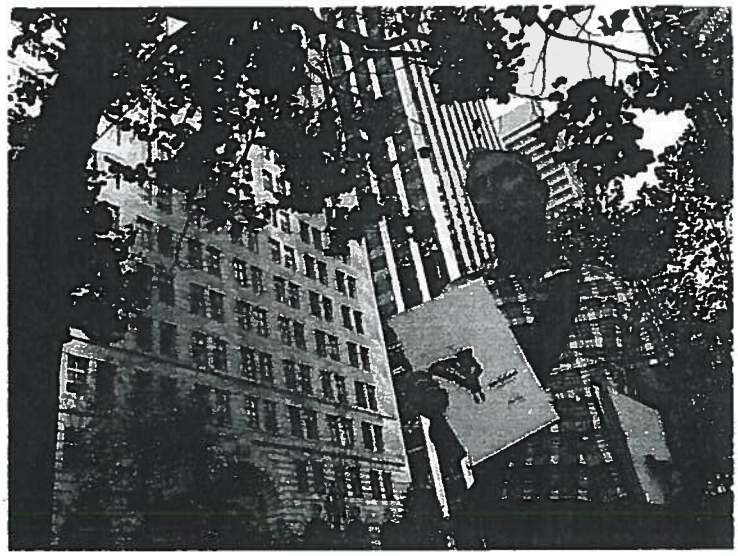
Butterflies' S.F. habitat threatened

Peter Fimrite
Updated 6:56 p.m., Saturday, October 20, 2012

VIEW: LARGER | HIDE 1 of 5 ◄ PREV NEXT ►



Urban butterfly expert Liam O'Brien discusses the Western tiger swallowtail, which thrives on S.F.'s Market Street but may lose its habitat if London plane trees are removed to make way for a bike lane. Photo: Brant Ward, The Chronicle / SF





Life can be tough amid the kaleidoscope of noise, activity and confusion on Market Street, but San Francisco's premier boulevard has become a surprising destination for a butterfly species normally seen in lush river canyons, according to a local lepidopterist.

The large butterfly known as the Western tiger swallowtail has adopted Market Street as if it were native habitat, patrolling the wide lanes for mates and laying eggs in the trees that line the street, said Liam O'Brien, a recognized expert on San Francisco's urban

Photo Galleries Displaying 1-3 of 40 « »


Game 7: Giants vs. Cardinals


Maison Martin Margiela with H&M event


Amityville Horror home on the market

Most Read | Most Commented | Most Emailed

1. Parents punish daughter by posting this photo on her Facebook wall
2. Driver backs up, rolls over sleeping man
3. Why one of America's best baseball writers is wrong about Melky Cabrera
4. Armstrong Faces $200 Million Salary Loss With Reputation Hit
5. Kate Upton happy to set a good body image example
6. Donald Trump's Dr. Evil "blockbuster" — a $5 million hostage offer? (VIDEO)
7. Patrol: Mo. girl found safe, sex offender arrested

butterfly population.

"It's hard to believe this is butterfly habitat - one of the most cemented-over areas - but it is," O'Brien said. "It shows that sometimes, sometimes, humans actually create butterfly habitat unbeknownst to them."

The butterfly population is nevertheless facing a major threat, O'Brien said, and it isn't from the 250,000 people who crowd onto Market Street on an average weekday, the rumbling vehicles, car exhaust or pollution. It is, he said, a multiagency plan led by the San Francisco Department of Public Works to remake Market Street into a more pedestrian- and bicycle-friendly boulevard.

The Better Market Street Project, which is still in the planning stages, would be designed to enliven the street's public squares, bringing in events, cafes and entertainment. It could also include the construction of a bicycle-only lane the length of Market, an idea that most of the community seems to support, said Kris Opbroek, project manager for Better Market Street.

It is a popular and in many ways laudable concept except for one thing, O'Brien said. The hundreds of London plane trees that were planted along both sides of the street four decades ago may have to be chopped down to make room for a separated bicycle lane and other amenities, according to various officials.

That's a problem, O'Brien said, because the trees are a key element in a remarkable confluence of factors that led to the presence of the brightly colored insects.

The western swallowtail, known scientifically as Papilio rutulus, normally patrols the banks of rivers, preferably lined with trees and surrounded by canyon walls. The females lay as many as 12,000 eggs on elm, willow, alder and, most often, sycamore trees during their two-week life span. The canopy of London planes, which are a sycamore hybrid, replicate swallowtail habitat, O'Brien said.

The office buildings behind the trees are very much like canyon walls, providing the kind of dappled sunlight the butterflies prefer, he said. Market Street flows kind of like a river, completing the illusion of a riparian ecosystem.

The butterflies emerge in their full colors twice a year, between February and April and then between June and September. They are currently pupae on the trees.

"The butterflies are there because they think it's the Kern River," said O'Brien, who has been documenting the presence of swallowtails along the street and their larvae in the trees since 2008.

Common urban tree

London planes, which are hybrids of American and Oriental sycamore trees that were first cultivated in Spain in the 17th century, are one of the most commonly planted trees in urban areas around the world. Hundreds of them were planted along Market Street between 1970 and 1974, after the construction of the BART system.

Opbroek said many of the trees on Market are now sick and in poor condition and may have to be removed. They haven't received much community support for keeping them, she said, but no final decision has been made.

"If there is such a habitat, we will do everything within our power to make sure that habitat remains," said Opbroek, adding that the environmental studies won't be done until

next summer and work is not expected to begin until 2016.

Lobbying to save a few trees

O'Brien is urging Opbroek and other city officials to consider leaving at least two trees on each block, enough to sustain the Market corridor butterfly population.

John Hafernik, a professor of biology at San Francisco State University, said O'Brien's proposal could be the impetus for profound improvements in urban landscape planning.

"There should be a way for a better Market Street to be compatible with butterflies ... and some things that are good for butterflies are also good for bees and other organisms," said Hafernik, who is known for discovering a native fly that parasitizes honeybees, creating "zombie" bees. "This could provide an opportunity for people in the most urban of our environments to experience nature."

Swallowtails won't disappear if the trees are cut, O'Brien said. The yellow and black butterflies, which range across much of western North America, are highly adaptable and are frequently seen in urban parks and gardens, but a unique urban ecosystem would be needlessly destroyed, he said.

"We might think differently about these trees if people knew the story of adaptation that is going on," he said. "We could learn from nature if we landscaped for the adapting creatures and, in the process, we would turn urban landscaping upside down."

Peter Fimrite is a San Francisco Chronicle staff writer. E-mail: pfimrite@sfchronicle.com Twitter: @pfimrite

Giant 'hypocrisy' with Melky?
A major baseball writer slams S.F. for shunning Cabrera. Here's why he's dead wrong.


Gay Freedom
Parade
1977

Subject: Re: Top Five Host Trees for W. Tiger

From: Jeffrey Caldwell (bralyisland@yahoo.com)

To: liammail56@yahoo.com;

Cc: dmahoney@sfbotanicalgarden.org; amshapiro@ucdavis.edu; amshapiro@ucdavis.edu; tkippingsprint@earthlink.net;

Date: Wednesday, October 24, 2012 11:28 AM

Hi Liam,

I'm totally with you on the priority of retaining the swallowtail's presence, caring only about whatever resources that will support it, ideally in a way that will be pleasing to the populace. (I am strongly in favor of public landscapes that provide amenities for human life; I consider butterflies among those amenities). When it comes to native versus non-native a thought that leaps to my mind is that potatoes are not native to Ireland, tomatoes are not native to Italy, and chickens are not native to Kentucky!

On this job I feel up against ignorance both about the actual hostplant preferences of the Western Tiger Swallowtail and the fact that most of its known hosts are not often used or well-known as landscaping plants.

The habit of American Sycamore, according to Sunset, fits best in a wild garden: "longer leafless period, irregular habit, contorted branches". The London Plane has a reputation for standing up better to city conditions. The variety 'Columbia' resists anthracnose and mildew, so in conventional thinking would probably be favored as a San Francisco street tree. Our native California Sycamore has serious disease problems, but is reputed to be the favored host. But Shapiro says they use them all in his experience. (For this question it would be great to consult him! I also suggest seeking the opinion of Don Mahoney). Part of the question is coming up with plants that we can"sell".

Shapiro says ash (Fraxinus) is a preferred host in our area. Be good to speak with him to get something more specific. Common landscape ashes are cheap in large sizes, often used in ambitious landscape projects (though the most common ones are a make-work project for tree trimmers!). I am not sure which ashes have proven most suitable for the city.

I suspect the prime native host in the city is Salix lasiolepis, arroyo willow (not exactly a street tree, but perhaps could be fit in somewhere. Salix exigua, narrow-leaved willow, is also in the hostplant range and native to the city -- it has a useful narrow and upright habit, modest size. Scouler's Willow (Salix scouleriana) is a hostplant native to the peninsula that might prove appropriate for some sort of planting there; it makes a smallish slender tree.. With plenty of moisture any of the native willows perform excellently in Zone 17.

Other tree hosts not known from the city, but appropriate for cultivation there include black cottonwood, Populus balsamifera var. trichocarpa (Salicaceae, a magnificent tree, but said to have very brittle wood); white alder, Alnus rhombifolia, more so, it seems (at least as specifically reported), red alder, Alnus rubra, and Betula occidentalis, water birch, an attractive smallish slender tree.

Choke cherry (Prunus virginiana var. demissa) is also said to be in the hostplant range, as is hollyleaf cherry (Prunus ilicifolia), also native to the city. (Part of the problem is having confidence in thge hostplant records,

nderstanding degree of preference). Bitter Cherry (Prunus emarginata).

There is a population in Sacramento eating the ubiquitous sweetgum (Liquidamber) -- I must admit to wishing it well and dreaming of transplanting its population to sweetgum-rife streets!

Five top choices that I can most easily imagine integrating into the revamped Market Street:

1. London Plane 'Columbia'. Or possibly the American Sycamore, as you suppose.

2. Ash. Oregon Ash (Fraxinus latifolia) is known from San Mateo. I consider it likely this is the "Fraxinus" Shapiro means, though quite possibly he knows others that are more commonly cultivated. I consider it under-used as a cultivated plant -- the most coastal selection possibly would probably be best for tjhe city. I am not specifically familiar with San Franciscocity streets and gardens to know about ashes there. (I have yet to find any of our native ash species specifically mentioned anywhere as Western Tiger Swallowtail hosts. Maddening imprecision for those who need to make planting decisions! For that matter, no one I'm aware of has ever been any more precise than "Fraxinus" -- no specific non-native species or cultivars, either. Ashes vary quite a bit in their horticultural characteristics.)

3. Narrowleaf Willow (Salix exigua). Or possibly Scouler's Willow (Salix scouleriana). Both narrowish, small trees considered to require wet soil (I suspect they could get by with less water, to my knowledge not much work has been done to test them -- oleanders, in the wild, are mostly riparian).

4. Chokecherry (Prunus virginiana var. demissa). Reqires training to make a single-trunk tree, but super for butterflies -- one of the best hostplants and possibly the best nectar plant in the genus. Rarely grown, but deserving of wider use, especially by habitat gardeners.

5. Water Birch (Betula occidentalis). An attractive, horticulturally useful small tree. Not locally native but well-adapted for planting. Shapiro doesn't mention any Betulaceae being used in our area.

Red Alder. (White Alder would probably be an easier sell -- though Shapiro doen't mention alder or birch at all in our local area field guide, so perhaps he hasn't seen local usage, not a good sign.)

Not a Western Tiger Swallowtail hostplant, but successful as a San Francisco street tree (and Echo Azure host) is the California Buckeye (Aesculus californica) -- a favored nectar spource for which the Western Tiger Swallowtail is a pollinator.

Russell Link notes Acer macrophyllum (bigleaf maple) as a hostplant, too. But its mostly muddy in my mind -- it seems no sysrtematic studies (I'm aware of) have been done. It is occasional on Angel Island, another tree I consider under-used. Others have noted Vine Maple, Acer circinatum, n attractive small tree said to grow excellently well in Zone 17, as a hostplant. The Vine Maple is also a nectar plant for Western Tiger Swallowtail and I suspect Bigleaf Maple is too, though I have no specific records of that ...

Some butterfly gardeners keen to provide larval food in small spaces have kept otherwise large trees or shrubs quite small by potting and frequent severe pruning -- a possible stategy for such prime hosts as the