

# Two new species of orchid found in Cuba

Dec 27, 2012



The mechanisms that explain the amazing variety of orchids are only now being discovered. This is a specimen of *Encyclia navarroi*. Credit: Angel Vale

Researchers from the University of Vigo, in collaboration with the Environmental Services Unit at the Alejandro de Humboldt National Park (Cuba), have discovered two new species of Caribbean orchid.

The Caribbean islands have been natural laboratories and a source of inspiration for [biologists](#) for over two centuries now. Suffice to say that the studies by [Charles Darwin](#) and Alfred Russel Wallace in the tropical archipelagos contributed to the emergence of the [theory of evolution](#).

In this case, a Spanish research team from the University of Vigo has discovered two new [species](#) belonging to the orchid family (Orchidaceae: Laeliinae) in Cuba. They have been called *Tetramicra riparia* and *Encyclia navarroi*. The two plants were found in the eastern and western zones of the island

respectively.

"The first species described, *Encyclia navarroi*, is an orchid with considerably large flowers. A year later we discovered the *Tetramicra riparia* species, with very small flowers. The latter is so named because it grows on the banks of stony streams in the mountains of Baracoa, one of the rainiest and least explored areas in Cuba", as Ángel Vale explained to SINC. Vale is a researcher at the University of Vigo and co-author of the studies published by the journals *Systematic Botany* and *Annales Botanici Fennici*.

Darwin was very much drawn to the orchid family, and used it to propose certain hypotheses about the importance of the relations between flowers and pollinators for biodiversity. Between 25,000 and 30,000 species of these plants are estimated to exist. However, the mechanisms that explain this amazing variety are only now being discovered.

"We could highlight their extraordinary capacity to interact with different types of pollinators. Contrary to most plants, many [orchids](#) do not produce nectar or other substances to compensate insects and birds that visit them", explained the researcher.

Featured Popular Most shared

- [Sugar makes cancer light-up in MRI scanners](#) / Jul 07, 2013 0
- [An unlikely competitor for diamond as the best thermal conductor](#) / Jul 08, 2013 0
- [Champion nano-rust for producing solar hydrogen](#) / Jul 07, 2013 3
- [CGI lighting, scanning deliver more realistic face \(w/ Video\)](#) / Jul 06, 2013 2
- [Straight up: SpaceX's Grasshopper rocket gains height and precision \(w/ Video\)](#) / 22 hours ago 12

Phys.org on [Follow](#)

+1 +39,160

Phys.org on [facebook](#)

Like 92,785 people like this. [Sign Up](#) to see what your friends like.

Relevant [PhysicsForums](#) posts

- [Stages of life cycle of mammals](#) / 2 hours ago
- [Kettlewell and the Peppered Moths](#) / Jul 07, 2013

## Orchids' deceit pollination

Ads by Google

**Thomas Wiley Mills** - The Most Robust Lab Mill On The Market! -

ThomasSci.com/WileyMill

Despite this, floral visitors are attracted by orchids' colours and shapes, which enables the plants' sexual reproduction. This is known as deceit pollination.

The University of Vigo Plant Ecology and Evolution research team, which Vale belongs to, is studying the ecological and evolutionary consequences of deceit pollination in orchids that are endemic to the Greater Antilles: Cuba, Jamaica, Hispaniola and Puerto Rico. One of the mysteries they aim to solve is if the deceit orchids have a greater taxonomic and genetic diversity than other nectar-producing species.

Vale and his team are drawing up studies in the Antilles not only to reconstruct the evolutionary history of orchids but also to analyse the effect of pollinators in the reproduction of plants, and how this interaction has modelled the colourful aspect of these Caribbean flowers.

"Despite the fact that *T. riparia*'s flowers have a complete central petal, just like other species that make up a subgenre endemic to Cuba; the way they grow is very similar to a more widespread group that seems to have diverged on the neighbouring island of Hispaniola. Our work provides molecular evidence of the greater relationship of *T. riparia* with these species on the neighbouring island. This is in consonance with the geological history of the [Caribbean islands](#), according to which the eastern end of Cuba was in close contact with that land", pointed out Vale.

Scientists are currently trying to estimate how many millions of years ago this and other Caribbean species saw the light of day. This will enable them to test whether the ancestor of this species was already in Cuba, or if on the contrary, it evolved from an ancestor that colonised the island from neighbouring archipelagos.

"Just as with most orchids, which offer no compensation to their pollinators, *Encyclia navarroi* and *Tetramicra riparia* receive very few visits from bees. This is one of the basic reasons that guarantee the survival of these plants, and also help protect the populations of their [pollinators](#)", explained the scientist.

➤ **Explore further:** [Plant that only flowers once in seven years has blossomed](#)

**More information:** Ángel Vale, Danny Rojas, Yosvanis Acanda, Natividad L. Sánchez-Abad y Luis Navarro. "A New Species of *Tetramicra* (Orchidaceae: Laeliinae) from Baracoa, Eastern Cuba" *Systematic Botany* 37(4): 883-892, octubre-diciembre 2012. [DOI 10.1600/036364412X656491](#)

Ángel Vale, Danny Rojas. "Encyclia navarroi (Orchidaceae), a new species from Cuba" *Annales Botanici Fennici* 49: 83 – 86, 26 de abril de 2012.

Provided by [Spanish Foundation for Science and Technology \(FECYT\)](#)



4 / 5 (1 vote)



ADVERTISEMENT



**Early Warning:** Look for this warning sign. When you see it, prepare for serious trouble in America



**Frenzy over new "skinny pill".** This Celeb doctor calls it the newest, fastest, fat buster...



**Tori Praver has become one of the decade's most popular swimsuit models.** Take a look at why.



**Texas debt program to eliminate your Credit Card Debt before the summer holiday.**

Related Stories

Recommended for you

[Orchid sexual deceit has male wasps in a loved-up](#)

[Plant that only flowers once in seven years has](#)

Web2PDF

converted by Web2PDFConvert.com



**frenzy** / Apr 29, 2008

Orchids are admired by humans and insects alike, but according to Macquarie University research, one Australian wasp is so enthralled by 'Orchid Fever' that actually he ejaculates while pollinating orchid ...



**blossomed** / 2 minutes ago

(Phys.org) —Arelatively rare plant that flowers only once in seven years and then dies has blossomed - delighting horticulturalists at the University of Aberdeen.

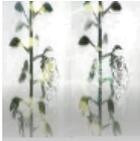
**New research explains orchids' sexual trickery** / Dec 17, 2009

Anew study reveals the reason why orchids use sexual trickery to lure insect pollinators. The study, published in the January issue of The American Naturalist, finds that sexual deception in orchids leads to a more effici ...



**New method to age cattle from their teeth** / 30

minutes ago  
Ageing animals from their teeth goes back to the time that man first started keeping animals. New research has applied modern statistical techniques to investigate the association between the stages of dentition ...



**Bees outpace orchids in evolution** / Sep 23, 2011

(PhysOrg.com) – Orchid bees aren't so dependent on orchids after all, according to a new study that challenges the prevailing view of how plants and their insect pollinators evolve together.

**Fears that pet ponies and donkeys traded for horsemeat in Britain unfounded, researchers say** / 13 hours ago

Fears that pet ponies and donkeys are being traded for horsemeat are unfounded, reveals research published online in the *Veterinary Record*.

User comments



Commenting is closed for this article.

More news stories



**Following the footprint of invasive trees**

In Oregon, western juniper trees are expanding their range, pushing out other plant species, reducing sagebrush habitat and livestock forage, and at times fueling catastrophic wildfires. During some of these ...

**Nanomaterial to help reduce CO2 emissions**

University of Adelaide researchers have developed a new nanomaterial that could help reduce carbon dioxide emissions from coal-fired power stations.



**New method to age cattle from their teeth**

Ageing animals from their teeth goes back to the time that man first started keeping animals. New research has applied modern statistical techniques to investigate the association between the stages of dentition ...

**Researchers identify 'switch' for long-term memory**

Neurobiologists at Heidelberg University have identified calcium in the cell nucleus to be a cellular "switch" responsible for the formation of long-term memory. Using the fruit fly *Drosophila melanogaster* as a model, the ...



**Study shows influence of temporal niches in maintaining biodiversity**

By studying rapidly evolving bacteria as they diversify and compete under varying environmental conditions, researchers have shown that temporal niches are important to maintaining biodiversity in natural ...



**Detecting DNA in space**

If there is life on Mars, it's not too farfetched to believe that such Martian species may share genetic roots with life on Earth.



**Could our diet while growing up affect our offspring's vitality?**

(Phys.org) —You are what you eat - and so are your offspring. And in the title bout featuring protein versus sugar, protein is the winner.



**Researchers identify potential biomarker for cancer diagnosis**

Scientists studying cancer development have known about micronuclei for some time. These erratic, small extra nuclei, which contain fragments, or whole chromosomes that were not incorporated into daughter ...



**Knowledge of stingrays' sparked-up sex may help deter sharks**

Sexual attraction of the electric sort happens when stingrays meet, according to a researcher at The University of Western Australia's Oceans Institute - and the finding may help prevent shark attacks on ...



**Genetic screen finds new treatment targets for lung cancer**

Cancer Research UK scientists are the first to use an efficient new screening strategy to identify gene faults in tumour cells that are possible drug targets for the most common form of lung cancer, according ...

- Top
- Home
- Medical Xpress
- Search
- Help
- FAQ
- About
- Contact
- Phys.org Account
- Sponsored Account
- Newsletter
- RSS feeds
- Feature Stories
- Weblog & Reports
- Podcasts
- Archive
- iPhone iPad Apps
- Blackberry App
- Android App & Widget
- Amazon Kindle
- PDVersion



Privacy Policy Terms of Use

