

THE T. RUDZINSKAITĖ MEMORIAL *Amateur Lichenologists Society*

Dedicated to promoting the love & study of lichen in this galaxy & beyond!

‘HALLO WORLD!’ SATELLITE LAUNCH! DEEP SPACE BROADCAST OF LOVE LETTERS TO LICHEN SPECIAL UPDATE FROM THE METTA-VERSE MUTUAL AID SPACE PROGRAM

Dearest Society Members

As many of you are aware, our Metta-Verse Mutual Aid Space Program has really taken off this year! After much trial and error, in February the Society launched its very own Space Lichen Satellite, ‘Hello World!’, as part of the ongoing movement to reconnect with our astro lichen-kin. In recognition of this historic achievement, our good friends and colleagues at ASLEC-ANZ (Association for the Study of Literature, Environment & Culture, Australia-New Zealand) gave over a full day’s program of their 43rd annual conference to its official 8-hour public launch.

The inaugural satellite broadcast was a gala event featuring contributions from lichen lovers around the globe and across time-space. It will come as no surprise that proceedings centred on a celebration of the classic text, *Love Letters to Lichen* (2043). This modest anthology – collecting together poetry, prose and lichen lyric translations from Society members of the turbulent early 2040s – is as close to our hearts now as it was on its initial release. The book of course had only a limited run before falling out of print, and it wasn’t until decades later that fanzine chapbooks dedicated to its mythic legacy started circulating far beyond our community, revealing it as a key touchstone for the post-humus resistance movements of the New Dark Ages. We know you’re all keenly awaiting

its reissue, a project which has been underway for several years, and will as ever keep you posted on that front.

In the meantime, audiences at the launch (and further afield via ‘Hallo World!’) were treated to spektra-link readings from the original publication by society members Sepideh Ardalani, Kryštof Kučera, Ian Sinclair, Ingrid Vranken and Itohan Omoregbee. For those who sadly missed our live broadcast, recordings of the recitals are linked below, interleaved with the transcript of a new song cycle, ‘L-I-C-H-E-N-S’, that was penned especially for the occasion and performed on the day by your erstwhile Society co-founders, Dr. Sumugan Sivanesan and Subcomandante Zettel. Excerpts of the song cycle are published here for the first time and designed to be read aloud at home by you, in an exclusive preview for our Bulletin readers. We recommend you whet your vocal chords with a glass of aqvavit or wild strawberry kvass, and keep an eye out for a special cameo from our favourite intergalactic lichen oddkin, *Rhizocarpon Geographicum*.



If you happen to have a singing bowl or other sound healing tool at your disposal, now is a good time to chime in! Then read the following text out loud as an incantation:

R.G.

Rhizocarpon Geographicum

R. geographicum

R.G.

microbial rock coloniser

grows on rocks

in high altitudes

in mountainous areas

of low air pollution

each lichen is

a flat patch bordered by a black line of fungal

hyphae

growing adjacent to each other

they look like a map

or a patchwork field

map lichen located in the Arctic

have been age-estimated at eight thousand, six hundred years;

the oldest living organism on Earth.

Lichenometry is based on the assumption that the largest lichen growing on a rock

is the oldest individual if the growth rate is known the maximum lichen size will give a minimum age for when this rock was deposited

growth rates for different areas and species can be obtained by measuring maximum lichen sizes

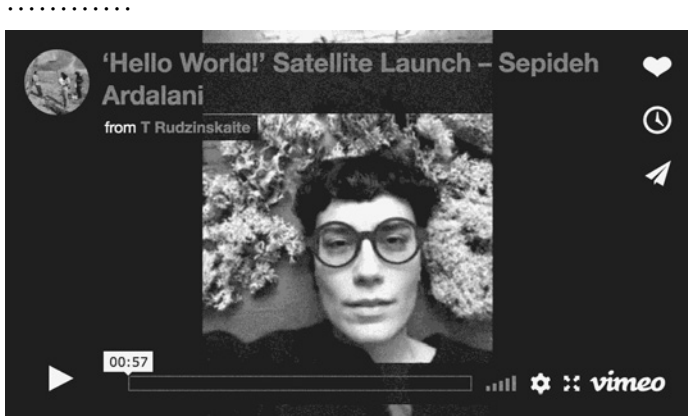
on substrates of known age

(such as gravestones historic or prehistoric rock buildings)
 or moraines of known age
 for example
 those deposited during the Little Ice Age.

survivability of lichen.

The results demonstrate the high resistance of the *R. geographicum*-granite ecosystem to simulated space conditions and justify its use in the L-I-C-H-E-N-S space experiment.

R. geographicum might even be capable of coping with the intense influx of extraterrestrial solar UV-radiation which so far no biological system has been able to withstand.



<https://vimeo.com/573882156>

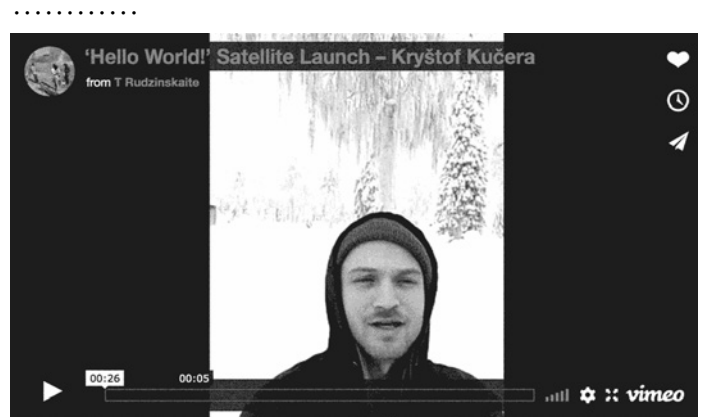


L-I-C-H-E-N-S

In the early 2000s L-I-C-H-E-N-S space experimentation within the B-I-O-P-A-N facility of E-S-A on board of the Russian Foton satellite to test the limits of life in the hostile environment of space space vacuum and specific wavelength bands of extraterrestrial U-V-radiation on the viability of lichens.

Pre-flight verification tests were performed with the lichen system *Rhizocarpon geographicum* on its natural granite substrate at the Planetary and Space Simulation Facilities [comma] D-L-R in Cologne [comma] Germany [punkt]

High temperature UV-radiation vacuum adjusted to the conditions expected to be experienced over the 15 days long space mission of L-I-C-H-E-N-S
 After exposure the maximum quantum yield of photosynthetic activity was determined as a measure of



<https://vimeo.com/573882098>



E-X-P-O-S-E

E-X-P-O-S-E a multi-user facility mounted on the outside of the I-S-S (International Space Station) developed by the E-S-A (European Space Agency) dedicated to astrobiology for long-term spaceflights.

E-X-P-O-S-E facilitates the exposure of chemical and biological samples to outer space while recording data during e-x-p-o-s-u-r-e. Some E-X-P-O-S-E experiments investigated

to what extent
particular terrestrial organisms
are able to cope with
extraterrestrial environmental conditions
and how organic molecules react
when subjected for
a prolonged period of time to
unfiltered solar light.

E-X-P-O-S-E-E
E-X-P-O-S-E-R
E-X-P-O-S-E-R-2

Process, adapt, protect.
Li-F-E: Lichens and Fungi Experiment.
Seeds.
Dosis, dosis & R3D:
Radiation Risk Radiometer-Dosimeter E
(active radiation measuring instrument).

Amino, organics, endo, osmo, spores, photo, subtil
(Bacillus subtilis), pur (polycrystalline uracil) and the
Institute of Biomedical Problems (IMBP).

BIOMEX, BOSS:
The Biochip experiment to study the resistance of
various biochip models to space constraints.
The B-I-O-D-I-V-E-R-S-I-T-Y experiment was provided
by Russia.
The results contribute to
our understanding of
as well as studies of
the probabilities and limitations for
life to be distributed
beyond its planet of o-r-i-g-i-n.



<https://vimeo.com/573881900>

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Li-F-E

Li-F-E: Lichens and Fungi Experiment.
After 1.5 years in space
samples were retrieved rehydrated and spread
on different culture media.

The two surviving organisms were identified as
Stichococcus sp. (green algae)
and Acarospora sp. (lichenized fungal genus).

According to researchers
the studies provide experimental information on
the possibility of eukaryotic life transfer from
one planet to another
by means of rocks
and of survival in Mars environment.

Some bacteria
lichens
(Xanthoria elegans, Rhizocarpon geographicum
and their mycobiont cultures, the black Antarctic
microfungi Cryomyces minteri and Cryomyces
antarcticus)
spores
and even one animal (tardigrades)
were found to have survived the harsh outer space
environment
and cosmic radiation.

Lichens are poikilohydric organisms.
That is
they are capable of adopting a latent state
if
environmental conditions become extreme
if
shielded against solar UV spores of Bacillus Subtilis
were capable of surviving in space (time)
for up to 6 years
especially if embedded in clay or meteorite powder.

The data support the likelihood of
interplanetary transfer of microorganisms within
meteorites
the so-called lithopanspermia hypothesis.

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<https://vimeo.com/573881960>

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(Litho)panspermia

An astrobiological search for extraterrestrial life has come a long way since the 19th century theory of spontaneous generation which sounds to me like poiesis.

'Cosmic Garbage' according to Thomas Gold an Austrian-born astrophysicist and professor of astronomy at Cornell University in 1960.

A theory that posits life on Earth might have spread from a pile of waste products accidentally dumped on Earth long ago by E-Ts. Or purposely spread by an advanced extraterrestrial civilization proposed the Nobel prize winner Francis Crick along with Royal Society Fellow Leslie Orgel. But considering an early 'RNA world' Crick later recanted positing that life may have originated on Earth. A number of publications since 1979 have proposed the idea that directed panspermia could be demonstrated to be the origin of all life on Earth if a distinctive 'signature' message were found deliberately implanted into either the genome or the genetic code of the first microorganisms by our hypothetical progenitor.

In 2013 Mathematicians Vladimir I. Shcherbak and Maxim A. Makukov claimed that they had found mathematical

and semiotic patterns in genetic code as possible evidence of such a signature: 'The "Wow! signal" of the terrestrial genetic code.'

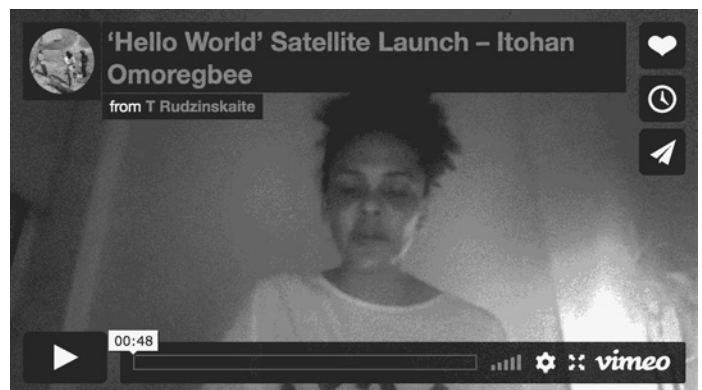
In 2019 the detection of extraterrestrial sugars in meteorites implied the possibility that extraterrestrial sugars may have contributed to forming functional biopolymers like RNA.

Ribonucleic acid a messenger molecule who copies genetic instructions from the DNA molecule (deoxyribonucleic acid) and delivers them to molecular factories within the cell called ribosomes that read the RNA to build specific proteins needed to carry out life processes.

'The research provides the first direct evidence of ribose in space and the delivery of the sugar to Earth,' said Yoshihiro Furukawa.

In 2019 it's possible that extraterrestrial sugar contributed to the formation of RNA on the prebiotic Earth and the origin of L-I-F-E, Li-F-E, life as we know it.

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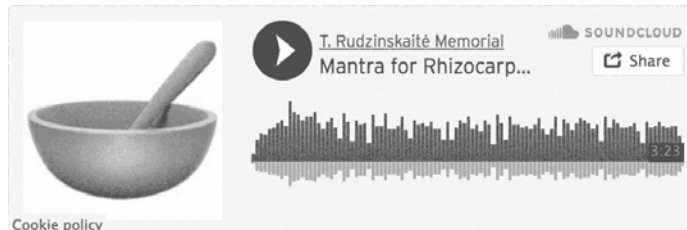
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[END TRANSMISSION]

Still with us :) ? Marvellous. The event came to a close then with a good ol' fashioned singalong, to the familiar mantra of *Om Rhizocarpon Geographicum*. Here's a sound file of us doing a few rounds, pop it on loop in the background and join in yourself, for as long as you feel it.



<https://tinyurl.com/mantraRG>

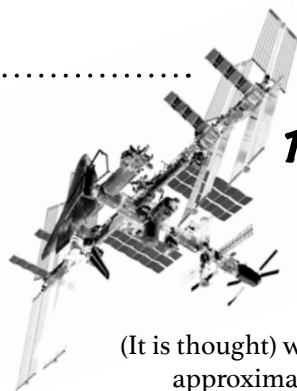
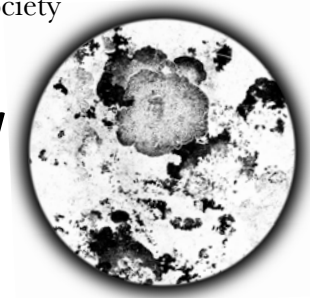
As ever, there's plenty happening across various other pockets of the Society, particularly in our Space-Time Fab Lab and Crystal Radio research methods meet ups. More news regarding recent & upcoming activities not highlighted in this bulletin can always be found on the Society website << www.welikelichen.space >> Fingers crossed for a smoother 2090 and the return of our Annual Picnic + Field Trip!

In cosmic co-becomings

XX

Co-Convenors TZ & SS

On behalf of the Society



TABEGUACHE, HEEY-OTOYOO!

Possible Ecological Niches

Tabeguache, Heey-otoyoo

(It is thought) was formed by an igneous intrusion during the Precambrian, approximately 1.05 billion years ago, during the Grenville orogeny.

Mosses and lichen eke out a cold existence in the short growing season;

Cetraria cornicularia, *Dactylina*, *Thamnolia*.

Cirque Land above timberline.

The doughnuts collapse or go mushy if transported to lower altitudes.

– C. Pinastri, Colorado

(excerpt from *Love Letters to Lichen*, 2043)

For over seventy years, the T. Rudzinskaitė Memorial Amateur Lichenologists Society has tirelessly promoted the love and study of lichen in this galaxy and beyond!

Named in honour of Tekle Rudzinskaitė, Lithuania's foremost amateur lichenologist, the Society was formed in 2018 on the Curonian Spit, now more commonly known as the Eighth Eco-zone. Continuing to be jointly chaired by its erstwhile co-founders, Tessa Zettel & Dr Sumugan Sivanesan, its activities have expanded to include myriad curious forms of research, happenings and publications, broadly nurturing attentiveness to the precarious life-worlds of others in which our own are enmeshed.

Highlights of 2088/89 include the launch of the Society's very first satellite, 'Hallo World!', as part of its Metta-Verse Mutual Aid Space Program, and a special platinum anniversary edition of its perennially popular annual field trip and picnic, featuring the surprise debut of the Society's own proto-photosynth band.

The Society is currently available to share the lichen love in a variety of intermedial forms within amateur circles or general publics. Please drop us a line if you have a proposition to discuss! New members are warmly welcomed, email us for a membership form.

In cosmic co-becomings!

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www.welikelichen.space