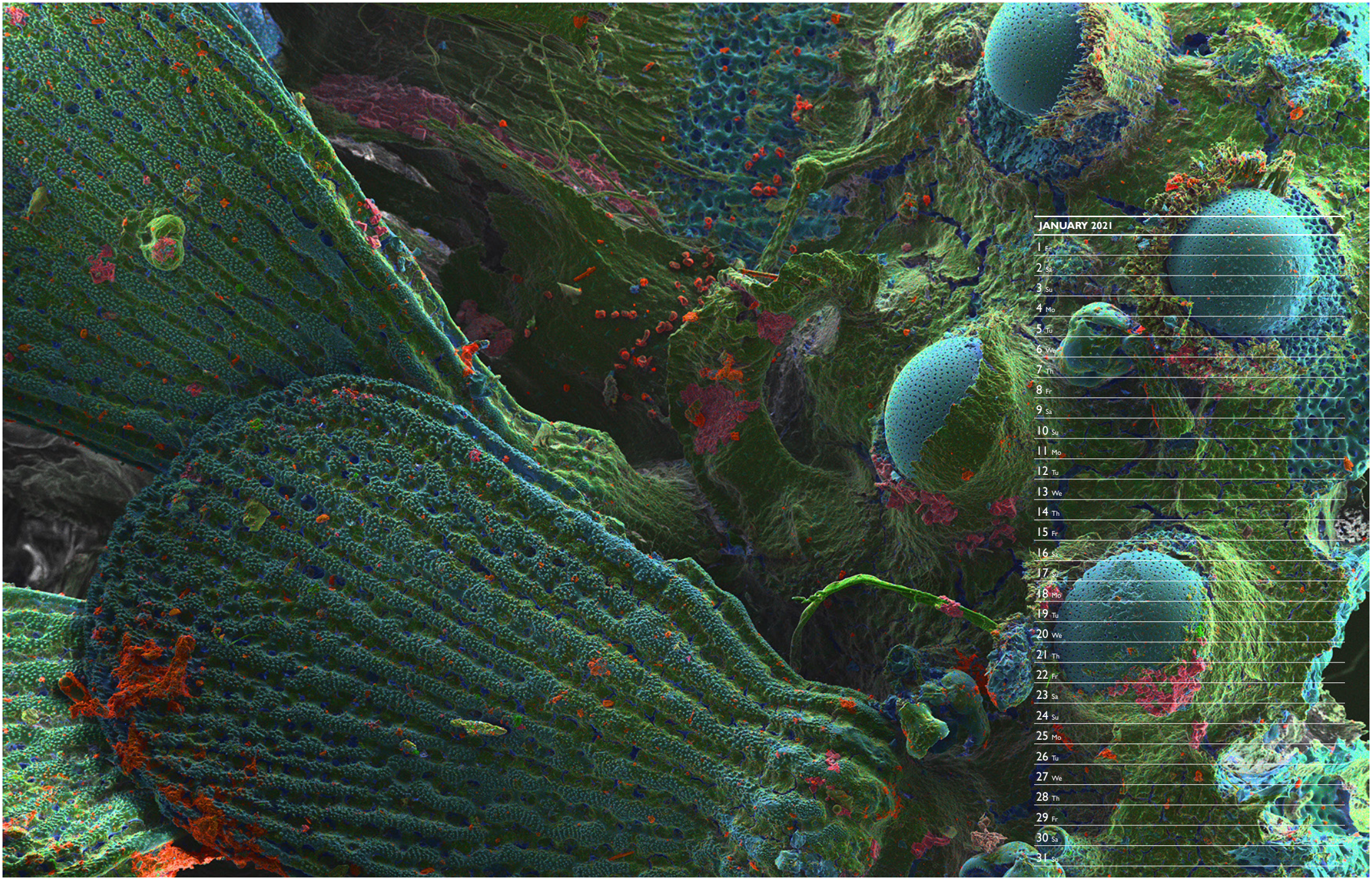
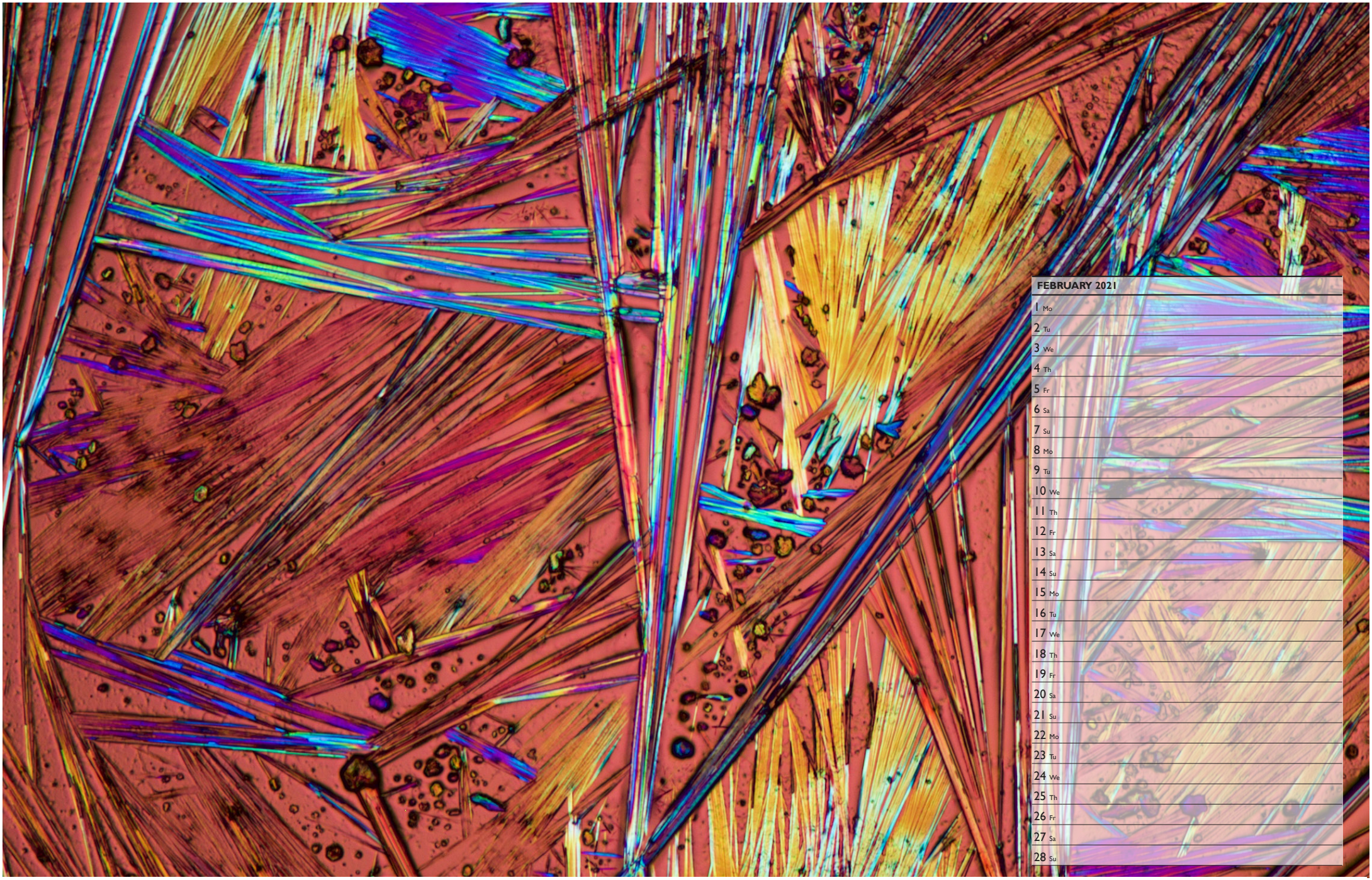


Sea urchin (Paracentrotus lividus) collected in Aegean sea near Athens, Greece

The sockets on the right are where the urchins long spines are attached. The element map (4076 x 3072 pixels, 0.42 µm pixel size) was acquired with an annular Bruker XFlash® FlatQUAD SDD at 6 kV for 51sec. without sample preparation. (Annular Bruker XFlash® FlatQUAD silicon drift detector)

Max Patzschke, Bruker Nano Analytics

BRUKER RMS



FEBRUARY 2021
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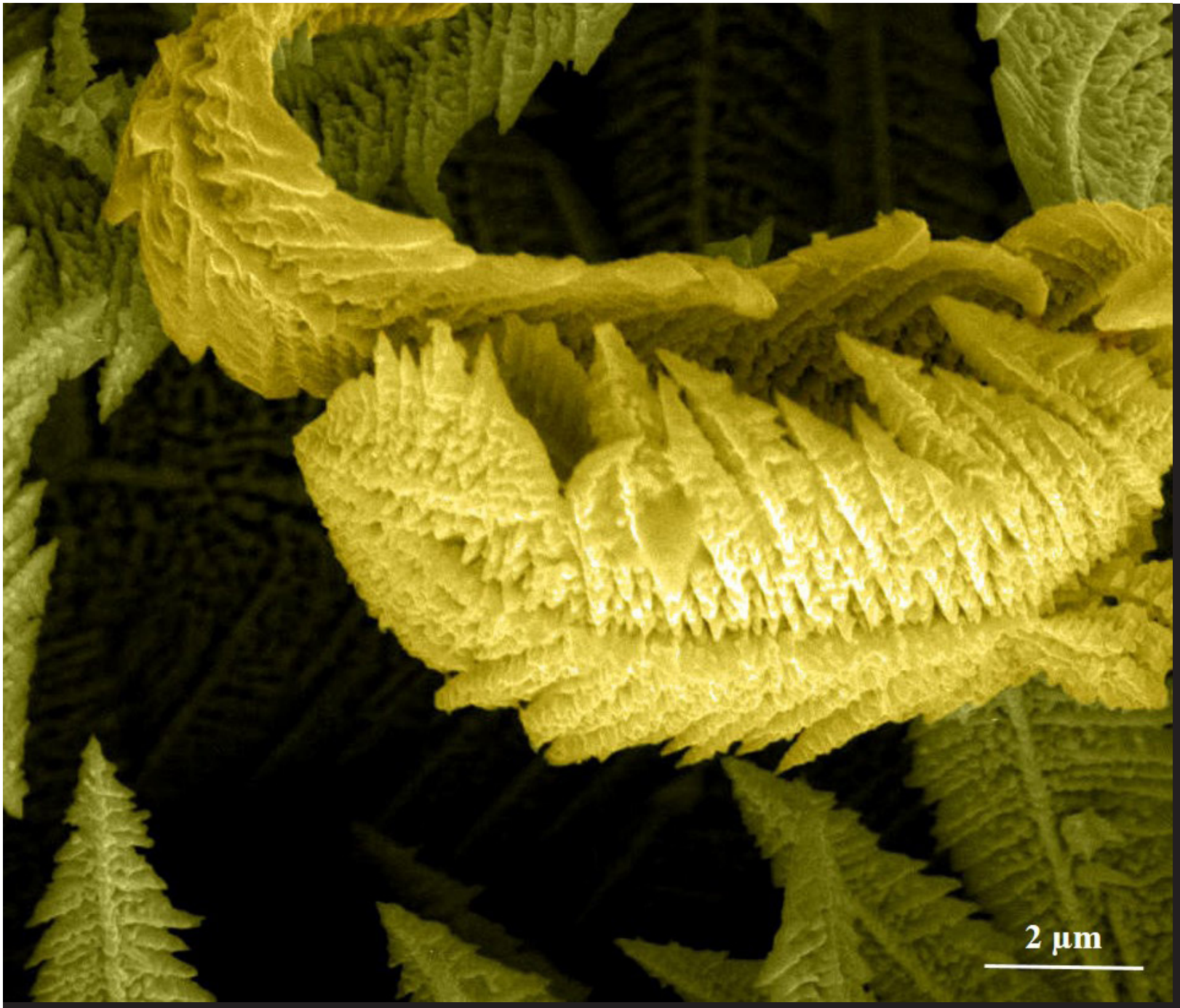
To keep you awake

Polarized light photomicrograph of a drop of solution of caffeine and hot water, left to dry on a glass slide. The needles are crystals of caffeine precipitated from the solution. Width 1,3 mm. (Nikon D5500 on Zeiss Axioscop 40pol. Crossed polarizers and lambda plate)

Bernardo Cesare, Geosciences, Padua University

RMS



MARCH 2021

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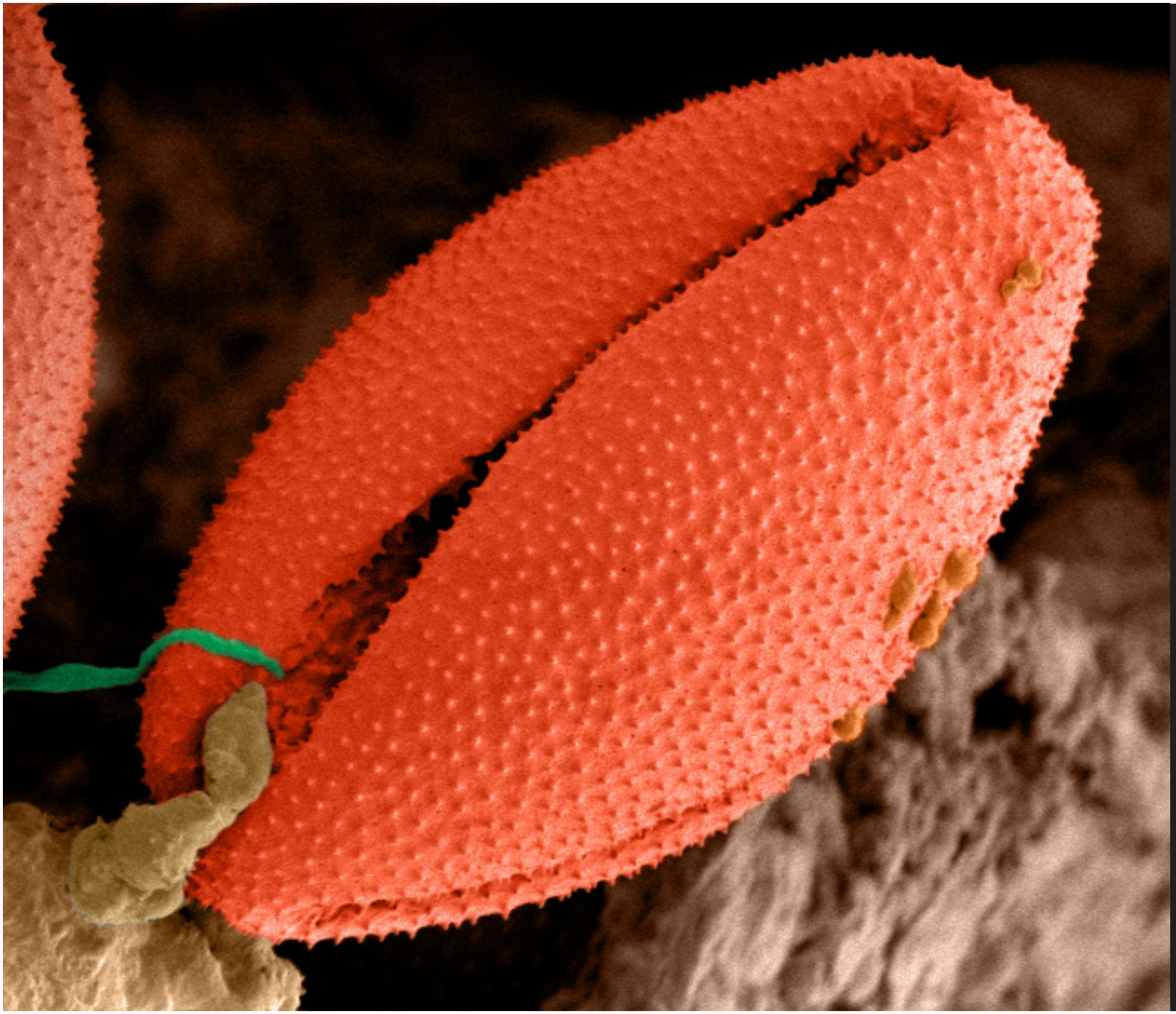
Gold Dendritic Nanostructure

Gold dendritic nanostructures have grown on the paper fibers by an electrodeposition process. The prepared paper modified by Au dendrites has been used as an efficient electrode for the non-enzymatic oxidation of glucose. (TESCAN Vega3)

Elmira Rafatmah, Shiraz University

RMS



APRIL 2021

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21 We
22 Th
23 Fr
24 Sa
25 Su
26 Mo
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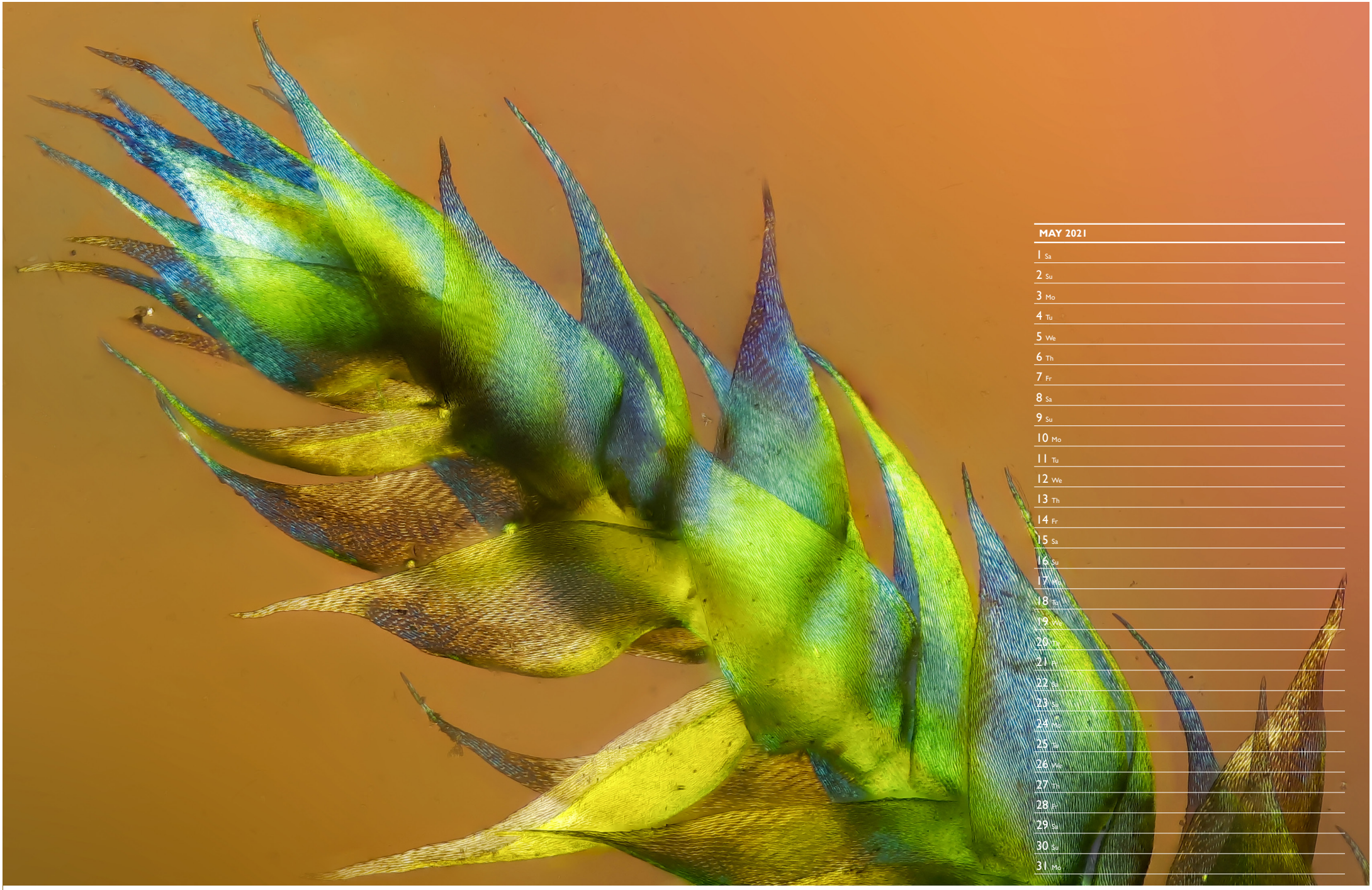
Wild Pollen Coloured

Pollen grain inside stamen of Papaver Nudicaule Iceland Poppy (Hitachi SU8230 Ultra high-resolution Field Emission Scanning Electron Microscope (FE-SEM), with a PP3010 cryo-preparation chamber (Quorum Technologies, Laughton, UK))

Mark Taylor, Quorum Technologies

Quorum RMS

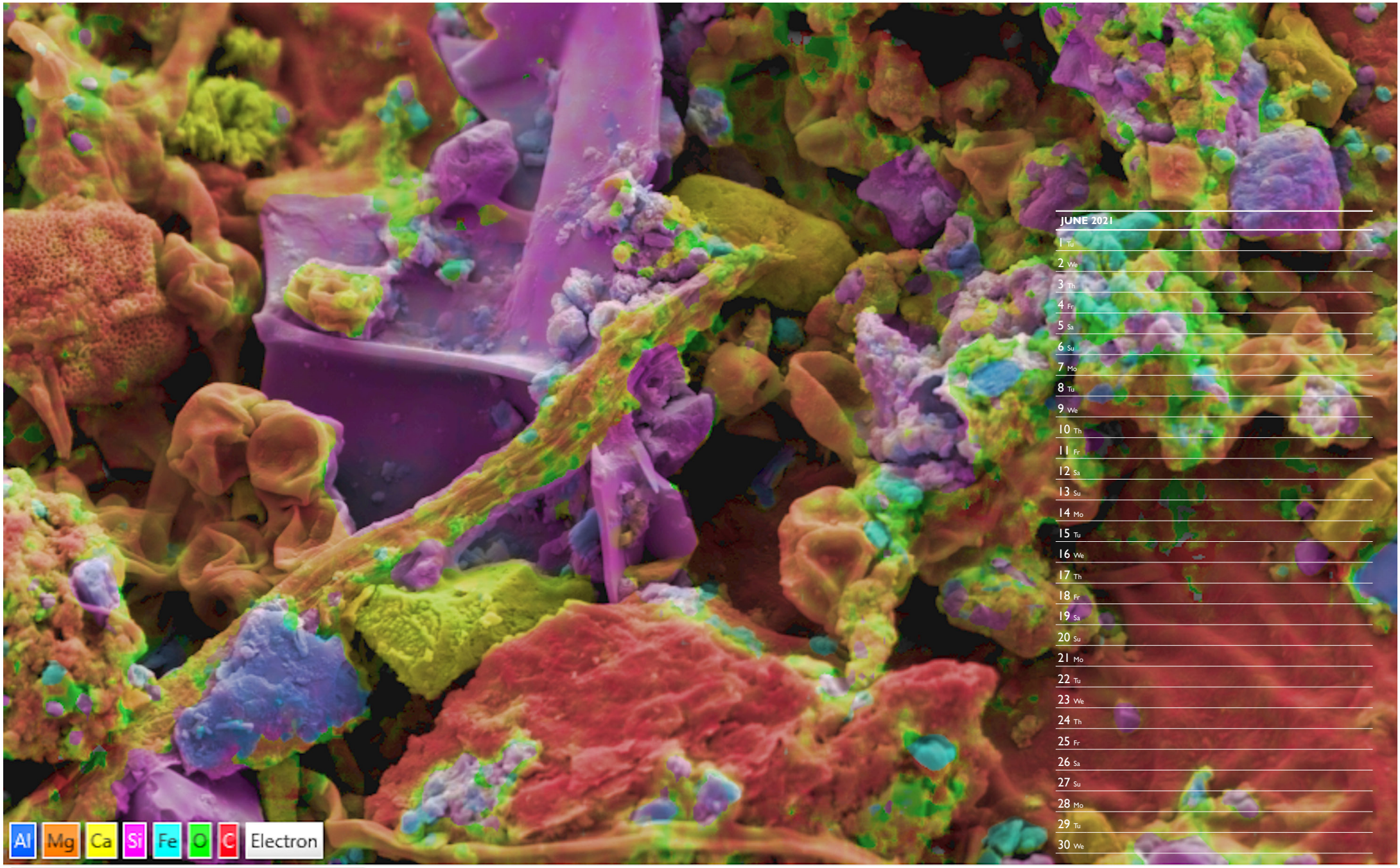


Sprig of moss *Cirriphyllum piliferum*

This moss has thick cell walls that are birefringence. Therefore, it is well suited for shooting in polarized light. When using polarizing filters and a retardation plate, the petals start to sparkle in different colours (Biolam R-11 microscope, smartphone camera)

Andrei Savitsky

RMS



JUNE 2021

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Airborne: Ilex 1

Pollutant particulates on the surface of a holly leaf. The image was collected using Energy Dispersive X-Ray Spectrometry to isolate elements of Aluminium, Magnesium, Calcium, Iron, Oxygen and Carbon. From a collaborative art and science project exploring air pollution on leaves with Rob Kesseler and Louise Hughes (Ultim Extreme EDS detector mounted onto a Tescan S 8000. EDS maps were layered over the BSE image using AZtec (version 4.1, Oxford Instruments))

Rob Kesseler, Central Saint Martins, University of the Arts, London & Louise Hughes, Oxford Instruments

RMS

JULY 2021

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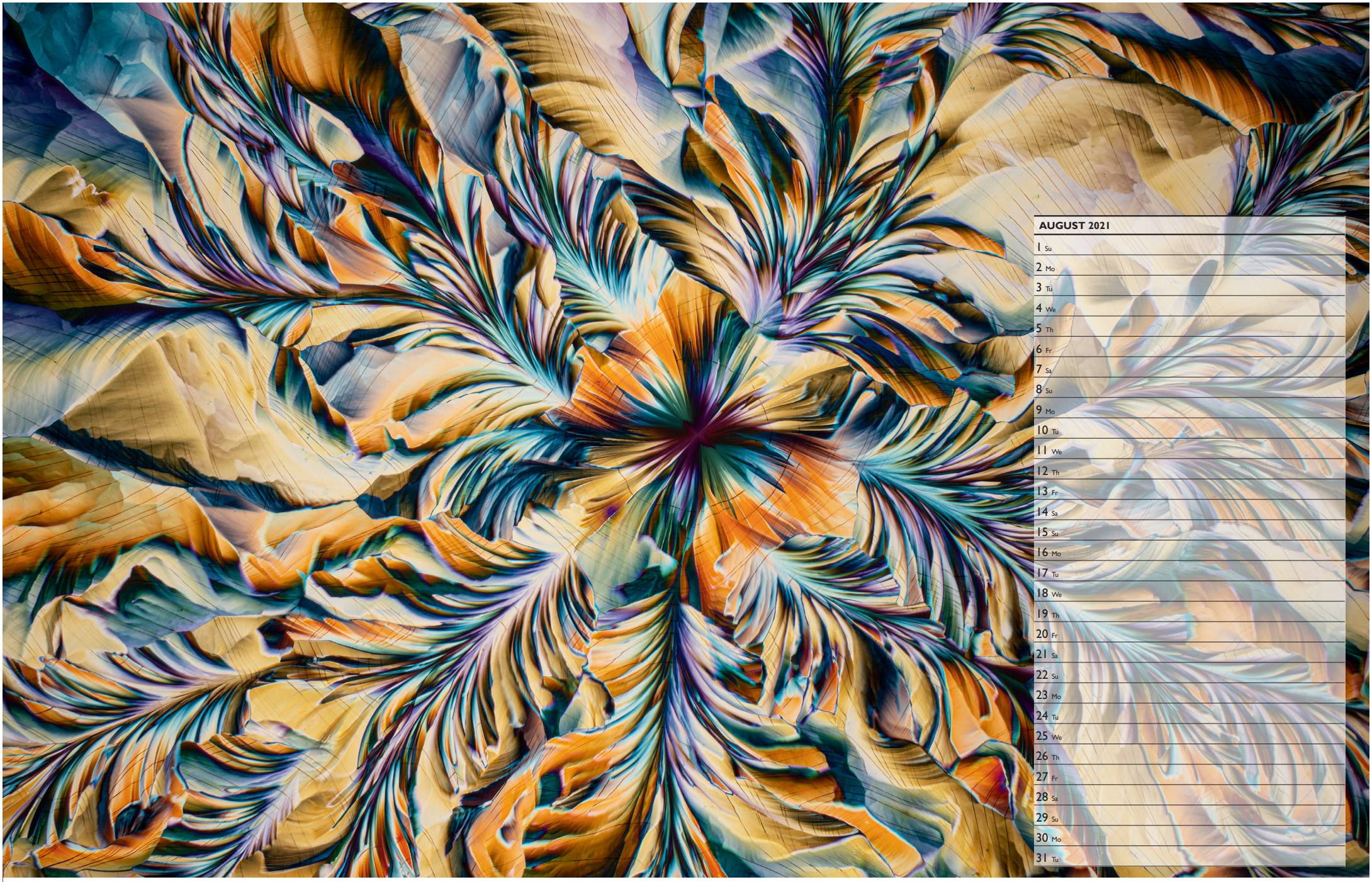
Mustache shrimp

TauContrast reveals fine morphological details in the minute crustacean *Derocheilocaris remanei*, using the endogenous fluorescence signal of cuticle and internal tissue (STELLARIS confocal microscope, Leica Microsystems)

Dr Martin Fritsch, Leica Microsystems GmbH

Leica MICROSYSTEMS

RMS



AUGUST 2021
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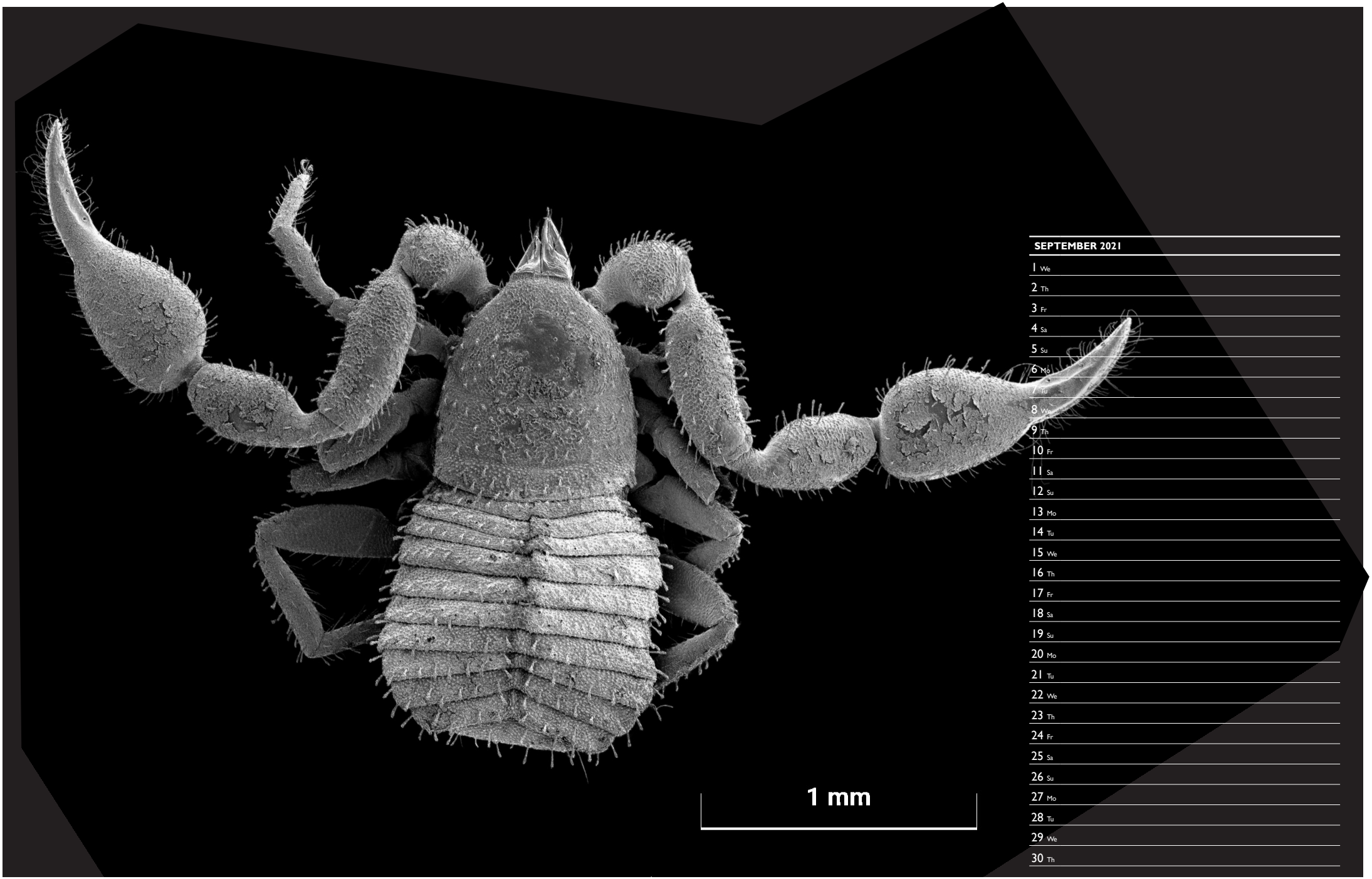
A Fossilized Starfish?

Resembling a fossil of an ancient sea star called Ophiosamus kelheimensis from the Jurassic period, this is in fact an image of a thin crystalline film of an anti-inflammatory medication imaged in compensated polarised light microscopy (Olympus BX-51 with Sony A7 RII mounted on the trinocular port)

Karl Gaff, TU Dublin

RMS



SEPTEMBER 2021

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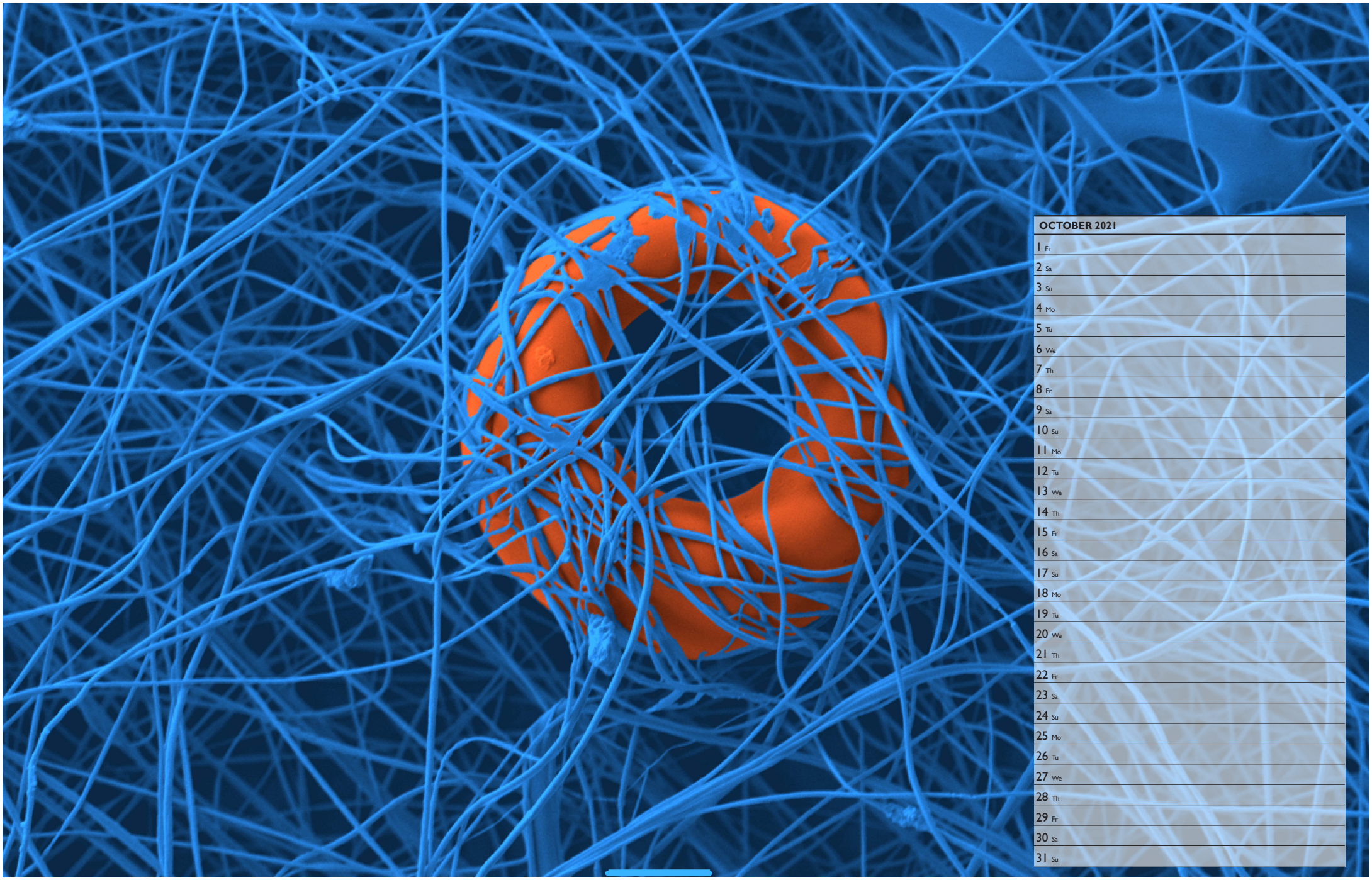
Pseudoscorpion *Chernes cimicoides*

Despite their appearance, these tiny creatures are perfectly harmless to humans, being minus the stinging tail of the true scorpions. They are common in the UK but under-reported on account of their small size (TESCAN MIRA 4 SEM, using the secondary electron detector in Depth Mode. Background masked and scale bar moved using Adobe Photoshop)

Jeremy Poole

RMS



OCTOBER 2021
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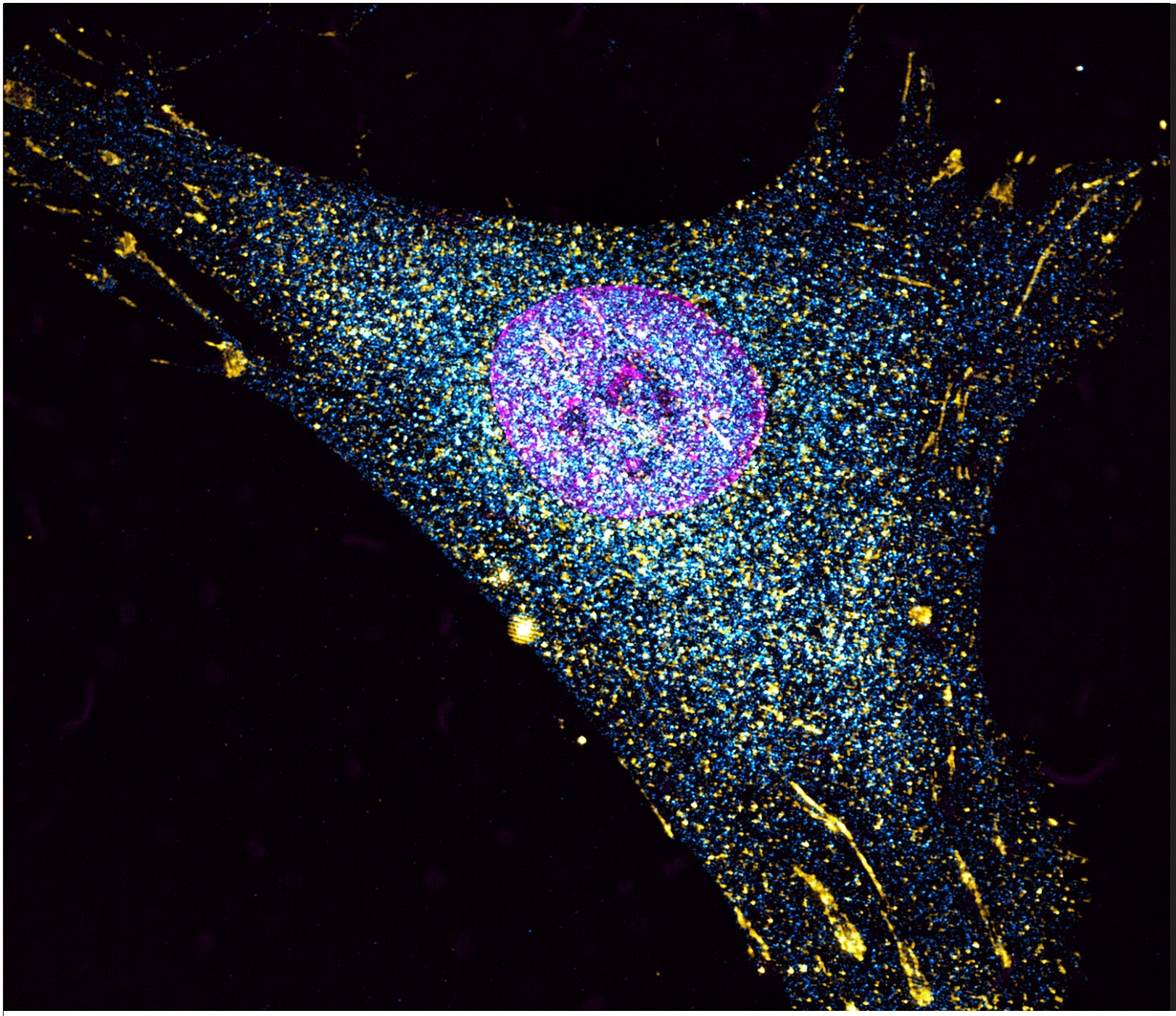
Entangled

Image of a blood platelet entangled in silk fibers obtained for a study on the interaction of biological samples and fiber materials. The image has been colorized using MountainsSEM® software. (JEOL JSM-6490LV SEM and MountainsSEM® Software) It was acquired by Simone Lauciello from the Italian Institute of Technology in collaboration with Giovanni Perotto from Smart Materials group.

Digital Surf

Digital Surf RMS



NOVEMBER 2021

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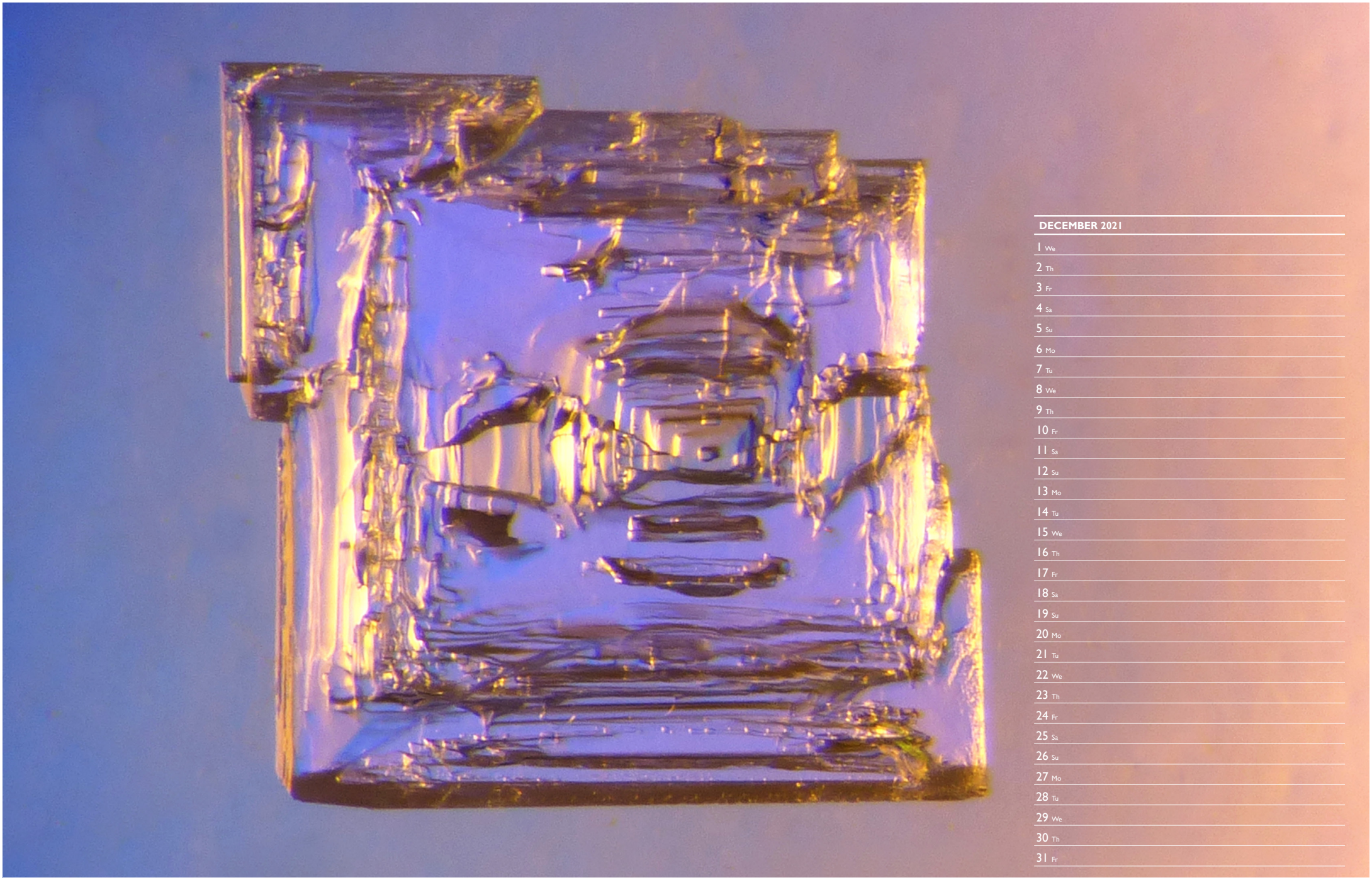
Stretched Cell

Stem cell labelled for focal adhesion points (in yellow) and a specific receptor (in blue), plus nuclear staining (in magenta) (Zeiss Elyra PS.1 Super-resolution microscope)

Leandro Lemgruber, University of Glasgow

RMS



DECEMBER 2021

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Crystal of low-sodium salt (sodium-potassium chloride), magnified 25x

Revital Katznelson

RMS