

NEWSLETTER



Editor's Note: The newsletter is distributed electronically (blind copied so addresses remain private) to all members for whom we have an email address. If you do not receive an emailed newsletter please email info@saskorchids.com to update your contact information.

Future Meeting Dates:

Saturday, May 27, 2023 Lawson Civic Centre
Saturday, Sept. 23, 2023 Elim Church
Saturday, Oct. 21, 2023 Elim Church

SOS Executive

President: Tracey Thue
Vice-President: Shayne Feltis
Past President: Bob Lucas
Secretary: Jenn Burgess
Treasurer: Donna Carlson-O'Keefe
Social: Shirley Keith
Lynn Campbell
Plant Orders: Heather Anderson
David Schwinghamer
Resources: Don Keith
Tom Kondra
Librarian: Deb Huculiak
Newsletter: Tracey Thue
Tobi Fenton
COC/AOS Rep: Tom Kondra
Speakers: Heather Anderson
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S7K 3L3

May Meeting - Saturday, May 27, 2023 1:30 pm CST

In-person at [Lawson Civic Centre](#) (see address on page 2)

Meeting begins promptly at 1:30pm.
Guests are always welcome!

ANNOUNCEMENTS

MEETING AGENDA:

Meeting starts @
1:30pm

Announcements

Tributes to members

Break - 50:50 ticket sales, Resources sales, Library, 40th Anniversary Cake

Problem Corner

Show and Tell

Tips and Tricks to Growing Orchids

50:50 Draw

Adjournment

This meeting will NOT be presented on Zoom.

The SOS Newsletter

will no longer be mailed out in print form. It is now available only in digital form by:

E-mail - e-mailed each month;

Online - a link to the newsletter is eventually posted on the SOS website

Future Guest Speakers

September 23, 2023 Francisco Miranda, Miranda Orchids

October 21, 2023 Alan Koch, Gold Country Orchids



Our MAY 27, 2023 meeting will be held at:

**Lawson Civic Centre
225 Primrose Drive, Saskatoon**

Masking is encouraged.

Please, if you are experiencing any cold, flu or Covid-19 symptoms (cough, fever, sore throat), please stay home, even if you have tested negative with a rapid test.

SOS Email address for purchases by e-transfer



Please send all e-transfer purchases to:
payment@saskorchids.com



Specify in the message section of the e-transfer what the transfer is for (plants, membership, supplies, calendar, etc.).

SOS EMAIL CONTACTS

- Plant orders to:
orders@saskorchids.com
- General requests or queries to:
info@saskorchids.com

Plant Order

**Doug and Terry Kennedy, Orchids in Our Tropics,
Ontario**

See the new plant list in your email!

Some plants are in limited supply: 1st to order is 1st to get the plant! Price is in Canadian dollars, plus tax. There will be a discount, depending on the size of order.

Deadline for ordering: noon on Tuesday, May 23.
Send your order to: orders@saskorchids.com

You'll receive an e-mail prior to arrival of the shipment with your price and pick-up details.

Resources

If you need Orchidata bark to repot your new plants, it will be available at the May meeting! Visit Tom and Don at the Resources Table.

Membership Renewal Incentive

If you renew your membership in April or May you will receive a \$5 coupon to be used at the resources table.

Memberships are still \$25 for a single and \$30 for a family household, valid from September 2023 - August 2024.



Saturday, May 27, 2023 @ 1:30 PM CST

**Due to the nature of this meeting, it will NOT be available on Zoom.
Please come in person if you can!**

APRIL GENERAL MEETING MINUTES

DATE: April 22, 2023 1:40 p.m. CST

LOCATION: Lawson Heights Civic Centre

Calvin Lo welcomed everyone to the meeting and gave a summary of the proceedings. There were over 70 members and guests in attendance. 11 new members.

ANNOUNCEMENTS:

- **Donna Carlson-O'Keefe** (Treasurer) was at the back table, selling early memberships for the upcoming year: \$25/person or \$30/family. Early renewals receive a coupon to the SOS resource table. All members receive 10% off orchid supplies at Early's when you show your membership card.
- **David Schwingamer and Heather Anderson** (Plant orders) announced the plan to place an order in the fall from **Orchids in Our Tropics**, based in Ontario. The benefit of ordering from them is that their plants are already potted, as the plants do not need to go through customs. Also, invoicing from the Ecuagenera order was just received, and will be sent out soon to those who purchased plants.
- **Deb Huculiak** (Library) announced that there are many orchid resources available for members to borrow. Please let her know if there is a specific topic of interest and she can bring the item to the meeting for you.
- **Tom Kondra and Don Keith** (Resources) described the array of items and media available at the table for purchase, including Power and Power Plus bark, mounts, and fertilizer.

PROBLEM CORNER:

- Question about lady slippers (*Cypripedium*) grown in the garden - Calvin confirmed that these are indeed orchids and distantly related to the tropical slipper orchids *Paphiopedilums* and *Phragmipediums*.
- Question about *Dendrobiums* needing a cool and dry rest period - Calvin relayed that different species have different requirements. Some do need to be dry but not cool. Best to look up the culture of your particular plant.

SHOW AND TELL:

Bob Lucas:

- *Phragmipedium* Yelva Myhre
- *Phalaenopsis* Precious Lauren Rae - an impressive hybrid of Bob's in his quest to produce a red-flowered *Phalaenopsis*, as reds do not exist in nature.
- *Phalaenopsis* (Chingruey's Fancy x Miro Sun) - another of Bob's hybrids, as yet unnamed. Affected by western thrip and Bob warned of this pest, which can damage not only the initial plant but can spread to and kill a collection. Calvin also briefly described how orchids are grown, first in sterile flasks, then transferred to 'compots' or community pots, where they grow as small seedlings.

Vicky W:

- *Cattleya* Tangerine Fire 'Mini Sun' - a cute miniature with small red and yellow flowers.

Rebecca G

- *Phalaenopsis* King Car Dalmation
- *Phalaenopsis* Spring Joy Canary 'Joe' - fragrant. Both plants ordered from Crystal Star Nurseries, Ontario, which she recommended to others.

Jenn Burgess:

- *Haraella* (*Gastrochilus*) *retrocalla*, a fragrant miniature.
- *Psychopsis* Kalihi var. *alba* - windowsill grown.

GENERAL MEETING MINUTES, CONT.

SHOW AND TELL, CONT'D.

Heather Anderson:

- *Phalaenopsis* Sogo Vivien - a hybrid with striking variegated leaves.
- *Pleurothallis rubella* - a small mounted plant grown in her orchidarium.

Don Keith:

- *Dendrobium cuthbertsonii* var. red, and *Dendrobium cuthbertsonii* var. orange - this species comes in a variety of colours.
- *Dracula gigas* - a first bloom for this cool growing plant that has a distinct monkey face. Don described the room set-up for cool growing in his garage, ensuring cool temperatures and adequate moisture and air exchange. Calvin warned of seeds being sold online for this plant that are, in fact, not the real deal, as orchid seeds are minute and need to be grown in a flask.

David Schwinghamer:

- *Pleurothallis grobyi* var. yellow - mounted and kept moist; a sequential bloomer from Andy's Orchids in California.

Pat Randall:

- *Cattleya Cariat*'s Mini-Quinee 'Angel Kiss' - blue flowered and scented; grown in greenhouse and fertilized and weekly 1/2 strength.
- *Cattleya mossiae* - the national plant of Venezuela, also known as the "Easter Flower."

Calvin Lo:

- *Aerangis seegeri* - a miniature mounted plant with spurred flowers.
- *Dendrobium carniferum* - white and orange flowers and the fragrance of orange
- *Encyclia tampensis* x *Caularthron bicornutum*

50/50 DRAW: Tickets sold at the door by Marlow Thue, 5/\$5. Total ticket sales: \$133. Winner: Donated \$83 to the SOS

SILENT AUCTION:

There were over 127 lots on auction - a large variety of orchids, a few carnivorous plants, and other items. Bidding increments were \$1, with minimum bids of \$3 on most items and reserve bids on others. Calvin randomly closed off tables after giving a last call on each table.

AWARDS:

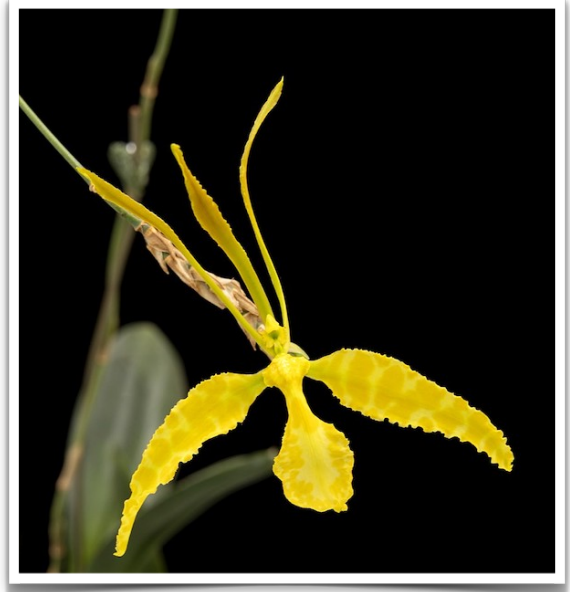
1. The Memorial Sherida Gregoire Award, drawn from contributors to the show table over this past membership year, was given to Don Keith. He was awarded a flowering yellow *Oncidesa* Goldflakes.
2. The Wilma Nykiforuk Award, given to the best show table plant this month and chosen by five of the newest SOS members, was awarded to Pat Randall for her impressive *Cattleya mossiae*. She was awarded a yellow *Oncidesa* Goldflake in bloom.

ADJOURNMENT: 4:00 p.m.

APRIL SHOW AND TELL



Photographs by
Pat Randall



Haraella (Gastrochilus) retrocallis
Jenn Burgess

Psychopsis Kalihi f. alba
Jenn Burgess



Phragmipedium Yelva Myhre
Bob Lucas



Phalaenopsis Chingruey's Fancy
x *Miro Sun*
Bob Lucas



Phalaenopsis Precious Lauren Rae
Bob Lucas



Aerangis seegeri
Calvin Lo



Encyclia tampensis x
Caularthron bicornutum
Calvin Lo



Dendrobium cariniferum
Calvin Lo



Phalaenopsis Spring Joy Canary 'Joe'
Rebecca Gatto



Phalaenopsis King Car Dalmation
Rebecca Gatto



Dendrobium cuthbertsonii
var. Red (left);

Dendrobium cuthbertsonii
var. Orange (right)

Don Keith



Dracula gigas
Don Keith



Phalaenopsis Sogo Vivien
Heather Anderson



Pleurothallis rubella
Heather Anderson



Pleurothallis grobleri var. yellow
David Schwinghamer



Cattleya Tangerine Fire 'Mini Sun'
Vicky Wiley

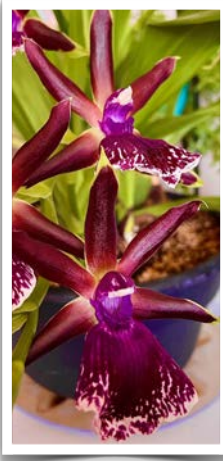


Cattleya Cariad's Mini-Quinee 'Angel Kiss' HCC/AOS
Pat Randall



Cattleya mossiae
Pat Randall

APRIL PHOTOS FROM MEMBERS



Photographs by the growers

Zygopetalum NOID
(possibly Rhein Moonlight)

Leslie Neilsen

This plant produced 3 inflorescences and 18 buds/flowers this year. It has responded very well to a change in media from bark to a terrestrial medium.



Cattlianthe Orchidglade
(*Cattleya walkeriana* x
Gurianthe aurantiaca)

Jenn Burgess

From Paph Paradise, this has been grown under lights. This is its first flower, 1 1/2" across.



Leptotes bicolor

Tracey Thue

I acquired this from J&L Orchids in 1999 at the World Orchid Congress in Vancouver. It is mounted on the original chunk of tree fern fibre.



Maxillaria Memoria Ben Berliner 'Leopard'

Tracey Thue

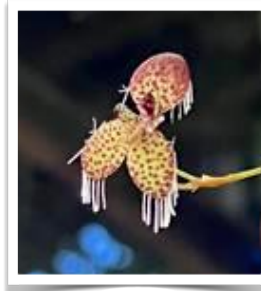
From a Ching Hua order we made in 2019, this primary hybrid has the beautiful coconut fragrance of its *Max. tenuifolia* parent, and slightly less sprawling growth habit of its *Max. variabilis* parent.



Cattleya White Bridal 'Yuki'

Tracey Thue

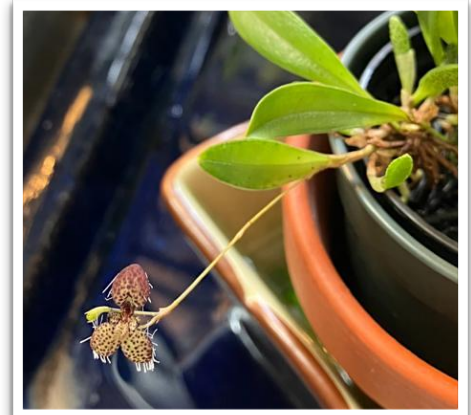
From the recent order with Ten Shin Gardens, this came in bud. It has an intense scent of orange blossom and jasmine!



Pleurothallis ornata

Tracey Thue

It's difficult to get a decent photo with my phone!



Tuberculolabium (Saccolabium) phillipsii

Heather Anderson

Purchased from Andy's Orchids, California in March, 2023. This is the first time it has bloomed for me. I grow it in an orchidarium and mist it once a day.



Phalaenopsis Smith Norton Fusion

(*Phal. Orchidview Tabasco* x *Phal. Leucadia Farewell*)

Heather Anderson

This is one of Bob Lucas' crosses. I received it as a seedling as a membership incentive in 2019. This is the first time it has bloomed. I grow it under lights in the basement greenhouse.



***Cattlianthe Aussie Sunset
'Cosmic Fire'***

Pat Randall

AOS Western Canada Judging Centre - March 31, 2023 Judging Results
Orchid Society of Alberta Show

Judges: Monica De Wit, David Edgley, Ben Rostron, Abu Salleh, Calvin Wong, Ryan Young, Paul Paludet (associate), Jennifer Atkins (student), Ellie van deg Hoven (student), Hendrik van deg Hoven (student).

Photographer: Blaise van Malsen



AOS Show Trophy 'Orchid Embrace' ST/AOS 90pts
Exhibitor: Orchid Species Preservation



***Phragmipedium* Fritz Schomburg 'Tremblay's Red' AM/AOS 82pts**
(*Phrag. kovachii* x *Phrag. besseae*)
Exhibitor: Shawn Tremblay



Phragmipedium Eric Young 'Alberta Sunsets' AM/AOS 81pts
(*Phrag. besseae* x *Phrag. longifolium*)
Exhibitor: Shawn Tremblay



Silver Certificate 'Farmhouse Orchid Paradise' SC/AOS 85pts
Exhibitor: Darrell Albert

International Orchid World - Dresden, Germany

SOS member Calvin Lo attended the Orchid Show in Dresden this March, and he has generously shared these photos of the event. Thank you, Calvin!



THE ROOT ZONE

Orchid Fragrance and Deception Or, You Can't Always Trust Your Nose (If You're a Bee)

Words: Tobi Fenton

Spring is a season that most of us anticipate with an intensity that borders on wild desperation, especially after a stubborn winter like the one we've just endured. The sound of leaves rustling in the wind, the feel of the warm sun, and the thrilling smell of petrichor released by microbes in the soil after a spring rain. Experiencing these again after six months without them is a heady reminder of how sensorially blank are our northern winters. Colour: none. Scent: none. Sound: wind. Wind without scent. (Unless a neighbour is burning wood in their stove.)

I was imagining, the other day, the excruciatingly pungent smell of poplar resin as it runs thickly and sweetly in expanding buds and unfurling leaves, and that day-dream progressed to one about fragrance in the plant kingdom and its incredible complexity. What is it for? Why is it worth the resource expense for a plant to produce it? What compounds are involved, and how does a plant "decide" which to produce? These are dangerous things to ponder. Botanists spend lifetimes trying to answer such questions. But if you're not a science academic, simply a curious human being with access to the internet, it's possible to dip your curiosity into the online information stream and wander. Which is what I have done, and learned some fascinating tidbits that will perhaps ease my winter-worn nose until the poplar sap runs.

As orchid growers, we know that some orchids are fragrant and others aren't, and that different people smell the fragrance differently. Beyond that, we usually don't bother ourselves overly much. Perhaps we should; beneath the scent is a realm of complicated strategies, chemical signals, interactions, and deceptions. Yes, deceptions. Many of our beloved, elegant, benign-looking orchid flowers are deceivers, and scent is a prime weapon. The target for this deception? Not you or I (though it may feel like it when I'm presented with a *Dendrobium* that smells like spicy strawberry jam). No, the target is pollinators. Those marvellous essential creatures that evolved alongside flowers to spread pollen to other distant flowers in the population, thereby assuring reproduction and avoiding inbreeding.

Flowering plants use various means to attract a pollinating insect, bird, or mammal - flowering time, flower colour, flower structure, and scent. As the oldest group of flowering plants, orchids have had volumes of time to develop sophisticated pollination strategies using these means to exquisite effect. Here, we will peer into the orchid practice of deception.

One third of all orchids use deception to attract pollinators. There are roughly 30,000 species of orchid on Earth. So, if 10,000 of those species have evolved some form of deception for pollination, it's clearly a successful strategy! Sexual deception occurs when a plant produces chemical pheromones and flower structures to mimic the shape and colour of a particular species of female insect. The male insect, in his search for a female to mate with, detects the pheromone, flies over, "mates" with the deceiving flower, and unknowingly picks up the pollen packets. The insect then transports the packets (pollinia) to another flower where, in his next bout of activity, he deposits the pollinia. Voila: cross pollination.

One of the classic cases of sexual deception is performed by the European terrestrial bee orchid, *Ophrys apifera*. Its target is a species of longhorn bee. The photo below illustrates the beautiful pollinia, suspended and waiting for the male bee's participation.



Ophrys apifera, a sexual-deceiver

Photo: Bernard Dupont
Wikipedia



Calypso Orchid, a food-deceiver

Calypso bulbosa
Photo: Tobi Fenton



Calypso Orchid, Vancouver Island

Photo: Friend of Shayne Feltis

The other, more common, strategy of pollination deception in orchids is food-deception. The plant advertises to insect pollinators that it contains nectar-bearing flowers when, in fact, it has none. The most important of these advertisements are flower colour and scent, rather than structure. Insects that are foraging for nectar in an area of nectar-producing flowers may be attracted by an orchid that is similarly coloured and scented, visit the orchid looking for nectar, find none, and fly away. But not before inadvertently picking up the pollinia and carrying them to another flower, hopefully of the same species.

It's worth reviewing that, in most orchids, pollen is packaged into discrete bundles - the pollinia. Because the pollen isn't presented loose, as in a poppy or a tulip, insects can't come along, gather it up, and take it back to the hive to be eaten. The pollinia have evolved to be picked up (inadvertently) from the flower's anthers, carried to another flower and deposited whole (inadvertently) onto the sticky stigma, where the pollen grains germinate, develop pollen tubes, and grow down through the column to the ovary and, ultimately, the seeds are set. If pollen is not the looked-for food reward, then nectar is. But food-deceptive orchids don't produce nectar and the pollinating insect soon learns of the deception. So, typically, non-rewarding orchids aren't visited frequently by pollinators. The compensation is that the orchid avoids the massive physiological cost of producing nectar, and still gets visited frequently enough to be pollinated. Additionally, it avoids self-pollination, maintaining strength in the population gene pool.

A Canadian example of an orchid that practices food-deception is the Calypso Orchid. This treasure of western pine forests blooms early in the season with floral signals to spring-flying bumblebees that it contains desperately-needed nectar. The signals are in the form of scent and colour, including the wonderfully bold purple stripes that are cunningly designed to direct the bee straight into the "nectaries." Naive bumblebees visit the flower, discover the deception (no nectar), and fly away, carrying a pollen packet. And on to the next flower. However, unlike sexual deception, where the insect tries over and over to mate with different flowers in that area, the cheated bumblebee learns quickly (within a few failed visits) that the Calypso orchid has no nectar and it flies off in search of more productive fare (like a wild strawberry). But not before cross pollination occurs for Calypso, and at a much lower energy cost than that spent by neighbouring plants that have supplied nectar to its pollinators in payment for spreading its pollen. The ability of bumblebees to quickly learn of the deception is why the cheeky Calypso orchid, like most food-deceiving orchids,

blooms early in the season: to take advantage of inexperienced bees.

Another genus that practices food-deception is *Dactylorhiza*, a group of terrestrial orchids that are widespread in wet temperate meadows of Europe and Asia, from Portugal to Siberia and China. Marshes and water meadows are the perfect habitat for food-deceptive orchids because of the incredible variety of other early-season nectar-producing flowers that flourish there, such as water forget-me-nots, field chickweed, water avens, Queen Anne's lace, and meadow buttercup. This botanical diversity lures a diversity of insects. The pollinators are successful in finding the nectar they need from the non-deceivers, and the orchids get pollinated sufficiently to maintain their populations.



Water Forget-me-not

Myosotis palustris



Field Chickweed
Cerastium arvense



Water Avens
Geum rivale



Queen Anne's Lace
Anthriscus sylvestris



Meadow Buttercup
Ranunculus acris

During my recent online wanderings, I came across a scientific article that describes a study examining several *Dactylorhiza* species and natural hybrids and their pollinators, in Poland. The investigators were interested in how floral scent plays a role in food-deception. Specifically, they compared the chemical compounds produced by different *Dactylorhiza* taxa, and how the various compounds attracted different insect pollinators. With the data collected, they proposed a model of the evolution of food-deception in *Dactylorhiza*. The genetics and evolutionary theory were beyond me, but I was fascinated by the lesson in orchid biochemistry! The *Dactylorhiza* studied include the following illustrated below:



Early Marsh Orchid
Dactylorhiza incarnata var.
incarnata



White Early Marsh Orchid
Dactylorhiza incarnata var.
ochroleuca



Common Spotted Orchid
Dactylorhiza fuchsii



Broad-leaved Marsh Orchid
Dactylorhiza majalis

Floral compounds were extracted by various solvent baths, filtering, and evaporation techniques; and then the extracts subjected to gas chromatography-mass spectrometry analysis. (GC-MS is the method used in criminal forensics, drug detection, fire investigation, and analysis of environmental pollutants.) A surprising witches' brew of 113 organic chemicals were identified from the nine *Dactylorhiza* populations tested. Among the most prevalent compounds were alkanes, alkenes and aldehydes, benzoids, esters and acids. Alkanes are saturated hydrocarbons - the major constituent of petroleum. Alkenes are unsaturated hydrocarbons. Aldehydes are particularly volatile compounds with pungent odours. Vanillin (from the vanilla bean) is an aldehyde.

Some chemicals were common across the field of the *Dactylorhiza* sampled. Aldehydes, alkanes and alkenes are considered basic floral compounds that act as pheromones to relay information about food availability. Furthermore, when alkanes and alkenes appear together, they intensify the potency of the fragrance. Other chemical signals were very specific to certain *Dactylorhiza* species and attracted specific pollinators. For example, benzenoids in *D. incarnata* and *D. fuchsii*; benzenoids and esters in *D. fuchsii*; non-aromatic acids in *D. majalis*.

The insects observed were also impressively varied. Western honey bee, bumblebees, carder bees, flies, beetles, and butterflies. Only the western honey bee was common to all *Dactylorhiza* species. Surprisingly, many of the insects were "flower visitors" only; they were not observed carrying pollinia. Of the twelve insect species seen on *D. incarnata*, five were visitors; on *D. fuchsii*, seven of twelve insects were visitors; and on *D. majalis*, only one of sixteen (the honey bee) was a pollinator.

The authors suggest that a large variety of chemical signals leads to better communication between plant and pollinator. This encourages a wider diversity of pollinators and, over generations, further selection for food-deceit pollination and even greater variation in floral chemistry. It's a circular evolution of pollination strategy such that you eventually can no longer see which came first - the pollen-bearing flower or the pollinating insect. Like predator and prey co-evolution, the two are gloriously intertwined.



**Western Honey
bee**
Apis mellifera



**Buff-tailed
Bumblebee**
Bombus terrestris



**Common Carder
Bee**
Bombus pascuorum



**Common Dance
Fly**
Empis tessellata



**Swollen-thighed
Beetle**
Oedemera nobilis

Here my early spring mental diversion ends, with thoughts of hungry insects and the scented flowers that will be trying to lure them. I have a group of *Cypripedium* in my garden, which are food-deceivers; I wonder if there are any other food-deceiving plants out there? I can't extract floral compounds for analysis but day-dreams are building about an insect-observation station beside the *Cypripedium* patch. Wouldn't it be fascinating to know who the local pollinators are? Though I don't think my vision is acute enough to tell which are simply flower visitors and not pollinators, besides myself.

Deceptive strategy in *Dactylorhiza* orchids: multidirectional evolution of floral chemistry, *Annals of Botany*, Volume 123, Issue 6, 8 May 2019, Pages 1005-1016. <https://academic.oup.com/aob/article/123/6/1005/5315907>