

All green - and later no longer there ...

Filming in Benneckenstein (Harz, Germany) inspired video for the World Carnivorous Plant Day (WCPD).

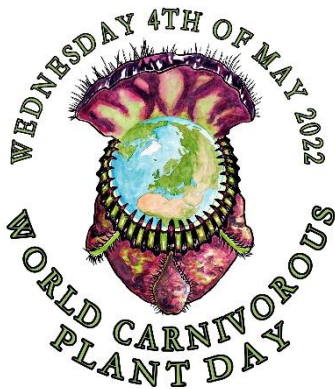
Neue Wernigeröder Zeitung (NWZ) – Harzer Wochenblatt. Verlag Jüttners Buchhandlung.

Nr. 11. vom 9. Juni 2022. Benneckensteiner Seite 11/22. WCPD-logo added. Color-photos instead b/w.

ENGLISH TRANSLATION OF THE NWZ-ARTICLE:

For associations, the restrictions imposed since 2020 to contain the pandemic meant an abrupt slump. The total loss of annual activities, events and thus also income from sales fairs or flea markets, drastically demonstrated how important all this is for members of associations and their treasurers. Contact restrictions applied worldwide in many countries and thus also affected internationally active groups. This gave added importance to infection-free communication via the Internet. An example is the International Carnivorous Plant Society (ICPS) based in the USA, but with many members also in Germany. Already for the third time in a row, their world conference, already planned for Japan in 2020 and usually held every two years alternately in Asia, Europe or the USA, had to be postponed to 2023 because of the pandemic. This year, the ICPS celebrates its 50th anniversary and looks back on a success story with more than 5000 members, including universities and well-known botanical gardens. At this point, congratulations!

The idea to raise awareness of carnivorous plants on the Internet through a World Carnivorous Plant Day (WCPD) came from Krzysztof Banaś from Poland in 2020. Kenny Coogan (USA), responsible for education in the ICPS Board, liked it very much and an organizing team was formed. However, Kenny smirked at the proposed date of the 1st Saturday in May: it was unsuitable because it was already the "Day of Naked Gardening", which could be a dangerous combination with carnivores. So the first Wednesday in May became the annual WCPD, for the first time in 2021. In addition to Zoom webinars and a photo contest also for non-members, a film premiere of the CP-world was offered on YouTube and Facebook around the clock every hour.



WCPD Logo

Selected ICPS members from around the world were invited to produce 24 videos for the WCPD. All without compensation, but the participants consider it quite an honor to be invited for this occasion to make a contribution about their own work or beloved hobby. That's how the Hartmeyers saw it when such an invitation arrived by e-mail in November 2021.

The plan arose to demonstrate, in an entertaining way, an ingenious mechanism by which Venus flytraps prevent common small ants, which are unprofitable as prey, from triggering their large hinged traps. In experiments, we found a risk of only 0.04% for small ants to be

captured. This is 2.5 times less than the risk of a patient in a German hospital dying from a treatment error (0.1%). That's something to ponder. We had published this in 2019 with our friend Emeritus Professor Stephen E. Williams (USA), who also contributed to the film with data and photos from American natural sites.

But what effects could be used to give this film more "pep"? That's when we remembered



Kerstin Peter in 2013 at the „Haus des Gastes“ in Benneckenstein.

the filming in the Harz Mountains. On the road with Brocken gardener Dr. Gunter Karste and chronicler Jürgen Kohlrausch, we filmed more than just sundew and butterwort in 2013. In order to insert a broom-wielding "Brockenhexe" (witch) - played by the enchanting Kerstin Peter - into a funny "Blocksberg scene," we improvised a so-called green screen at the "Haus des Gastes" in the town of Benneckenstein. The required green cloth for this was kindly provided by the well-known Benneckenstein filmmaker and YouTuber Ronald Langer. The luminous green is later faded out by so-called "keying" on the computer, whereby the environment

around the filmed person becomes transparent and can be replaced by any background.

Kerstin Peter appeared on time dressed as the Brocken Witch and waved her broom perfectly in front of the camera. Everyone had a lot of fun with the shooting and the finished effects in the film looked great. We hadn't used green screen effects since, but now the Benneckenstein footage inspired us to turn our living room in Weil am Rhein into a "green hell" for the WCPD-film. A term for modern TV studios with green walls all around. Without further ado, we got a practical roll-up green screen and two spotlights, because the right illumination is important for the "keying". We covered the floor in front of the roll-up, which works like a retractable screen rolled up at the bottom, with green cloths we already had. After the editing, Siggie spoke his comments seemingly sitting on pitcher plants, or from inside a Venus flytrap.



A green cloth as background makes it possible that Siegfried Hartmeyer sits as a dwarf on the pitcher plant.

The biochemist and expert in systematics PD Dr. Jan Schlauer designed with his son Carl a 2nd chapter on chemical ingredients of sundews. Since 2016, his research showed that by means of chemical analysis (TC) certain crosses in sundews can be reproducibly detected in the laboratory. We had already published several papers with Jan about this chemotaxonomy. In order to remain understandable for laymen, chemical formulas are transformed into mopeds in the film, rounded off with suitable picture material from our archive.

The 3rd chapter is about biomimetics, fast catapults, snap traps and suction traps. In 2012, with PD Dr. Simon Poppinga in the laboratories of the Plant Biomechanics Group (University of Freiburg, Germany), we had examined for the first time details of hydraulically driven catapults of the pimperl sundew and found a new type of trap: The catapult-flypaper trap (Poppinga et al. 2012, PlosOne). Crawling prey is catapulted from the periphery of the trap onto the sticky leaf in just 75 milliseconds using protruding tentacles. This looks sensational and the sundew, often described as slow, is faster here than the Venus flytrap. The rapid movements of various CP-traps are of great interest to scientists. Further research provided templates for low-wear, sustainable solutions for robotics and facade shading. Simon Poppinga, Technical Director of the Botanical Garden of the University Darmstadt since this year, presents everything in an easy-to-understand way with small experiments and examples.

We were joined by YouTuber Claus Rodemer, whose channel "Claus' Carnivores" features beautiful time-lapse footage of fed sundews. From this, funny transitions between the film chapters were created using special effects software. From November into April, the Hartmeyers ran the editing computer almost daily until a bilingual almost half-hour film entitled "Geniale Fallen / Ingenious Traps" was finished. One chapter in German and two in

English were subtitled with the appropriate translations. By the end of April, the 4GB film landed on the ICPS server on schedule. Around noon on May 4, the upload followed. In 2022, there were as many as 25 premiere films from ten countries: Australia, China, Costa Rica, Germany, England, France, Japan, Poland, South Africa and the USA.

For example, GH from Shanghai describes in Chinese with English subtitles how she keeps her beloved plants alive in the very high temperatures there. The Australian Boaz Ng films on his excursions whole fields of wonderfully blooming bladderworts and rare sundew species in impressive landscapes. To list everything would of course go beyond the scope, but the most impressive scientific film contribution for us this time came from Japan. A green glowing shows in real time the reaction of the memory of the Venus flytrap (calcium ion channels). At the first touch, only a limited area around the corresponding sensor hair inside the trap lights up. After the second touch, the glow (fluorescent calcium ions) continues to flow through the entire inner surface and the trap closes. This is how the plant counted to two. Very impressive and science at its best. The next WCPD will follow on the first Wednesday in May 2023. We look forward to it.

At this point, best thanks again to Jürgen Kohlrausch, Ronald Langer and Kerstin Peter in Benneckenstein for their support of our spontaneous green screen shots in 2013 at the "Haus des Gastes". Without them, we probably wouldn't have had the livening up effects, which would have made our WCPD-film 2022 at least less entertaining. If you like to watch it, just close this PDF and click on the film link.