

BEAUTIFUL RINGS

Many people know me as a photographer. Even though I studied some biology, I am driven first and foremost by the beauty of things that surround me.

Recently, I was going over my microscopic pictures when I was taken by the beauty of growth rings. Not surprisingly, my slide collection contains a fair number of mounted plant specimen which include many showing growth rings. Buy any box of mounted slides and you're bound to have a few.

Growth rings can tell us a lot about the past history of a tree. It will show wide rings when the summer was warm and the rain plentiful, while thin rings are the result of dry and stressful seasons. Rings can also show scars from fires, lightning, or other accidents. They even show when the tree had to bend one way or the other in search of more light or because some other tree fell on it and bent it out of shape.

But all of this is in the large world. At the microscopic level most mounted slides show the very beginning of a tree life, often no more than the first two or three rings. But that's enough to have a lot of fun.

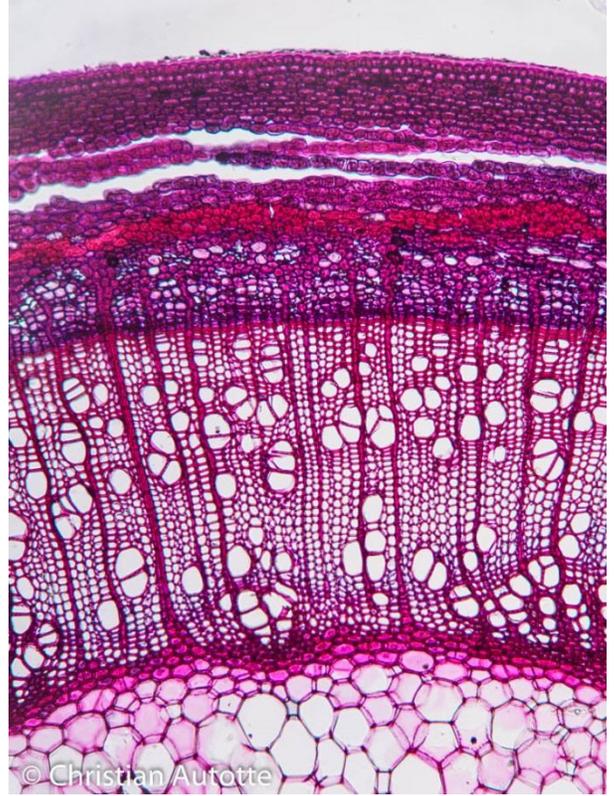




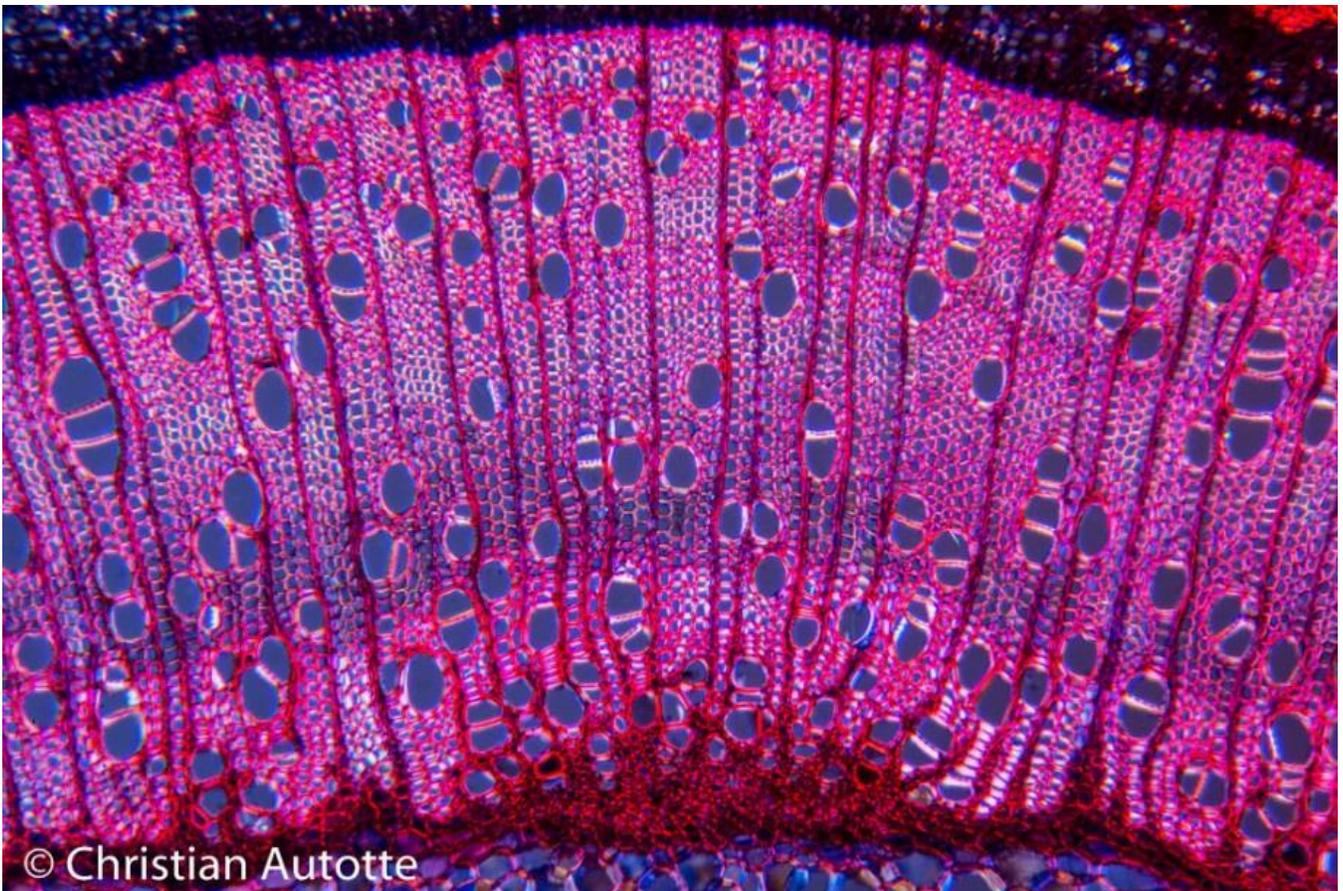
Maple Stem, 40x

These slices of young maples show little more than 3 or 4 years of growth. As is the case most of the time, magnification can be limited to 40 or 100x.

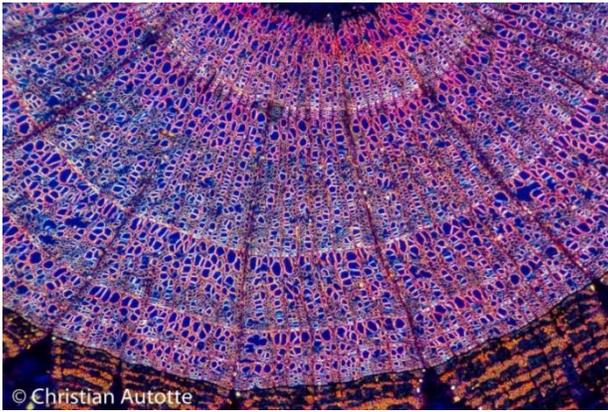
While it's not always producing interesting effects, polarization can be tried with many cut and stained samples of growth rings.



Maple Stem, 100x



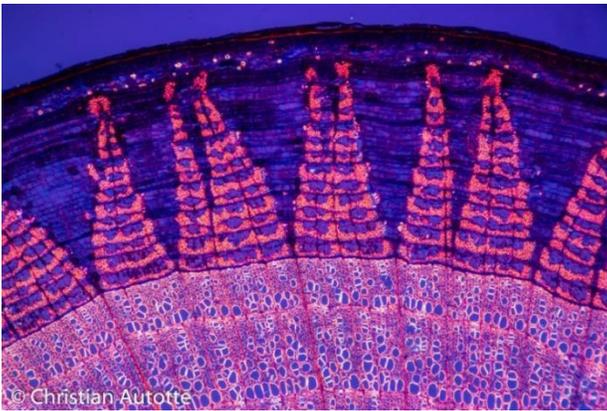
Maple Stem, polarized light, 100x



Tilia (Basswood) in polarized light, 40x

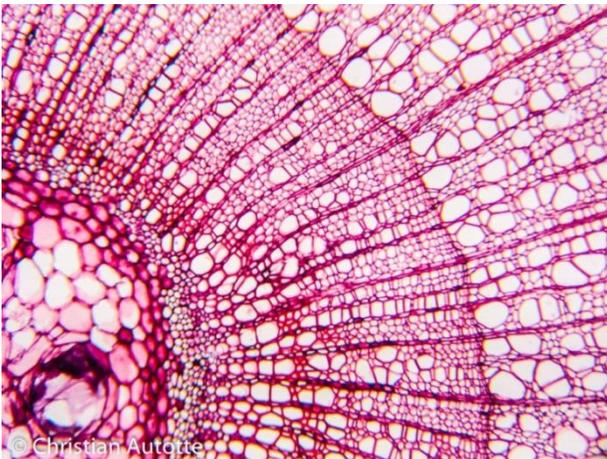


Tilia (Basswood) in polarized light, 40x

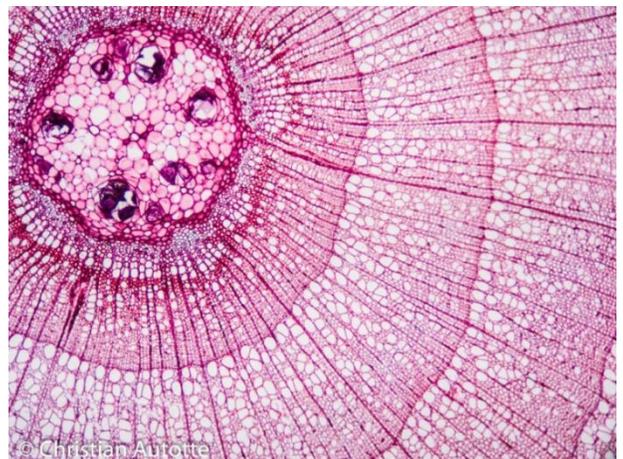


Tilia (Basswood) in polarized light, 40x

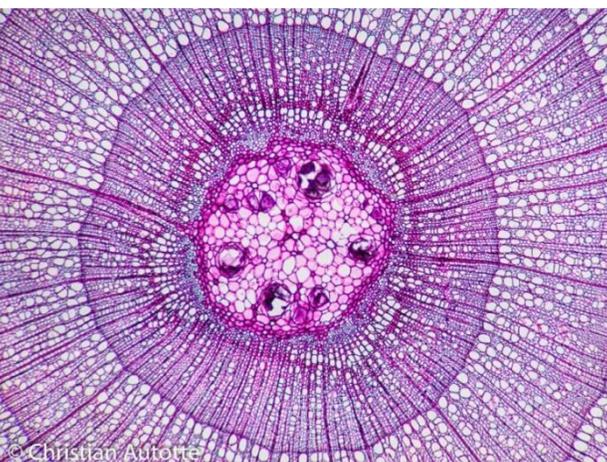
Basswood (identified on my slides by the scientific name "Tilia"). This little tree was a bit older, as seen by the number of growth rings.



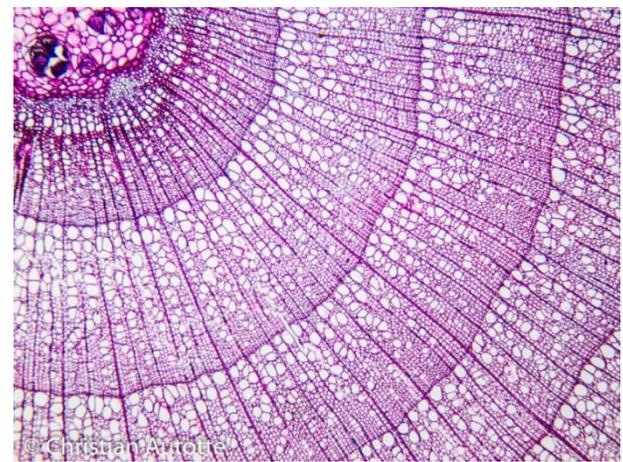
Tilia (Basswood), 100x



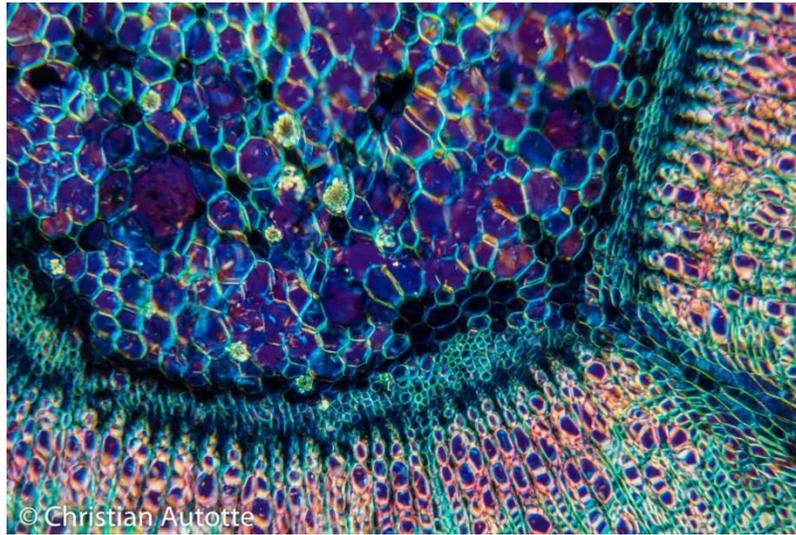
Tilia (Basswood), 40x



Tilia (Basswood), 40x



Tilia (Basswood), 40x

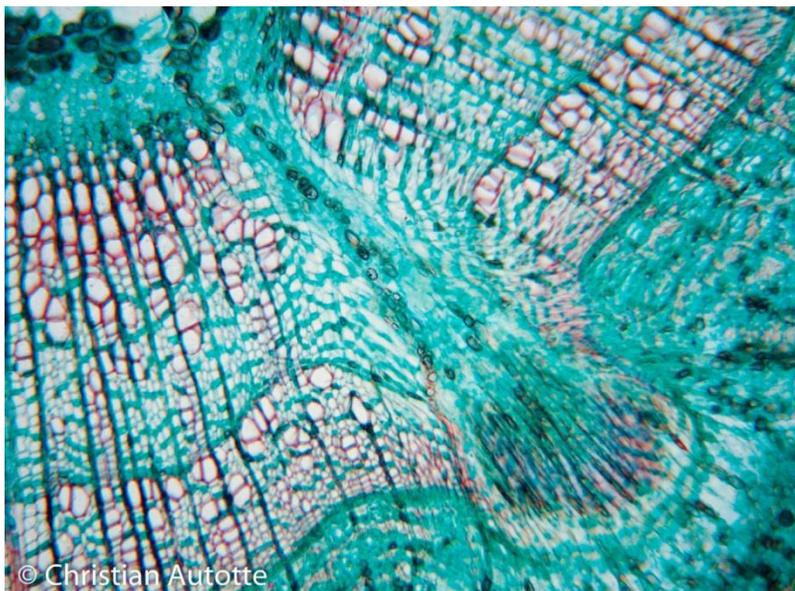


More basswood (these identified as “basswood”).
What is special about this one is what look like a
“scar” tissue extending from the central core.

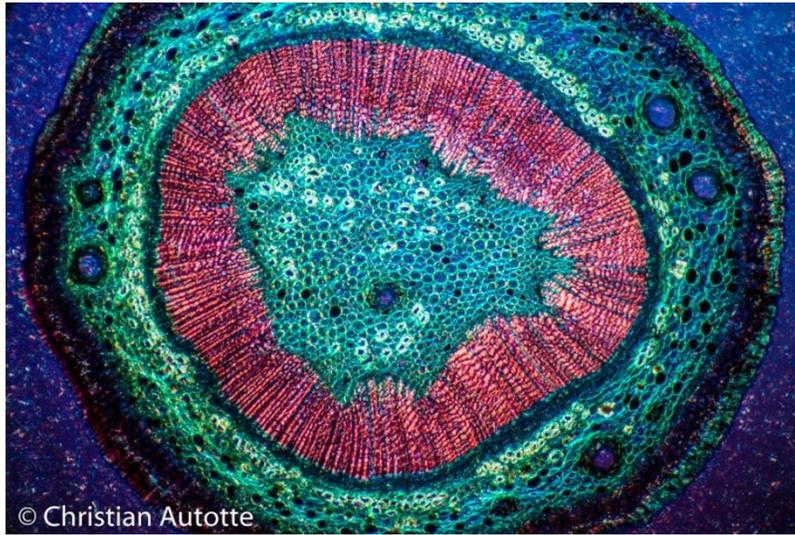
© Christian Autotte
Basswood in polarized light.100x



© Christian Autotte
Basswood, 40x



© Christian Autotte
Basswood, 100x



© Christian Autotte

Ginkgo trees are ancient. In my fossil collection I have a 64 million years old ginkgo leaf that looks just like those found today in ornamental trees. And as luck would have it, my slide collection also includes a section of ginkgo stem. It looks very interesting in polarized light.

Ginkgo in polarized light, 40x



© Christian Autotte

Ginkgo in polarized light, 40x



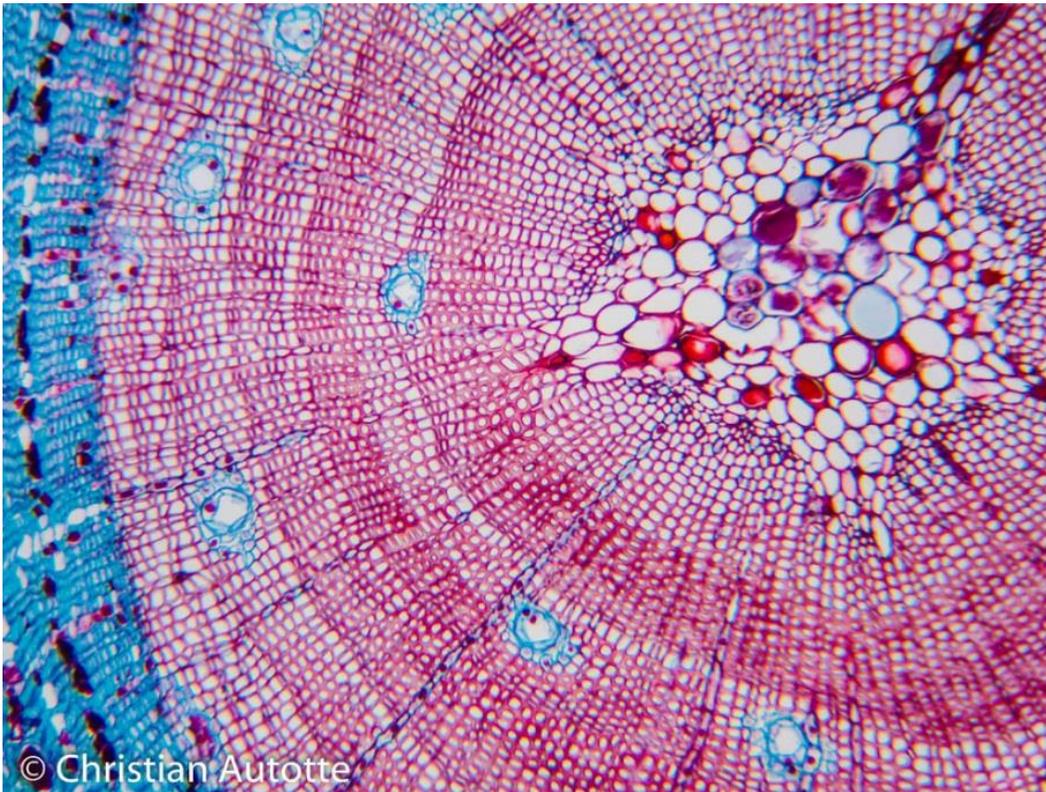
© Christian Autotte

Willow in polarized light, 40x



© Christian Autotte

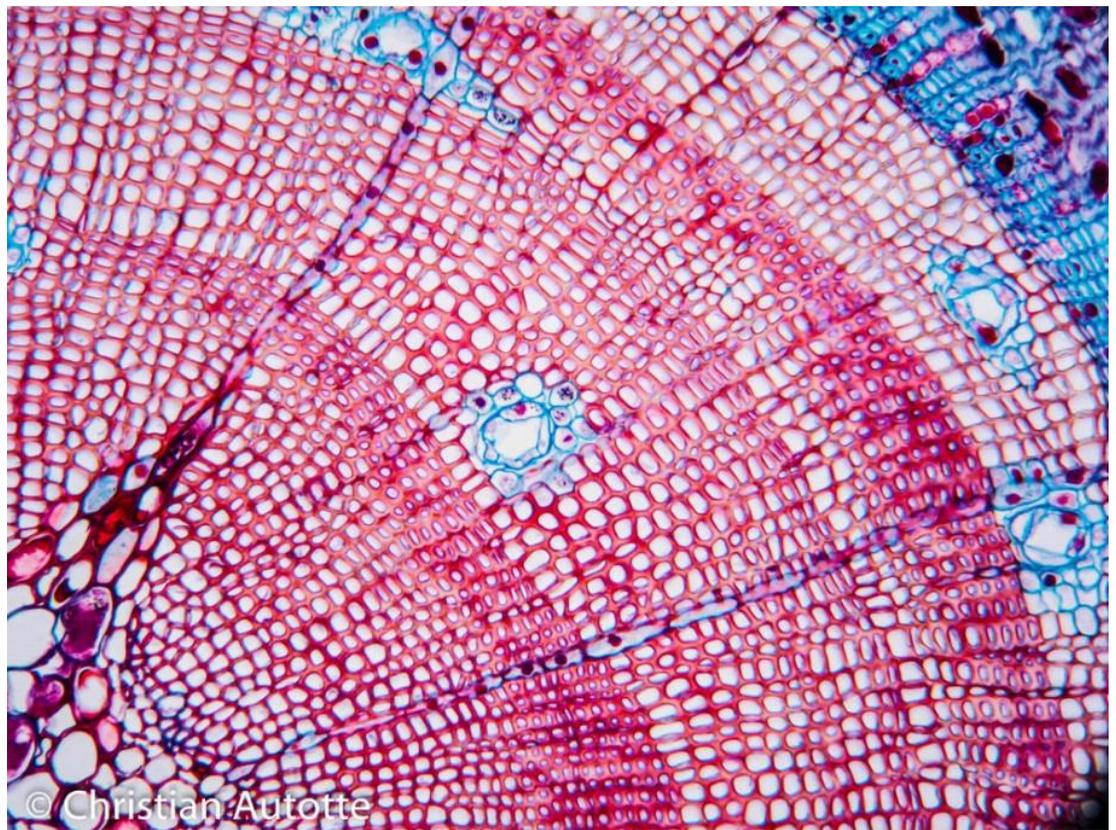
Fossil Ginkgo leaf with its modern counterparts



I find the center part of this pine stem rather intriguing. On top of it, the staining is outstanding.

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Pine (Pinus) stem, 100x



© Christian Autotte

Pine (Pinus) stem, 200x



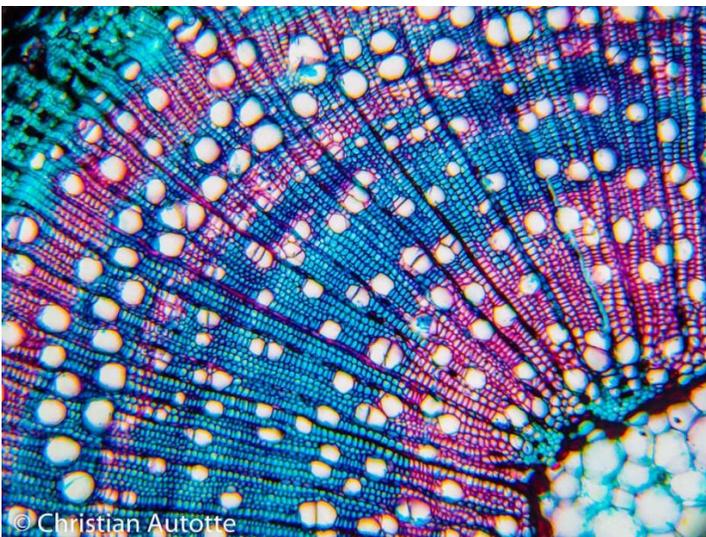
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Poplar stem, 40x



© Christian Autotte

Poplar stem, 100x



© Christian Autotte

Poplar stem, 100x

The poplar is also known as Cottonwood for the millions of seeds it releases that look like cotton. I wrote about the seeds in a past article. The specimen in my collection is particularly well stained.

The Rosebay seen below is a species of Rhododendron. Its staining is also interesting, especially when viewed in polarized light.



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Rosebay stem, 40x



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Rosebay stem in polarized light, 40x

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Published in the July 2022 issue of Micscape magazine.

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