bee Haven FY2016 financial report



**Figure 1.** Haven expenditures in FY 2017.

In addition to salary, it cost \$11,338.22 to run the Haven in FY2017. The categories cover expenses as follows:

**Plant material:** All plants and seeds used in the garden

**Garden infrastructure:** Construction and maintenance of garden facilities including fencing, raised beds, and pathways

**Education and outreach:** Handouts, signs, and other display materials

**Garden maintenance:** Tools, soil amendments, and other supplies needed to maintain the garden.

**Travel:** Travel to offsite events and to purchase plants and supplies

**Volunteers:** Refreshments and safety supplies for volunteers

**Memberships and professional development:** American Public Gardens Association membership, fees and travel costs associated with training for garden staff

## Appendix II. Children's Learning Zone

This summer I installed a children's activity area in the Haven called the "Junior Bee Gardener Learning Zone." This area provides a series of new activities that children and adults can do together; children can also work in here on their own with minimal supervision. This supplements the children's activities we offer during open houses and tours. Specific activities include "planting" in the raised beds with the provided tools and pots and collecting tennis ball "pollen" and bringing it to the solitary bee "nest." An overview of the area is shown in Fig. 2; the interpretive sign is in Fig. 3. Thanks to volunteers Diane Kelly and Rick Williams for construction assistance.



Figure 2. Overview of the Junior Bee Gardener Learning Zone.

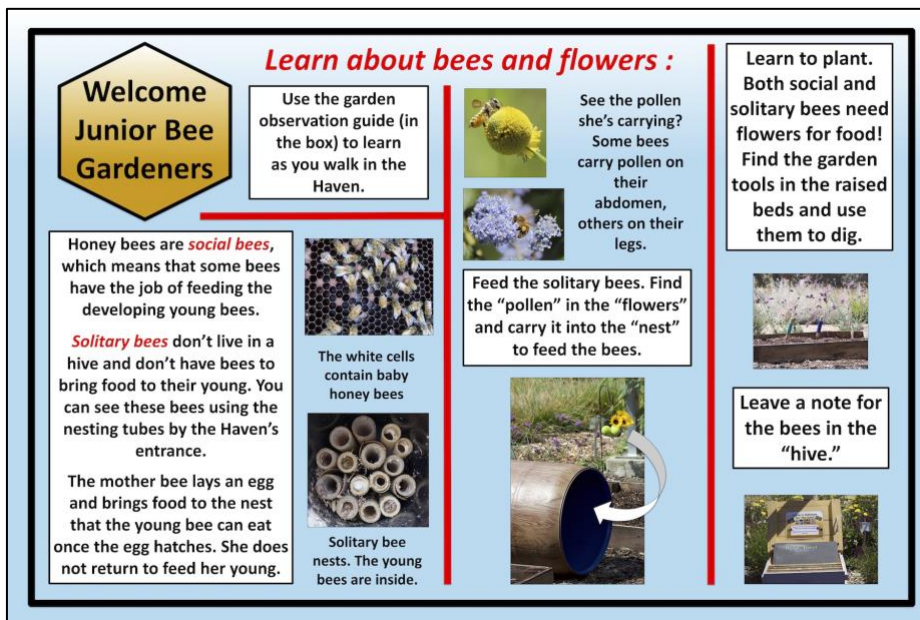


Figure 3. Interpretive sign in the Junior Bee Gardener Learning Zone.

 <p>Stay Alive We ♥ Money</p>	 <p>We ♥ you Bees! Thank You for Pollinating JOY!</p>	 <p>I ♥ Bees</p>
 <p>FREE TO BEE YOU and ME!</p>	 <p>Dear Bees: Thank you for making the world COLORFUL!!!</p>	
 <p>I love honey- keep on keepin on! I am trying to save you by planting plants you like! I come here to visit you. It is heaven here!</p>	 <p>Bee Happy! you are loved Catherine</p>	 <p>I LOVE YOU BEES!</p>
 <p>I ♥ YOU BEE</p>	 <p>THANKS MAN</p>	 <p>I LOVE YOU BEES! x te quiero obeeja</p>

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### **Appendix III.** Honey Bee Haven guided tours, offsite events, and media coverage in 2017

Affiliation of garden event and guided tour participants:

Agriculture industry	6
Beekeepers	90
Visiting scientists/entomologists	60
International visitors	49
K-12 students	179
K-12 teachers	40
Master Gardener volunteers/garden clubs	35
Public	814
UCD undergraduates	57
<b>TOTAL</b>	<b>1330</b>

Attendance at classes and off-site lectures and public events featuring the Haven and bee gardening in 2017:

NorCal Landscape Show	30
Planting the Bee Garden	9
Mendocino Botanical Garden	30
California Honey Festival	889
Keeping Bees Healthy	150
Super SIRC (Science in the River City)	35
Wild Campus	157
Harvest Day	279
California Center for Urban Horticulture pollinator workshop	170
Woodland Library Rose Club	60
Yuba-Sutter Master Gardener volunteers	31
<b>TOTAL</b>	<b>1840</b>

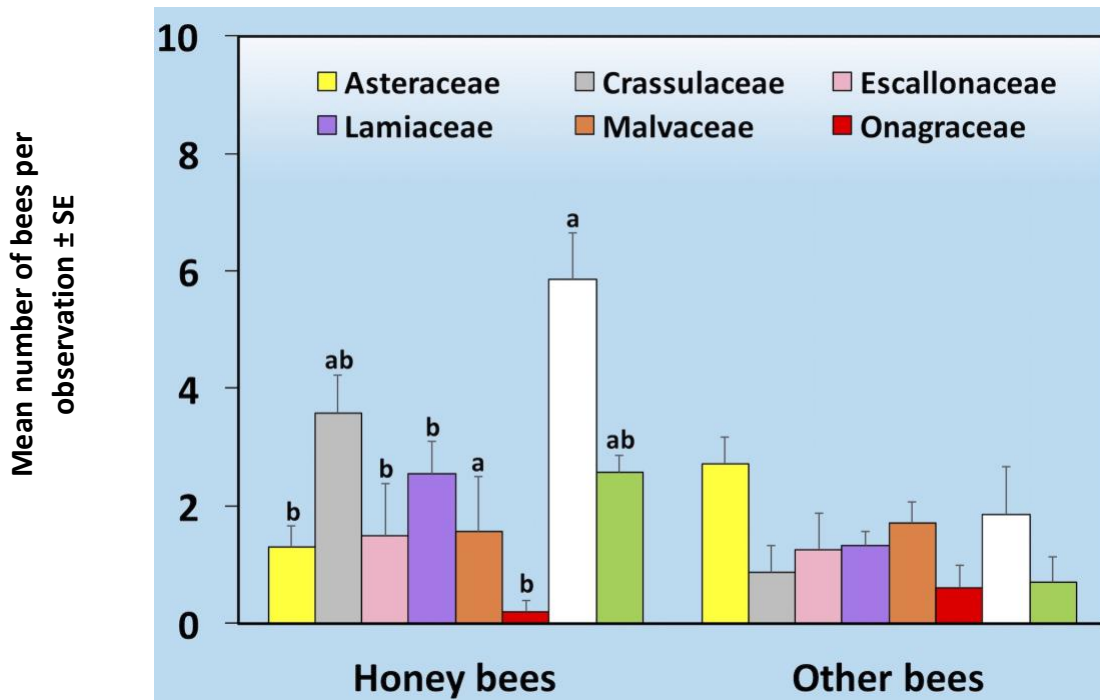
## Media coverage in 2017

Western Health Advantage	<a href="https://www.westernhealth.com/pdfs/member-downloads/publications/advantage17-04-web-pdf/">https://www.westernhealth.com/pdfs/member-downloads/publications/advantage17-04-web-pdf/</a>
UC Davis The Download	<a href="https://www.ucdavis.edu/news/download-steam-appears-art-surprises-bees-disappear">https://www.ucdavis.edu/news/download-steam-appears-art-surprises-bees-disappear</a>
Daily Democrat	<a href="http://www.dailydemocrat.com/general-news/20170503/downtown-woodland-will-be-buzzing-today-as-honey-festival-gets-underway?source=most_viewed">http://www.dailydemocrat.com/general-news/20170503/downtown-woodland-will-be-buzzing-today-as-honey-festival-gets-underway?source=most_viewed</a>
ABC10 KXTV	<a href="http://www.abc10.com/news/local/california/urban-bees-face-same-threats-as-their-country-cousins/440328876">http://www.abc10.com/news/local/california/urban-bees-face-same-threats-as-their-country-cousins/440328876</a>
Home Outdoor Decoration	<a href="http://www.formosauto.com/gallery/garden-plants-for-honey-bees.html">http://www.formosauto.com/gallery/garden-plants-for-honey-bees.html</a>
Capital Press	<a href="http://www.capitalpress.com/California/20170725/uc-davis-beekeepers-conference-to-cover-changes-in-industry">http://www.capitalpress.com/California/20170725/uc-davis-beekeepers-conference-to-cover-changes-in-industry</a>
Pacific Union Real Estate Blog	<a href="https://blog.pacificunion.com/a-plea-to-homeowners-honeybees-need-homes-too/">https://blog.pacificunion.com/a-plea-to-homeowners-honeybees-need-homes-too/</a>
The Sibbett Group	<a href="https://vimeo.com/227635216">https://vimeo.com/227635216</a>
Sacramento Bee	<a href="http://www.sacbee.com/entertainment/living/home-garden/debbie-arrington/article164892477.html">http://www.sacbee.com/entertainment/living/home-garden/debbie-arrington/article164892477.html</a>
Daily Democrat	<a href="http://www.dailydemocrat.com/article/NI/20170904/NEWS/170909934">http://www.dailydemocrat.com/article/NI/20170904/NEWS/170909934</a>
Daily Democrat	<a href="http://www.dailydemocrat.com/article/NI/20170928/NEWS/170929826">http://www.dailydemocrat.com/article/NI/20170928/NEWS/170929826</a>
Davis Enterprise	<a href="http://www.davisenterprise.com/local-news/new-uc-davis-demonstration-gardens-provide-pollinator-habitat/">http://www.davisenterprise.com/local-news/new-uc-davis-demonstration-gardens-provide-pollinator-habitat/</a>

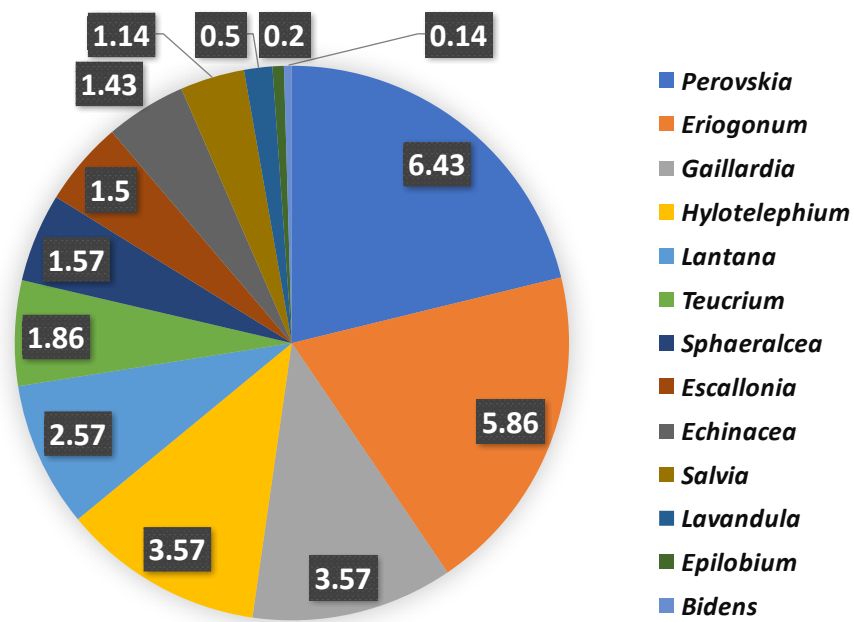
#### Appendix IV. Plant bee attractiveness research results, 2017

Study plants in the Haven:

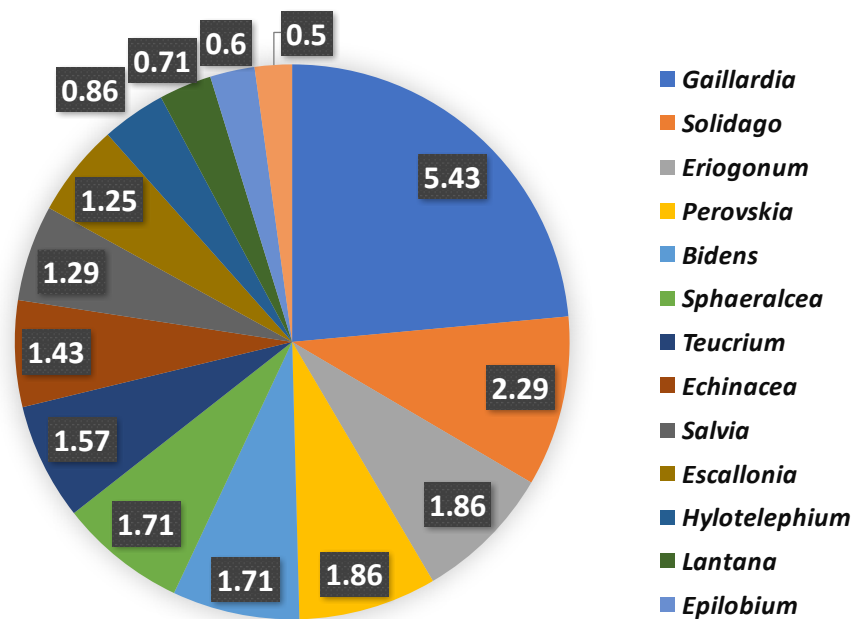
Family	Genus	Species	Cultivar
Asteraceae	<i>Bidens</i>	<i>ferulifolia</i>	n/a
Asteraceae	<i>Echinacea</i>	hybrid	'Cheyenne Spirit'
Onagraceae	<i>Epilobium</i>	<i>canum</i>	'Catalina'
Polygonaceae	<i>Eriogonum</i>	<i>fasciculatum</i>	n/a
Escalloniaceae	<i>Escallonia</i>	<i>x exoniensis</i>	'Compacta'
Asteraceae	<i>Gaillardia</i>	hybrid	'Arizona Sun'
Crassulaceae	<i>Hylotelephium</i>	<i>spectabile</i>	'Autumn Joy'
Verbenaceae	<i>Lantana</i>	hybrid	'Purple Trailing'
Lamiaceae	<i>Lavandula</i>	<i>x intermedia</i>	'Provence'
Scrophulariaceae	<i>Leucophyllum</i>	<i>frutescens</i>	n/a
Lamiaceae	<i>Perovskia</i>	<i>atriplicifolia</i>	n/a
Lamiaceae	<i>Salvia</i>	<i>greggii</i>	'Hot Lips'
Asteraceae	<i>Solidago</i>	<i>californica</i>	n/a
Malvaceae	<i>Sphaeralcea</i>	<i>ambigua</i>	n/a
Lamiaceae	<i>Teucrium</i>	<i>fruticans</i>	n/a



**Figure 6.** Mean number of bees per observation by plant family in the Haven. Columns within a bee group with different letters are significantly different.



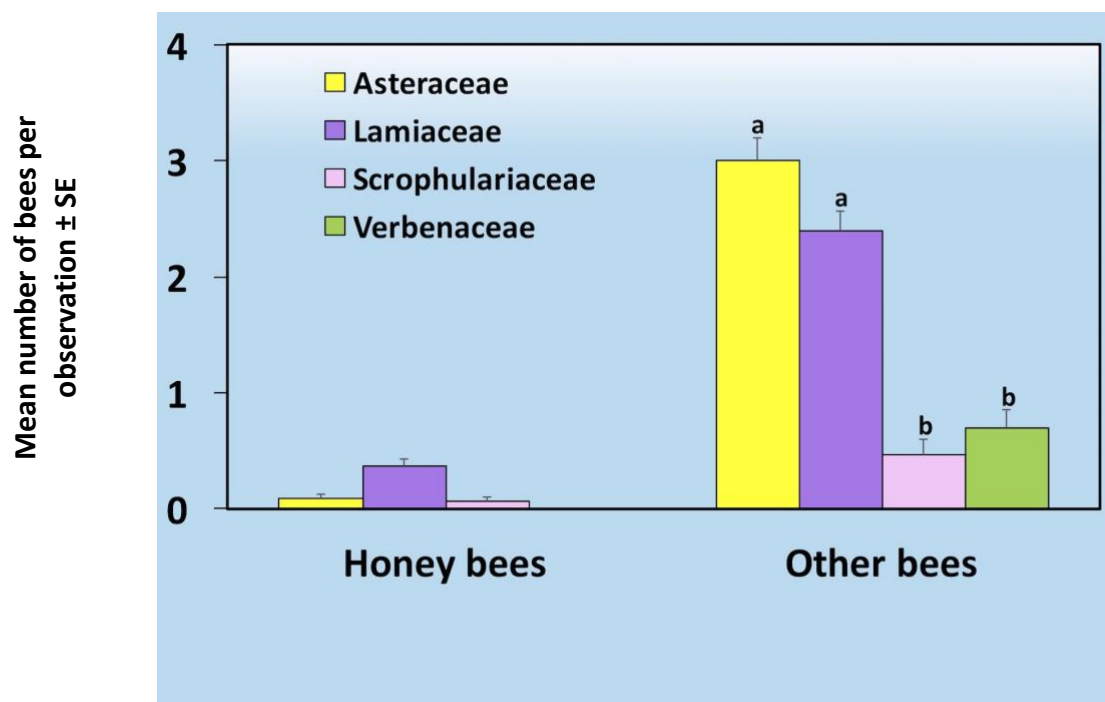
**Figure 7.** Mean number of honey bees per observation by plant genus in the Haven.



**Figure 8.** Mean number of other bees per observation by plant genus in the Haven.

Study plants in the field plot:

Family	Genus	Species	Cultivar
Asteraceae	<i>Achillea</i>	<i>millefolium</i>	'Moonshine'
Asteraceae	<i>Echinacea</i>	<i>purpurea</i>	'Pow Wow Wild Berry'
Asteraceae	<i>Erigeron</i>	<i>karvinskianus</i>	n/a
Lamiaceae	<i>Lavandula</i>	hybrid	'Goodwin Creek Grey'
Lamiaceae	<i>Nepeta</i>	<i>x faassenii</i>	'Walker's Low'
Scrophulariaceae	<i>Penstemon</i>	<i>heterophyllus</i>	'Catherine de la Mare'
Lamiaceae	<i>Perovskia</i>	<i>atriplicifolia</i>	n/a
Lamiaceae	<i>Salvia</i>	<i>microphylla</i>	'Hot Lips'
Lamiaceae	<i>Salvia</i>	<i>x sylvestris</i>	'May Night'
Asteraceae	<i>Symphyotrichum</i>	<i>chilensis</i>	TBD
Asteraceae	<i>Tagetes</i>	<i>erecta</i>	Alumia Flame'
Lamiaceae	<i>Teucrium</i>	<i>chamaedrys</i>	n/a
Scrophulariaceae	<i>Verbascum</i>	<i>nigrum</i>	n/a
Verbanaceae	<i>Verbena</i>	<i>lilacina</i>	'De La Mina'
Asteraceae	<i>Zinnia</i>	<i>elegans</i>	'California Giant'



**Figure 9.** Mean number of bees per observation by plant family at the field site. Columns within a bee group with different letters are significantly different.