

## Novel Royal *Penicillium* Species



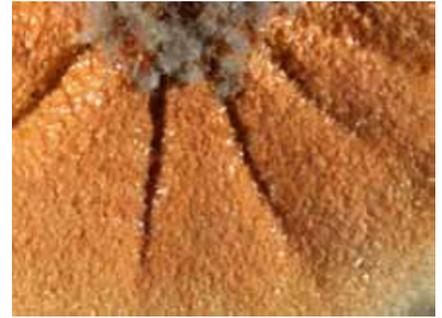
Colonies of *Penicillium vanoranjei* (CBS 134406T) on CYA, MEA and YES from left to right (top = obverse, bottom = reverse).

Scientists at the CBS-KNAW Fungal Biodiversity Centre in Utrecht, The Netherlands, part of the Royal Dutch Academy of Sciences (KNAW), discovered five new *Penicillium* species. Unique to this small group and something very uncommon for *Penicillium*, was the orange (Dutch = oranje) colours produced in culture. As a result, they decided to name one of the orange penicillia after King Willem-Alexander of The Netherlands to coincide with his inauguration on 30 April 2013. His family members, Queen Máxima and their daughters, Princesses Amalia, Alexia and Ariane were also honoured, with the remaining species named after them.

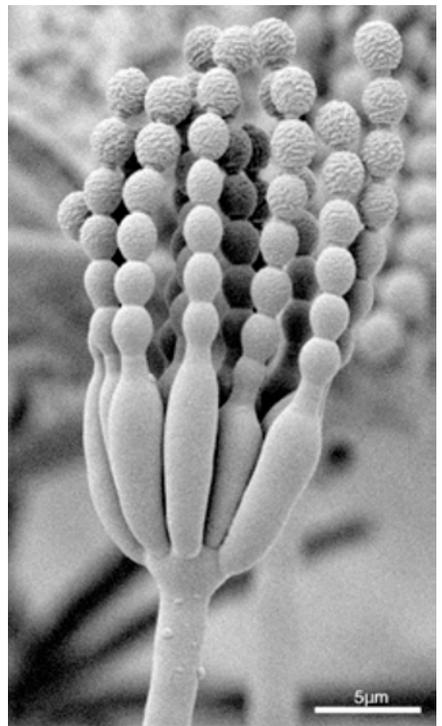
This is not the first time that scientists honoured royal patronage in such a fashion, with Galileo naming the moons of Jupiter as “The Medici Stars” after his royal patrons. Other “royal” organisms include a mollusc (*Mitra kamehameha*, named after King Kamehameha I of the Hawaiian Islands), a fruit-fly (*Paroxyna messalina*, named after Cleopatra VII), squid (*Lepidoteuthis grimaldii*, named after Prince Albert I of Monaco), the tiger moth of Tibet (*Orontobia dalailama*, named after the Dalia Lama), a gazelle (*Gazella bilkis*, named after the Queen of Sheba), and a water

lily (*Victoria regina*, named after Queen Victoria of the United Kingdom of Great Britain and Ireland). Also a protein, used for predicting heart failures, was named after former Queen Beatrix of The Netherlands by researchers from Maastricht.

The research paper, “Five new *Penicillium* species in section *Sclerotiora*: a tribute to the Dutch Royal family” was made available online on 9 April 2013 (*Persoonia* 31: 42–62, <http://www.persoonia.org>). The online publication coincided with the CBS Spring Symposium, One Fungus: Which Gene(s) (1F = ?G), where a framed description of *P. vanoranjei* was handed over to the scientific director of the KNAW, Theo Mulder. There was also good press coverage on this remarkable event – including numerous newspaper articles, especially online reports, television coverage, and also two radio interviews with the authors. Social media sources, such as Twitter, helped to quickly spread the news internationally, leading to international newspaper coverage. The positive impact that *Penicillium* species can have on human lives was also explained. For example, that *Penicillium* species are used for the production of antibiotics (penicillin), and other drugs, as well as the production



Colony texture on MEA, showing the large masses of characteristic orange sclerotia produced by *P. vanoranjei*.



Scanning electron microscope photo of *P. vanoranjei*, showing the typical monoverticillate conidiophore and its chains of finely roughened conidia.

of fermented cheeses (*P. roqueforti*, *P. camemberti*) and sausages (*P. nalgiovense*). The media coverage was quite unexpected. However, we consider the whole experience extremely valuable for spreading public awareness and to make people aware of this important and fascinating kingdom.

**Een oranje schimmel voor de nieuwe koning en zijn gezin**

Headline from the Dutch Newspaper “De Volkskrant” (scientific section) reading “An orange fungus for the new King and his family”.

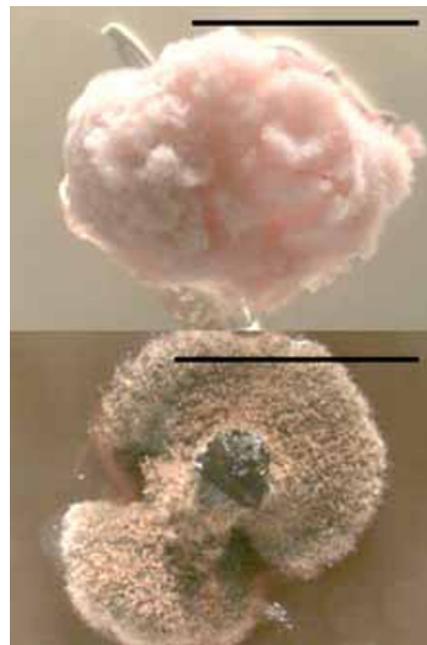
## Cultures of lichen-forming fungi available for experimental work

The availability of pure cultures of the fungal partners of lichen associations has been a major constraint on the range of *in vitro* experiments possible to investigate the biology of these intriguing and highly successful mutualisms. Now, McDonald *et al.* (2013) have announced the availability of cultures of 25 species from 12 genera belonging to five different orders of ascomycetes. That these are of the species indicated was verified by ITS and mSSU sequence data. The cultures are all now available from CBS, as well as from the authors. Further, the whole genomes of three of these cultures are indicated as having been sequenced: those of *Acarospora strigata*, *Cladonia grayi*, and *Graphis scripta*. There are now possibilities for comparative studies at the genomic level of the nature of the lichen symbiosis and the interactions of

the fungal and photosynthetic partners. The article also describes in detail the methods of isolation and culture which have proved so successful, and that information will be of particular value to mycologists wishing to isolate other species.

McDonald T, Gata E, Lutzoni F (2013) Twenty-five cultures of lichenized fungi available for experimental studies on symbiotic systems. *Symbiosis* 59: 165–171.

*Cultures of the lichen-forming fungi* *Acarospora* cf. *contigua* and *Usnea strigosa*. Bars = 2 mm. Photos Tami McDonald.



## Plant Health regulations can impede fungal research and exploitation

Attention has been drawn to the anomalous situation whereby, in order to obtain a license to import live fungal cultures into the UK, they first must be named, and then have been assessed for their risk to plant health (Hawksworth & Dentinger 2013). This means that, even if appropriate permissions have been obtained from originating countries in compliance with regulations drawn up under the Convention on Biological Diversity, no living cultures of previously undescribed fungi can legally be brought into the country. This applies to cultures required for phylogenetic or

experimental study, or for assessments for exploitable properties – and does not involve any consideration of containment facilities or the types or locations of laboratories where they would be examined. The authors consider the main risks for plant health to be viable spores brought into the country accidentally, for example in dust and soil on vehicles, shoes, packaging, migrating birds or insects, and horticultural products. Imported fungi are surely likely to pose the least risk to plants when confined to laboratories where they are handled by suitably trained mycologists or technicians

– the people likely to be most aware of any potential risks. Fortunately, not all countries have such stringent regulations, but where they do the appropriate authorities need to be aware that much of their effort may be misdirected. As Colin Booth (1924–2003), the first Secretary-General of the IMA (1971–77), once remarked, perhaps cynically, that “regulations never stopped any fungus entering the country”.

Hawksworth DL, Dentinger BTM (2013) Antibiotics: relax UK import rule on fungi. *Nature* 496: 169.

## Progress on preparing Lists of Protected Names



Progress on preparing Lists of Protected Names was reviewed during the Spring

Symposia organized by the CBS-KNAW Fungal Biodiversity Centre in Amsterdam on 10–12 April 2013<sup>1</sup>. While considerable progress was evident in some groups of fungi, it was recognized that much needed to be done if a series of lists was to be ready in time for consideration at IMC10 in August 2014. If that slot is missed, it may be difficult to achieve that status for many names by the International Botanical Congress in 2017 – if that occasion were

missed the next date for adoption under the current rules would be 2023. In order to accelerate the process, it was suggested that a draft List of Protected Generic Names be prepared as a basis for discussion, and made available for comment as soon as possible. That work is currently in progress, drawing in particular on data in the Index

<sup>1</sup>See also p. (7) in this issue.

Fungorum and MycoBank databases, and also the generic typification project prudently initiated independently by Joost A. Stalpers<sup>1</sup>.

The discussion session at the meeting also favoured the:

- (1) Use of the terms Protected *vs* Suppressed Lists over Accepted *vs* Rejected and some other possibilities suggested.
- (2) Lists of Protected Names being

- protected against unlisted names.
- (3) Treatment names of morphs of a species with the same epithet as new combinations and not as new species, with appropriate changes in author citation<sup>2</sup>.
- (4) Inclusion of lichen-forming fungi in the Protected Lists.

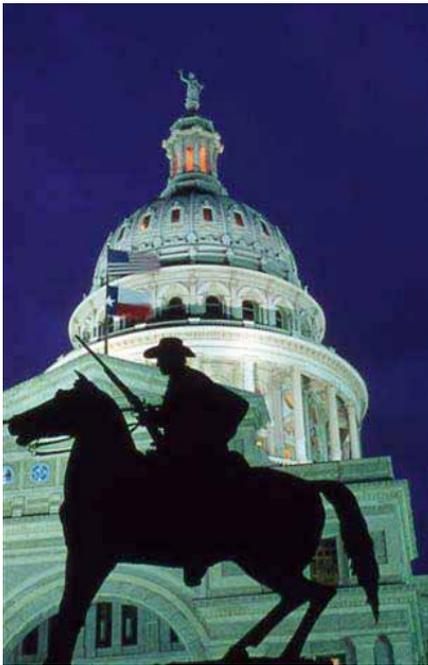
Each of these four issues will necessitate changes in the *International Code of Nomenclature for algae, fungi, and plants*.

It is envisaged that formal proposals to that end will be prepared for publication in *Taxon* in early 2014, so that they can be debated and considered in depth at IMC10.

<sup>1</sup>See p. (19) in this issue.

<sup>2</sup>See Hawksworth *et al.* (*IMA Fungus* 4 (1): 53–56, June 2013)

## APS-MSA joint meeting this summer



*Texas State Capitol at Night.* Austin City Visitor's Bureau (ACVB). Photo by Frederica Georgia.

The American Phytopathological Society (APS) and the Mycological Society of America (MSA) are looking forward to a joint annual meeting from 10–14 August in Austin, Texas. The meeting will begin 10 August with a foray to one of Austin's best outdoor destinations, the Barton Creek Greenbelt. Novices and experts alike will have a chance to foray for fungi and at mid-morning, participants will return to Austin's Convention Center to examine and identify specimens and listen to a lecture about Texas mushrooms by Clark Ovrebø (Department of Biology, University of Central Oklahoma). The annual Karling Lecture will feature internationally recognized fungal interactions expert Barbara Howlett



*Downtown Skyline.* Photo courtesy of Austin City Visitor's Bureau (ACVB).

(University of Melbourne) presenting "Evolution and virulence in fungal pathogens of plants." MSA President Mary Berbee (University of British Columbia), will give the annual Presidential Address that is sure to be a meeting highlight. Twenty-five symposia are being offered that span the diversity of plant pathology and mycology, including comparative fungal genomics with MycoCosm, genotyping-by-sequencing, fungal ecology, fungal cell biology, plant symbiotic fungi, gramicolous downy mildews, diversity of wood decay systems, and impact of recent changes in fungal nomenclature heralded "one fungus, one name." In addition to the symposia, there will be 200 oral and several hundred poster presentations. More information can be obtained at <http://www.apsnet.org/meetings/annual/Pages/default.aspx>.

Known as the live music capital of the world, Austin's lively night life and broad selection of fine dining establishments should appeal to everyone in attendance. Planning is also underway for the 2014 MSA meeting at Michigan State University in July/Aug (dates to be determined) and the International Mycological Congress (IMC10) in Bangkok, Thailand from 3–8 August 2014. Keep your eye on the MSA website (<http://www.msafungi.org>) for more details! Information about membership in MSA can be found at <http://msafungi.org/membership>.

**Lori Carris**  
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of America (MSA)  
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## Interested in hosting IMC11 (2018)?

Under the Statutes of the IMA (<http://www.ima-mycology.org/society/statutes>), the deadline for receipt of pre-proposals from Member Mycological Organizations (MMOs) to host the next International Mycological Congress is 12 months before the date of the current IMC – 2 August 2013. The pre-proposals will then be reviewed by the Executive Committee, and a vote to solicit full proposals from not fewer than two of the MMOs submitting pre-

proposals is due not later than 10 months before the date of the current IMC – 2 October 2013.

Full proposals to host the next IMC must then be received by the Secretary-General for distribution to the Executive Committee not later than six months before the current IMC – 2 February 2014. The venues and dates for the next IMC will then be voted on by the Executive Committee not later than three months

before the current IMC. The President and Secretary-General will visit the proposed venue selected by the Executive Committee before final ratification by the Executive Committee. The final decision will then be announced to the General Assembly of the IMA, to be held at the upcoming IMC.

For further information, or to submit a pre-proposal, contact the IMA Secretary-General, Dominik Begerow ([dominik.begerow@rub.de](mailto:dominik.begerow@rub.de)).

## IMA *Fungus* citations take-off

*IMA Fungus* was launched at the IMC9 meeting in Edinburgh (2010), with the aim to grow to become the *Nature* of mycology. The journal contains a range of items including news, reports, upcoming meetings, book launches, book news, etc., and of course, original research papers and reviews. The IMA Executive Committee decided to support the journal in the “Open Access” model, with the IMA paying for the online publication of content. The editorial board rotates every four years (coinciding with the IMC congresses). Furthermore, the journal also has an Editor-in-Chief (David L. Hawksworth), Managing Editor (Pedro W. Crous), and Layout Editor (Manon Verweij). The IMA chose to use Ingenta Connect as online publisher, but also obtained a listing in PubMed

Central for full content, in addition to its own website from where PDFs can be downloaded. Since the journal was launched (the first issue containing the mammoth article by Emory Simmons, dealing with the turbulent history of the IMA), *IMA Fungus* has attracted some influential articles and editorials, namely “A new dawn for the naming of fungi” (Hawksworth DL, 2011 – 62 citations in Google Scholar), “The Amsterdam declaration on Fungal Nomenclature” (Hawksworth DL, *et al.*, 2011 – 71 citations), “Cryptic species in lichen-forming fungi” (Crespo A, *et al.*, 2010 – 34 citations), “Advances in *Glomeromycota* taxonomy” (F. Oehl *et al.*, 2011 – 28 citations), and “How to describe a new fungal species” (Seifert KA, Rossman AY, 2011 – 29 citations), to name but a few.

The journal is well-read (judging from the huge number of downloads), and papers and content of *IMA Fungus* already account for 16 700 citations in Google Scholar (June 2013). *IMA Fungus* presently has an *H*-index of 7 (Web of Knowledge), which means it is already making progress in the field mycology, compared to other new journals in the field (e.g. *Fungal Biology* at 12).

*IMA Fungus* is presently being evaluated for inclusion in Scopus, and the next three issues will also be evaluated by Thomson Reuters, meaning that if all goes well, *IMA Fungus* should have its first official Impact factor by 2015, to appear in the Journal Citation reports (JCR) to be published in June 2016.




**IMC10**  
**2014**  
 Bangkok  
 THAILAND

The 10<sup>th</sup> International Mycological Congress  
 in Bangkok, THAILAND  
**AUGUST 3 TO 8, 2014**  
[www.imc10.kasetsart.org](http://www.imc10.kasetsart.org)