

home of the



Home Delivery | Today's Paper | Ads

SEARCH © SFGate ○ Web Search by YAHOO! | Advanced S

Don't Miss: Home & Garden: House Checkup Green: Earth Day Events Interactive Quake

BEES ON THEIR KNEES, GARDENERS TO THE RESCUE

A world without bees is a world without chocolate

UC professor says urban gardeners could save California's native bee population and avert an ecological catastrophe

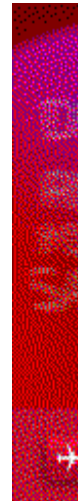
Alison Rood, Special to The Chronicle
Saturday, March 3, 2007

SHARE COMMENTS (0) FONT | SIZE: - +



When Professor Gordon Frankie wants to impress schoolchildren with the importance of **bees**, he lays out an array of foods such as berries, grapes, pears and chocolate alongside a couple of dried-out tortillas and rice cakes and asks them which foods they prefer.

"Invariably the kids go for the fruits and chocolate," he said. "Then I tell them: In a world without **bees**, the only choice they'd have would be the dried-out tortillas or rice cakes, since wheat and rice are self-pollinated. Even chocolate, from the cacao plant, depends on the pollination of **bees**. That gets their attention."



MOST

- 1. Hc De
- 2. 2 s mi
- 3. So pri
- 4. Da by
- 5. 'M vo
- 6. Ak at
- 7. Hi:

To

McGu

NOB HILL
2 BR / 2
\$1,350,0

WEST PI
FRANCI:

Frankie, an entomologist at UC Berkeley and a specialist in the behavior of native **bees**, has been the leader of a decadelong urban bee research project. By documenting bee diversity and populations in urban gardens throughout California, he's discovering which flowering plants attract native **bees** and determining whether urban gardens can support **bees**. He said the declining native bee population is comparable to global warming in terms of a potential ecological catastrophe.

"We're losing our star pollinators," he said, "so it's important to try to do something on an individual basis. A lot of what people grow now is dependent on **bees** and other invertebrates, but people just don't see or know that these insects are providing a lot of free services."

There are 1,600 species of native **bees** in California. Native **bees**, or wild **bees**, as they are sometimes called, have evolved with their native host flowers over a long period of time. Honeybees, on the other hand, were imported to America from Europe.

In other words, honeybees are an exotic species, but native **bees**, as the name implies, have always been here. Native **bees** also differ from honeybees because most are not social and make individual nests rather than rely on a colony. Although they don't produce **honey**, native **bees** pollinate about one-third of our vegetable, fruit and nut crops as well as almost all of our wildflowers.

Today, suburban developments are replacing wild habitats where native **bees** once thrived. Meanwhile, agricultural practices, which often include widespread pesticide use and plowing under native plants, have been just as destructive. Commercially managed exotic honeybee populations aren't faring any better.

**WESTW
BALBOA**
5 BR / 2.
\$1,525,0

**PRESIDI
LAUREL
PARK**
2 BR / 2
\$889,500

**WEST PI
FRANCI
WESTW
BALBOA**
4 BR / 3
\$2,395,0

**NOB HIL
HILL**
3 BR / 2
\$929,000

**OUTER F
SEACLIF**
2 BR / 1
\$589,000

**TWIN PI
HEIGHT:**
2 BR / 1
\$799,000

**HAIGHT-
PANHAN**
2 BR / 2
\$1,250,0

**NOB HIL
HILL**
2 BR / 2
\$1,550,0

**NOB HIL
HILL**
1 BR / 2
\$995,000

**OUTER F
SEACLIF**
3 BR / 2
\$1,055,0

**TWIN PI
HEIGHT:**
3 BR / 1.
\$799,000

**TWIN PI
HEIGHT:**
3 BR / 1.
\$815,000

**TWIN PI
HEIGHT:**
3 BR / 2
\$825,000

**PACIFIC
JAPANI
PANHAN**
5 BR / 5.
\$3,495,0

See me



About To

During the past few years pesticides and parasitic mites have drastically reduced their numbers.

A report in the Nov. 27, 2006, New York Times described the beginning of what bee researchers are calling "colony collapse disorder," in which honeybees are disappearing, flying off in search of pollen and nectar and not returning to their colonies. Beekeepers in 24 states have been shocked to discover their **bees** are gone, threatening the pollination of \$14 billion worth of seeds and crops, the Times said.

The dire circumstances facing our native pollinators is the motivation behind Frankie's project. As native **bees** in the wild dwindled, Frankie began documenting bee diversity and frequencies in urban environments to determine whether urban gardens could support reasonable native bee populations.

"We count **bees**, or rather, we monitor their frequencies on flowers by doing three-minute counts on patches of flowers that measure 1.5 meters by 1.5 meters," he said. "These counts are replicated several times in order to get an average. We also do the counts over a period of years when the variations demand it. These frequencies tell us which bee species are visiting and at what level -- that is, low, medium or high. The frequencies can also be used to compare cities and to monitor through time (over years) on given plant species."

The details of the procedure can be found on the UC Berkeley Web site, which also provides a list of bee-friendly plants and offers a guide for building a garden in which native **bees** will flourish. Frankie notes that not all **bees** are interested in all flowers, so a variety of flowering plants is necessary to encourage visits.

"Instead of planting a garden with only the flowers you enjoy,

look around at the flowering plants that are native to your area. Those are the plants that will attract the **bees**. The **bees** know what they need, and they'll come. If you plant it, they will come," he said.

One garden that is doing just that is the Old City Cemetery garden in Sacramento.

"The Sacramento cemetery has an incredible variety of native bee species and in large numbers," Frankie said. "It's one of our best sites in all of California."

One of Frankie's favorites is a tiny treasure -- a 14-by-14-foot space that the owner has planted with 20 species of flowering plants in groupings of eight to 10 similar plants called "patches."

Frankie emphasizes that planting the same varieties together is vital to a successful bee garden; and, since native **bees** are seasonal, it's also important to plant flowers that bloom successively over the spring, summer and fall.

He mentioned four experimental gardens in the Bay Area that boast a healthy number of native **bees**, including the pollinator lab on the Berkeley campus. The three others are at Lucas Valley School in Marin County, the Randall Museum in San Francisco and the Livermore Community Garden. The Berkeley campus garden will be showcased May 6 as one of 65 gardens in the Bring Back the Natives Garden Tour.

Other public gardens with substantial native bee populations include the arboretum at UC Santa Cruz and Descanso Gardens in Southern California.

When he's not collecting data in the field or teaching conservation and environmental problem-solving in the classroom, Frankie strives to enlighten the public about the

importance of native **bees** through workshops, lectures and outreach programs.

He's also always looking for **bees** -- even when driving through residential neighborhoods. He said he doesn't hesitate to pull over if someone's front garden looks promising. "People come out of their homes, wondering, 'Who is that strange guy snooping around my flowerbeds?' "

Focusing attention on the pollinator crisis is also the goal of the North American Pollinator Protection Campaign, an alliance of conservation and environmental groups, private industry, and state and federal agencies. Its members hope that by educating both the public and policymakers they can stop land use practices that harm native **bees**.

The U.S. Senate has passed a resolution to protect pollinators and has designated June 24-30 as National Pollinator Week. That month the U.S. Postal Service will release a pollination stamp series.

How does providing a safe haven for pollinators in urban gardens relate to the larger agricultural picture if farmers themselves aren't dedicated to attracting native **bees**?

"Most of our research is designed for urban audiences, and we've learned that urbanites like the idea of doing some conservation in their own yards," Frankie said. "The day may come when even more people want to grow urban food, and we'll be able to tell them about their pollinator needs. Some of the bee species in urban gardens could also be important in the future for agricultural crops. In that sense, the urban garden environment may be regarded as a kind of reservoir for genetic material."

The inspiration to create a bee-friendly garden should come as easily to adults as it does to schoolchildren. All it takes is

imagining a life without fruits and vegetables -- and a life without chocolate.

Resources

Gordon W. Frankie, division of insect biology, 137 Mulford Hall, UC Berkeley, CA 94720; (510) 642-0973; nature.berkeley.edu/urbanbeegardens.

Join a free tour of native-plant gardens in the East Bay from 10 a.m. to 5 p.m. May 6. For more information, visit www.bringingbackthenatives.net or call Kathy Kramer at (510) 236-9558.

North American Pollinator Protection Campaign, www.nappc.org; (415) 362-1137.

E-mail comments to home@sfchronicle.com.

*This article appeared on page **F - 1** of the San Francisco Chronicle*



SHARE

(0) [View Comments »](#)

Be the first to share your thoughts on this story.

Add Your Comment

You must be signed in to add a comment. [Sign In](#) | [Register](#)

Submit

Ads by Yahoo!

Chicago kill bees

Bee control & elimination experts Guardians of Health and Comfort.
(www.fvepcyp.com)

olsen park eliminate bees

Local bee control services Over 25 Years Experience-Call Today.

(www.ampestexterminatingprofile.com)

Cheap Furniture

Rent To Own Furniture. Flexible Payment Plans - No Credit Checks.

(RentACenter.com)



Get The Chronicle for up to 40% off

[Home](#) [News](#) [Sports](#) [Business](#) [Entertainment](#) [Food](#) [Living](#) [Travel](#) [Blogs](#) [Classified](#)
[Cars](#) [Site Index](#)

Advertising Services: [Place a Classified](#) [Advertise in Print](#) [Advertise Online](#) [Media Kit](#) [T](#)

Reader Services: [Home Delivery](#) [Subscribers](#) [Today's Paper](#) [RSS Feeds](#) [Newsletters](#) [:](#)
[FAQ](#) [Corrections](#)

Company Info: [Contact Us](#) [Hearst Corp.](#) [Privacy Policy](#) [Terms and Conditions](#) [Work for](#)
[Promotions](#) [Submissions](#)

© 2008 Hearst Communications Inc.

HEARST *newspapers*