Celebrate World Firefly Day with us on July 3-4, 2021!

featuring a public forum on firefly ecotourism and livestreams from firefly sites around the world

Saturday, July 3rd

7:30-10:30AM EST (North America) / 1:30-4:30PM CEST (Europe) 7:30-10:30PM (Malaysia) / 9:30PM-12:30AM (Australia)

07:30 EST	Zoom meeting opens (<u>registration</u> required); firefly story
08:00 EST	Welcome message from FIN chair Dr. Sara Lewis
08:05 EST	Sponsor message from Asahi Kasei, Japan
08:10 EST	WffD launch by MNS president Dr. Ahmad Ismail
08:30 EST	FIREFLY FORUM 1.0: Firefly tourism and conservation
10:00 EST	FIN fundraising; Radim Schreiber, Firefly Experience
10:10 EST	Malaysian Nature Society book launch

end of day one

Sunday, July 4th

9:00PM EST (North America) / 2:00AM CEST (Europe) 9:00AM (Malaysia) / 11:00AM (Australia)

poems, print-making demonstrations, and firefly videos uploaded to the <u>FIN YouTube channel</u> (no registration required)

Malaysian Nature Society WffD contest (Malaysian participants only)

end of day two







FIREFLY FORUM 1.0: Firefly tourism and conservation

Saturday, July 3rd, 2021

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Fireflies are charismatic beetles with attractive bioluminescent courtship displays that have recently been swept onto the global stage of nature tourism. In a recent study, many FIN members estimated that in the last few years over one million tourists have travelled annually to sites in at least 12 countries for the explicit purpose of seeing fireflies.

Firefly tourism can bring immense environmental and economic benefits to rural communities, just as these charismatic insects bring delight to visitors. However, rapid proliferation of firefly tourism activities could impact local firefly populations, especially vulnerable species. By adopting best practices for sustainable firefly tourism, local caretakers of firefly sites can earn stable incomes while protecting and rehabilitating native habitats. *Firefly komunitis* can spread the knowledge and appreciation needed to conserve firefly populations, so that future generations can continue to admire them.

Following the keynote, several speakers from countries and organizations working to promote sustainable firefly tourism worldwide will share their experiences, and offer advice on managing human-firefly interactions. The forum will conclude with an extended question and answer session with participation from expert panelists.

KEYNOTE:The magic of fireflies and their tourism potential

Dr. Hum Gurung obtained a MS in Parks, Recreation and Tourism Management from Lincoln University, New Zealand, and a PhD in Environmental Science from Griffith University, Australia. He is currently regional project manager and provides strategic leadership and network development for BirdLife International across Asia. He has worked as National Programme Manager of Capacity 21 project, Chief Executive Officer of Bird Conservation Nepal, and Senior Policy Advisor to Ecosystem-based Adaptation to Climate Change Project led by IUCN, UNEP, and UNDP. Dr Gurung's conservation journey started three decades ago as part of the internationally renowned and award winning Annapurna Conservation Area Project in Nepal.

Talk description: Fireflies are perhaps one of the least studied insects in the scientific community, but appear to be disappearing rapidly around the globe. 2200 species of fireflies have been recorded globally, but much more research is required to find out their conservation status and conservation threats that they face. Bioluminescent firefly displays attract people of all walks of life, and are captured in many cultures through songs, poems and stories. Over one million visitors visit different firefly sites in Southeast Asia annually, and huge untapped tourism potential exists places across the globe. Yet it is imperative that firefly conservation be at the forefront of firefly tourism, and environmental education is a key component of this relationship.

Lightning in a bottle: Firefly conservation in the 21st century

Avalon C.S. Owens is a Ph.D. candidate in the Department of Biology at Tufts University, where she studies the impact of light pollution on North American fireflies. She holds a MS in Entomology from National Taiwan University, and hosts a bilingual educational YouTube channel (INSECT[是最高]ISLAND). She is also a member of the IUCN SSC Firefly Specialist Group and webmaster of the Fireflyers International Network website.

Talk description: Why do fireflies flash? Because they want to be seen! But their unique bioluminescent signals are obscured by streetlights, tree lights, house lights, and other sources of nighttime light pollution — and if we're not careful, our lights might extinguish theirs forever. Learn about this and other

threats facing one of the world's most widely loved insects, and some simple solutions that can help fireflies coexist with humans for centuries to come.

Firefly tourism and conservation

Dr. Anchana Thancharoen is an instructor in the Department of Entomology at Kasetsart University. She has been conducting firefly research in Thailand for 24 years to achieve the goal of 'firefly conservation' in Thailand. She ran many firefly training programs for tour guides, local residents and children to manage firefly tourism. She is the South East Asia co-chair of the IUCN SSC Firefly Specialist Group and a Fireflyers International Network member.

Talk description: Recently, fireflies became an economic insect due to 'firefly tourism'. The fireflies will be conserved to earn the benefits. There are many firefly watching sites all over the world. They display different beauty from

different firefly species. There needs to be a balance for firefly resource utilization and conservation and consideration for sustainable tourism. The guidelines for being good practices for tourism were recently defined by firefly scientists. We can all save the fireflies together!

Community-building fireflies: A look beyond the sparkles

Tania López-Palafox is a PhD candidate from Institute of Ecology at National Autonomous University of Mexico UNAM. Her research focuses on the sexual selection and population genetics of *Photinus palaciosi*, an endemic species from Mexico. She obtained an MS from the same university studying the evolution of anti-predator strategies in lycaenid butterflies. She is also the Central/Meso-America chair of the IUCN SSC Firefly Specialist Group and a Fireflyers International Network member.

Talk description: Tourist activities around firefly sightings have grown exponentially in recent years. Ecotourism can be an activity that enables the economic and social development of local communities, while promoting the

conservation of the areas visited, but what positive and negative impacts might tourism activities have on local communities? This is a good opportunity to bring to the table these complex issues that are so important to both fireflies and those who love them.

A special video from the Matlatzinca community



A project of the Nanosapiens group and Laboratorio Zaragoza, Instituto de Biología, UNAM, México.

Click <u>here</u> to watch another animated video inspired by the firefly celebration ceremony that the Matlatzinca perform in June (narrated in the local language).

Report from the 2020-2021 Hong Kong firefly survey team

Vor Yiu has been studying the fireflies of Hong Kong since 2007, focusing on taxonomy and ecology. He has created the <u>fireflies.hk</u> website and the book "Fireflies of Hong Kong". He established the first Hong Kong Firefly Survey Team on WffD 2020. He is also the Red List authority of the IUCN SSC Firefly Specialist Group and the honorary treasurer of the Fireflyers International Network.

Talk description: After 210 field surveys including 23 different sites and 432 km of survey distance, what have the 34 team members found?

Firefly tourism in Pennsylvania: "Be careful what you wish for!"

Peggy Butler is the co-founder and board secretary of the Pennsylvania Firefly Festival. Inc. (PAFF). "In 2012, my husband Ken and I were running a bed & breakfast in the middle of the Allegheny National Forest when we received a call from Lynn Faust of Tennessee, who wanted to come to study our fireflies in June. We had no idea what was so special about our "lightning bugs," but welcomed the Firefly International Research and Education team. The team confirmed the existence of synchronous fireflies throughout the ANF, along with 18 other species. We were bitten by the "bug", started a local event to celebrate our fireflies. PAFF is a non-profit with a mission to educate the public about fireflies through an annual festival. It has changed the course of our lives."

Talk description: Peggy will talk about the pros and cons of firefly tourism in Pennsylvania, and share stories of how PAFF has grown and evolved — both pitfalls and successes. Once the festival reached over 1000 attendees in one night, there was a problem. That level of interest was a danger to both the organization and the fireflies. They started implementing controls to reduce the crowds, but still struggled to accommodate everyone. The pandemic of 2020 turned out to be a blessing in disguise: it allowed PAFF to hit the "reset" button and focus on conservation. Now PAFF has found a balance between tourism and conservation that can help the festival continue to provide firefly experiences and education to the public for years to come. By sharing her story, Peggy hopes that others will be able to avoid some of their mistakes when planning their own firefly events.

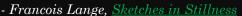
Q&A MODERATOR:

Dr. Oliver Keller has a PhD from the University of Florida, where he investigated the fireflies of the West Indies. These islands in the Caribbean basin are a hotspot for fireflies, home to over 180 species of these enigmatic insects. Currently Oliver works in the Florida State Collection of Arthropods for the Florida Department of Agriculture and Consumer Services. He helps with collection improvement projects and curation of the beetle collection. His ongoing research with lampyrids includes the immature stages of fireflies from the Americas and an update of the last World Lampyridae catalog. He is active on social media and promotes fireflies daily on his Twitter account (@dr firefly). He is also an IUCN SSC Firefly Specialist Group and Fireflyers International Network member.

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Inspirational words from Yogi Firefly

"Yogi Firefly is a little character that came to me in inspiration when I was searching for a character that could symbolize LIGHT. He is a little symbol of all that is good and hopeful, and he brings light to everyone he meets. He lives in Yogi Pet's land, where he always brings encouragement, hope, love and joy to all his friends."





ORGANISERS:

<u>Fireflyers International Network</u> <u>Malaysian Nature Society</u>

SUPPORTERS:

Asahi Kasei

OTHER LINKS:

ShopMNS IUCN SSC Firefly Specialist Group

CONTACT:

conservation2@mns.org.my
Sonny Wong, WffD2021 small team







ABOUT FIREFLYERS INTERNATIONAL NETWORK

We are an international group of firefly scientists and enthusiasts. Our group has over 200 members representing more than 20 countries, including ecologists, chemists, geneticists, artists, and naturalists, brought together by a shared sense of wonder and delight in these bioluminescent beetles. We want to learn more about their unique biology, and work together to protect threatened species.



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OUR MISSION: To serve as leader and catalyst for the conservation of fireflies and their habitats through research, education and advocacy.

ABOUT MALAYSIAN NATURE SOCIETY

Winner of the recent inaugural 2008 Merdeka Award and the EU Malaysian Chamber of Commerce and Industry EUROPA Awards 2012, Malaysian Nature Society (MNS) is the oldest and largest membership-based environmental civil society organization in Malaysia. Established in 1940, MNS plays an important role in nature conservation, educational and awareness in Malaysia. MNS's mission is to promote study, appreciation, conservation and protection of Malaysia's natural heritage. It is run by elected

members on a voluntary, non-profit basis with secretariat staffs of about 40 personnel, 14 branches, about 2,500 members and 12,000

student members in over 400 schools. MNS has been the main force behind the protection of many key habitats as well as national, marine and state parks in Malaysia. MNS is also the secretariat for the Fireflyers International Network, the national BirdLife partner, and the co-chair of the IUCN firefly specialist group.