

:: PROGRAM ::

















I am pleased and privileged in my position as iBOL Executive Secretary to welcome you to the 8th International Barcode of Life Conference. I am sure the meeting will prove exceptionally exciting and inspirational, an opportunity to hear from so many innovative researchers and to explore the range of innovative uses offered by DNA barcoding.

We are all aware of the enormous pressures on the environment and particularly on biodiversity. It is easy to despair at the simultaneous challenges of habitat loss, overconsumption, climate change, and homogenisation of ecosystems. The tools and approaches we will discuss over the next few days are a major contribution toward addressing these challenges and delivering a better future for nature and for humanity.

DNA barcoding and metabarcoding give us a cost-effective way to contribute significantly to answering the two most fundamental questions about biodiversity. How many distinct species share this planet with us? And how is each one of these species distributed in time and space? DNA barcoding will help us to answer many other important questions, but these central issues of taxonomy and biogeography underpin everything. iBOL's focus on simplicity and standardisation is essential if we are to meet these needs, and this community's progress over the last decade has abundantly proven the value of this approach.

Much work remains before we deliver a comprehensive capacity for DNA-based identification and monitoring for all species, but we are well on the way. As we move to activate BIOSCAN, I encourage you to be excited about the possibilities that lie ahead. Take the opportunity to share ideas with your colleagues and let us all innovate together to map the dimensions of biodiversity.

Many thanks,

**Donald Hobern** *iBOL Executive Secretary* 



It is a great pleasure for us to welcome you to the 8th International Barcode of Life Conference in Trondheim. We are excited that so many of you have found your way to Norway's third largest city, and are confident that you will enjoy the scientific presentations and discussions in the next four days.

Trondheim is often called the Norway's capital of technology, but the city is also rich in biodiversity institutions. The invitation to host a conference on the use of modern technology to understand life on our planet was therefore greatly appreciated by our university (NTNU) and the Norwegian Biodiversity Information Centre. The conference planning and organization has been a joint effort by these two institutions, with the support from the Norwegian Environment Agency, NorBOL and iBOL.

This conference brings together 450 participants from more than 60 countries and shows that the "barcode community" is a truly international crowd. We hope that collaboration across borders can be a trademark for our biodiversity science also in the future, and that we will be able to overcome eventual hurdles that prevent sharing of genetic data and resources. International collaboration is essential if we ever want to fully understand life on our planet.

We wish you fruitful discussions and hope you enjoy the long and bright days here at 63° North. You might even be able to find time to explore what Trondheim and the region has to offer.

#### Torbjørn Ekrem

On behalf of the Organizing Committee Professor, Norwegian University of Science and Technology (NTNU) Chair Norwegian Barcode of Life (NorBOL)



#### MONDAY :: ORAL & LIGHTNING PROGRAM

09:00 - 09:30

**Opening Ceremony** 

09:30 - 10:30

BioAlfa - to DNA barcode an entire tropical country for the survival of its biodiversity

10:45 - 11:15

Expanding the reference library of a Neotropical megadiverse nation

11:15 - 11:45

				DNA metabarcoding in the past, present & future						
		eDNA & Metabarco	oding, Technical Advances I		Barcode Projects, Networks & Initiatives I					
		Chair	: Kristy Deiner		Chair:	Alex Borisenko				
	No.	Presenting Author	Title	No.	Presenting Author	Title				
		13:30	:: Plenary Hall		13:30	:: Cosmos 3A				
	129	Pierre Taberlet	The importance of experimental design in metabarcoding studies	131	Dmitry Schigel	Crosslinking, coverage, and access improvements in global biodiversity data				
		13:45	:: Plenary Hall		13:45	:: Cosmos 3A				
	427	Sujeevan Ratnasingham	mBRAVE: The Multiplex Barcode Research And Visualization Environment	378	Adriana E. Radulovici	GTI-DNA-tech: Building DNA barcod- ing capacity in developing countries through reinforcing local expertise				
		14:00 :: Plenary Hall			14:00	:: Cosmos 3A				
	57	Douglas W. Yu	SPIKEPIPE: A metagenomic pipeline for the accurate quantification of eukaryotic species occurrences and abundances using DNA barcodes or mitogenomes	422	Karen E. James	Ten years of DNA barcoding in diverse educational contexts: lessons learned and future potential				
		14:15	:: Plenary Hall	5	14:15 :: 3 min Lig	htning Talks :: Cosmos 3A				
	327	Tristan Cordier	Unlocking environmental genomics for routine biomonitoring with machine learning.	58	Xue-Jun Ge	DNA barcode evaluation for the Palm family				
		14:30	:: Plenary Hall	150	Thomas Powers	The Criconematina Project: DNA barcoding of terrestrial nematodes.				
	318	Susanna Theroux	Effect of bioinformatic pipeline on bioassessment index performance							
	7	14:45 :: 3 min Ligh	tning Talks :: Plenary Hall	211	Kazutoshi Tsuda	How to make the field guide "DNA of forests"				
	133	Christopher Troth	from theory to practice: the develop- ment and validation of an edna assay as a commercial method for the detection	208	D D.:i					
	137	Lasse Topstad	of white-clawed crayfish  Tardigrade diversity assessment using	200	Ben Price	FreshBase: building a genome ready reference collection of UK freshwater macroinvertebrates				
			morphology, DNA barcoding and multi-marker metabarcoding.	226	Demetrio Mora	German Barcode of Life 2 (GB0L2) – Dia-				
-	270	Haris Zafeiropoulos	P.E.M.A.: a Pipeline for Environmental DNA Metabarcoding Analysis	-		tom DNA barcoding and eDNA metabar- coding in the context of the EU Water Framework Directive (2000/60/EC)				
			80	Danial Hariz Zainal Abidin	DNA barcoding assessment of com- mercial fishes in Malaysian waters: Es- tablishment of first large-scale national fish barcode database					
				406	Guy Paz	DNA barcoding of the Israeli marine biota				
				69	Joseph Cross	DNA Barcoding Antigua and Barbuda				
				110	Tendro Radanielina	DNA barcodes for identification of rose- wood, palisander and ebony (Dalbergia and Diospyros) from Madagascar				



09:00 - 15:00				
Plenary Hall				
•	Food	Chai	r: Torbjørn Ekrem	
Erik Solheim, Bjarne		Cilai	T: TOT DJØTTI EKTETTI	
Plenary Hall				
Keynote :: Daniel Jai	nzen 	Papei	r number: 4	Chair: Torbjørn Ekrem
Plenary Hall				
Plenary :: Mailyn Go	nzalez-Herrera	Papei	r number: 391	Chair: Michael Martin
Plenary Hall		I		
Plenary :: Michael B	unce	Papei	r number: 399	Chair: Michael Martin
Building the Re	ference Library of Life I		iDNA, Diet, Fo	odwebs & Pollination I
	Marko Mutanen			lans K. Stenøien
No. Presenting Author	Title	No.	Presenting Author	Title
	:: Cosmos 3B	00		: Cosmos 3C+D
144 Lu Sun	Taxonomy at NCBI and GenBank, with a focus on processes and policies pertinent to barcoding projects	23	Luis M. Hernandez-Triana	An integrated approach to untangling vector, host, and pathogen interactions (xenosurveillance) in mosquitoes (Diptera: Culicidae) from five communities close to Lacandone Jungle, Mexico
13:45	:: Cosmos 3B		13:45 :	: Cosmos 3C+D
106 Christer Erséus	DNA-barcode libraries of clitellate worms (Annelida): challenges and possibilities	126	Christina Lynggaard	Metabarcoding of bulk arthropod samples reveal vertebrate diversity
14:00	:: Cosmos 3B		14:00 :	: Cosmos 3C+D
255 Vladislav Ivanov	Writing the Encyclopedia of Life: DNA barcoding of Finnish spiders in context of intra- and intercontinental comparison	299	Laura Jones	Using pollen DNA metabarcoding to investigate floral visitation by honeybees and wild pollinators.
	:: Cosmos 3B		14:15 :	: Cosmos 3C+D
8 Ikechukwu Onah	DNA barcodes for nature's pest control- lers: the social wasps	354	Vanessa Mata	What shapes bat's diets? Trophic snap- shot of a Mediterranean bat community
14:30 :: 3 min Ligh	ntning Talks :: Cosmos 3B	<u> </u>	14:30 :: 3 min Light	ning Talks :: Cosmos 3C+D
√61 Manuel Elías-Gutiérrez	A case of direct application of DNA barcodes in medical diagnosis: Lagochilascarosis, a rare human disease in northern neotropics	73	Kristen Fernandes	Using invertebrate DNA metabarcoding to track restoration trajectories of arthropods across two mine site chronosequences.
108 Xiao-Long Lin	Starting a DNA barcode reference library for Chinese non-biting midges (Diptera: Chironomidae)	325	Carlos Lopez-Vaamonde	Quantifying pollinator diversity along urbanization gradients in the Loire valley
430 Lukas Zangl	Fishing for fish parasites: Establishing a DNA-barcoding protocol for reliable species identification of Gyrodactylus (Monogenea, Plathyhelmithes) ectoparasites	48	Kirthana G. Pillay	Investigating the mangrove productivity paradigm in relation to socio-economically important us fisheries
263 Sónia Ferreira	Filling the gap: DNA Barcode of Portuguese Dipterans	234	Hawis Madduppa	Inter-specific dietary compositions and niche overlap of two carnivorous grouper species (Serranidae) from pristine Raja Ampat reefs
262 Sónia Ferreira	DNA Barcode of Portuguese Neuroptera	246	Julie Garrison	Effect of organic matter sediment content on gut microbiome of gravid Monoporeia affinis: an experimental approach
288 Joana Paupério	DNA barcode of Iberian Trichoptera: documenting biodiversity for freshwater biomonitoring in a Mediterranean hotspot	209	Isabel C. Kilian Salas	(Meta)barcoding plant-pollinator net- works in agricultural habitats
Zuzana Čiampovová- Zaťovičová	AquaBOL.SK – barcoding of Slovak aquatic biota launched in the mountains	397	John Waller	Dietary analysis of bat feces between rainy season and dry season.



#### MONDAY :: ORAL & LIGHTNING PROGRAM :: 15:30 - 17:00

		MONDAI ONAL & LIGHTIM		1001(AM 15.50 =	17.00				
	eDNA & Metabaro	oding, Technical Advances II		iDNA, Diet, Foodwebs & Pollination II					
	Chair: N	1ehrdad Hajibabaei		Chair: Helena Wirta					
No.	Presenting Author	Title	No.	Presenting Author	Title				
	15:30	:: Plenary Hall		15:30	:: Cosmos 3A				
394	Sarah Adamowicz	Extracting signal from noise: big biodiversity analysis from high-throughput sequence data	30	Ellen Richard	How unbee-lievable, but I'm not pollen your leg! Using metabarcoding to reveal the role of non-bee pollinators in strawberry crops				
	15:45	:: Plenary Hall		15:45	:: Cosmos 3A				
335	Peter D. Heintzman	Refining bioinformatic filters for processing metabarcoding data from ultra-low concentration (ancient) environmental DNA	92	Axel Hausmann	Investigating hostplant relationships of Peruvian Lepidoptera from fogged caterpillars: DNA barcoding and gut content analysis				
	16:00	:: Plenary Hall		16:00 :: Cosmos 3A					
139	Kristine Bohmann	Tagsteady - a metabarcoding library preparation protocol eliminating false assignment of sequences to samples	171	Abigail Lowe	Investigating the value of gardens for providing floral resources to pollinating insects				
	16:15	:: Plenary Hall	16:15 :: Cosmos 3A						
152	Vasco Elbrecht	The ultimate primer comparison for metabarcoding terrestrial insects and aquatic invertebrates	242	Daniel Sanchez	Salad within: a genetic survey of diet of the endangered New Mexico jumping mouse (Zapus luteus luteus)				
	16:30	:: Plenary Hall		16:30 :: Cosmos 3A					
243	Matthew G. Orton	ssPRIMER - An open-source, GUI-based software tool for design of species-spe- cific primers and Taqman probes with implications for eDNA research	361	Michael Traugott	Molecular food web analysis unravels how plant fertilization affects the stability of biological control				
	16:45	:: Plenary Hall		16:45	:: Cosmos 3A				
346	Adriana Krolicka	Biodiversity assessment by metabar- coding and quantification of indicator species from oil & gas production infra- structure in North Sea sediments	387	Rakel Blaalid	Assessing the spatial and temporal distribution of flower resources for pollinators with DNA metabarcoding.				
		7		Puilding the Det	ference Library of Life II				





With funding from The Research Council of Norway

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	Building the Re	ference Library of Life II
	Chair: Iv	ona Kautmanova
No.	Presenting Author	Title
	15:30	:: Cosmos 3B
123	Endre Willassen	DNA Barcoding marine fauna with NorBOL – Current status
	15:45	:: Cosmos 3B
398	Evgeny Zakharov	In one fell swoop: co-detection of non-target DNA with third generation DNA barcodes
	16:00	:: Cosmos 3B
38	Chentao Yang	HTS accelerates the process of barcoding of life, from COI to Mitogenome
	16:15	:: Cosmos 3B
49	Jarrett Phillips	HACSim: Iterative extrapolation of haplotype accumulation curves for assessment of intraspecific COI DNA barcode sampling completeness
	16:30	:: Cosmos 3B
382	Teresita Porter	Reference sequence databases: a limiting factor in DNA metabarcoding?



#### MONDAY :: ORAL & LIGHTNING PROGRAM :: 15:30 - 17:00

		MONDAI :: ORAL & LIGHTNING	FKC	JORAM :: 15:30 - 1	7:00
Freshwater Biodiversity I  Chair: Florian Leese				Wildlife Forensi	s & Nature Conservation
			Chair: Torkild Bakken		
No.	Presenting Author	Title	No.	Presenting Author	Title
	15:30	:: Cosmos 3C		15:30	:: Cosmos 3D
35	Alexey Kotov	Mapping the main suture zone between two faunistic super-complexes of the freshwater fauna in Northern Eurasia: Cladocera as a model group	51	Naiara Sales	Tackling biological invasions and hybridization between native and non-native species by means of a mul- tidisciplinary integrative approach
	15:45	:: Cosmos 3C		15:45	:: Cosmos 3D
222	Tomasz Mamos	Comparative phylogeography of freshwater invertebrates with different dispersal potential in norther part of Carpathians	119	Nathalie Smitz	A DNA-based approach to validate the identification of exotic mosquito species in Belgium
	16:00	:: Cosmos 3C		16:00	:: Cosmos 3D
62	Manuel Elías-Gutiérrez	Relevance of DNA barcode baselines in tropical freshwater conservation and species discovery	441	Muhammad Ashfaq	Construction of customized DNA barcode library facilitates detection of plant insect pests using metabarcoding
	16:15	:: Cosmos 3C		16:15	:: Cosmos 3D
84	Kamil Hupalo	An evolutionary odyssey to the Med- iterranean Islands – the phylogeo- graphic itale about insular freshwater amphipods	114	Hendrik J. Niemann	Barcoding and Biosecurity: A molecular approach to evaluate the role played by the aquarium industry in the spread of invasive macrophytes in South Africa
45	16:30 :: 3 min Lig	htning Talks :: Cosmos 3C		16:30	:: Cosmos 3D
101	Tobias Lilja	DNA metabarcoding for community profiling of mosquitoes in Sweden	113	Anneke ter Schure	Dietary niche partitioning in domestic and wild herbivores in Southern India using DNA metabarcoding
192	Kamil Chatila-Amos eDNA in the field: identifying factors		5	16:45 :: 3 min Lig	htning Talks :: Cosmos 3D
		that influence the detection of benthic macroinvertebrates using environmenal DNA in northern freshwater habitats	146	Sophie Gombeer	African Bushmeat in Brussels: high prices and high levels of misidentification
402	Fedor Čiampor	A barcode gap-analysis for aquatic biomonitoring in Europe	260	Markus Majaneva	The effect of rotenone on protist community composition in freshwater lakes
386	Mike Wright	Optimization of molecular methods involved in the eDNA metabarcoding of benthic macroinvertebrate	130	Yoo Ree Van Bourgonie	DNA barcoding and identification of intermediate slug hosts in the framework of an epidemiological survey in Germany
237	Kaushar Kagzi	Utility of environmental DNA (eDNA) and environmental RNA	190	Jian-lin Hu	Application of DNA Barcoding to identify the tropical timber trees from southern Yunnan
201		(eRNA) for monitoring freshwater zooplankton diversity under acidification stress	79	Asokan Ramasamy	DNA Barcoding in the Early Detection of the Invasive Alien Species, the Fall Armyworm, Spodoptera frugiperda J.E. Smith (Lepidoptera: Noctuidae) and its Strain Status in India
324	Tatsiana Lipinskaya	Environmental DNA (eDNA) me- tabarcoding enables early detection of non-indigenous aquatic inver- tebrates and fish in Belarussian rivers			Strain Status III IIIaa
87	Danial Hariz Zainal Abidin	Inventorying Merbok River fish through DNA barcoding: Developing a local database of metabarcode studies			
44	Quentin Mauvisseau	Influence of accuracy, repeatability and detection probability in the reliability of species-specific eDNA based approaches			



#### TUESDAY :: ORAL & LIGHTNING PROGRAM

09:15 - 10:00

Censusing coral reefs in the 21st Century

10:00 - 10:30

Global measure of the biosphere by understanding biogeochemical cycling of environmental DNA

11:00 - 11:30

Metabarcoding in herbal product authentication – Where are we today?

11:30 - 12:00

#### BIOSCAN - Revealing ecoregion dynamics and species interactions

Freshwater Biodiversity II Chair: Martha Valdez-Moreno				iDNA, Diet, Foodwebs & Pollination III Chair: Galina Gusarova & Elisabeth Stur				
No.	Presenting Author	Title	No.	Presenting Author	Title			
	13:30	:: Plenary Hall		13:30	0 :: Cosmos 3A			
34	Jennifer Gleason	Does eDNA metabarcoding reflect community composition of stream macroinvertebrates at small spatial scales?	385	Galina Gusarova	Multi-locus DNA metabarcoding of diet provides new insights into the ecology and trophic interactions of a keystone herbivore species			
	13:45	:: Plenary Hall		13:4	5 :: Cosmos 3A			
204	Simon Creer	Assessing lotic biodiversity via eDNA analyses across heterogeneous land use types: patterns and processes.	29	Giulia Riccioni	Trophic interactions of European hake in the Adriatic Sea by using metabarcoding			
	14:00	:: Plenary Hall		14:00 :: Cosmos 3A				
149	Mathew Seymour	Spatio-temporal dynamics of lotic eDNA derived metacommunities	291	Johan Pansu	Trophic ecology of African large herbivores: a continent-wide com- parison from DNA metabarcoding			
	14:15	:: Plenary Hall	14:15 :: Cosmos 3A					
42	Agnès Bouchez	DNA-metabarcoding for high-density biomonitoring of lakes	277	Jonathan Ready	Dietary overlap in commercial fisheries food-webs in the South-western Atlantic			
	14:30	:: Plenary Hall		14:30 :: Cosmos 3A				
236	Natalia Ivanova	Coupling DNA barcoding with NGS assessment of cyanobacterial and algal community composition in harmful blooms	373	Christian Stolz	The nestling diet of high arctic snow buntings (Plectrophenax nivalis) assessed by DNA-metabarcoding			
	14:45 :: Plenary Hall							
9	Kathrin Theissinger	Metabarcoding reveals chironomid bio- diversity loss and species turnover due to mosquito control actions in temporary wetlands of the Upper Rhine Valley						









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09:0	00 - 15:00				
Pler	nary Hall				
Key	ynote :: Nancy Kr	nowlton	Pape	r number: 405	Chair: Endre Willassen
Pler	nary Hall				
Ple	nary :: Kristy Dei	ner	Pape	r number: 412	Chair: Robert Hanner
Pler	nary Hall				
Ple	nary :: Hugo de E	Boer	Pape	r number: 375	Chair: Robert Hanner
	nary Hall				
	nary :: Paul Hebe	ert	Pape	r number: 410	Chair: Robert Hanner
		od, Feed & Medicinal Plants I		Marin	e Biodiversity I
		onique Wesselink			: Malin Strand
No.	Presenting Author	Title	No.	Presenting Author	Title
	13:30	:: Cosmos 3B		13:30 ::	: Cosmos 3C+D
189	Pang-Chui Shaw	Medicinal Materials DNA Barcode Database (MMDBD) for molecular authentication of medicinal herbs and a pilot assessment of annotation quality and taxonomic reliability of DNA barcode sequences	75	Xiaomeng Mao	Barcoding the plants of mangrove ecosystem in China
	13:45	:: Cosmos 3B		13:45 ::	: Cosmos 3C+D
18	Varadharajan Bhooma	Study of adulteration in the market samples of saffron from fourteen countries using pharmacognosy, HPLC, HPTLC, and DNA barcoding	348	Jan Pawlowski	Expanding the range of bioindicator taxa by assigning indicator values to selected metabarcodes
	14:00	:: Cosmos 3B		14:00 ::	: Cosmos 3C+D
202	Chun-Xia Zeng	Rapid and Accurate Species-level Identification of Opium Poppy	175	Christopher Brodie	Improved methods of marine monitor- ing: Combining genetic and acoustic approaches to reveal pelagic fish biodiversity
	14:15	i:: Cosmos 3B	5	14:30 :: 3 min Light	tning Talks :: Cosmos 3C+D
180	Chang Liu	An International Genomic Reference Database for Medicinal Plants	122	Katrine Kongshavn	DNA barcodes of Nordic Echinodermata
	14:30	:: Cosmos 3B	411		The quest for the Pole: Are larvae of
301	Sathishkumar Rama- lingam	Intricacies Involved in Authentication of Herbal Industry Samples by DNA		Descoteaux	boreal benthic species already capable of reaching the Arctic Ocean?
	ungam	Barcoding	104	Hawis Madduppa	Revealing hidden diversity of planktonic organisms in a Indonesian reef system using environmental DNA
5	14:30 :: 3 min Lig	htning Talks :: Cosmos 3B	70	Mouna Rifi	DNA Barcoding for the identification of
60	Abdolbaset Ghor- bani	Molecular authentication of Radix Behen Albi (Bahman Sefid) commercial products reveals widespread adulter-			Non-Indigenous Marine Species in Tuni sia (Southern Mediterranean) : progress and prospects
		ation	379	Christina Pavloudi	Artificial Reef Monitoring Structures (ARMS) providing insights on the
41	Tianyi Xin	Medicinal Plant DNA barcoding system of Changbai Mountain National Reserve			marine biodiversity and community structure
			404	Friederike Clever	Dietary versatility of coral reef fishes in response to habitat degradation
			363	Hawis Madduppa	Dietary assessment of Groupers in Raja Ampat: insight DNA Metabarcoding
			103	Hawis Madduppa	Detecting habitat and population struc- ture of endemic Halmaheran walking shark (Hemiscyllium halmahera) using molecular approach
			136	Andrea Desiderato	Barcoding marine fouling crustaceans from Brazil: new insights into bioinva- sion and cryptic diversity
			284	Jessica A. Schultz	Barcoding Canada's ecozones: Past progress, future steps

#### TUESDAY :: ORAL & LIGHTNING PROGRAM :: 15:30 - 17.30

		TUESDAY :: ORAL & LIGHTNING	PRO	OGRAM :: 15:30 - 17	.30					
	Terrest	rial Biodiversity I		Biosystematics & Community Phylogenetics I						
		Axel Hausmann		. (	Chair: Michał Grabowski					
N	o. Presenting Author	Title	No.	Presenting Author	Title					
		:: Plenary Hall			15:30 :: Cosmos 3A					
31		The Kruger Malaise Program: Understanding the role national parks play in supporting biodiversity	174	Kyung Min Lee	Strong mitonuclear discordance in two species groups of sawfly genus Empria (Hymenoptera, Tenthredinidae)					
	15:45	:: Plenary Hall			15:45 :: Cosmos 3A					
25	3 Thomas Braukmann	Biome in a bottle: Capturing arthropod and plant diversity using Malaise traps	358	Santelmo Vasconcelos	Cryptic diversity in the cave planthopper Kinnapotiguara troglobia (Hemiptera, Fulgoromorpha, Kinnaridae): evidences from DNA barcodes					
	16:00	:: Plenary Hall			16:00 :: Cosmos 3A					
30	6 Ameli Kirse	Surveying insect community patterns along a forest conversion gradient from Norway spruce to European beech using eDNA from soil and Malaise traps	248	Marko Mutanen	Barcoding two imaginary insect species					
	16:15	:: Plenary Hall			16:15 :: Cosmos 3A					
16	Paul L. Schmidt Yáñez Effects of climate induced tree-d back on freshwater and malaise trap communities in the Bavariar Forest National Park		312	Liliana Ballesteros-mejia	ACTIAS-WF workflow for a better account of biodiversity					
	16:30	:: Plenary Hall			16:30 :: Cosmos 3A					
34	5 Dirk Steinke	Message in a bottle – Biodiversity surveys using Malaise Traps	360	Roger Vila	DNA barcoding "failure" uncovers two consecutive Wolbachia-mediated mitochondrial introgressions in Palearctic swallowtail butterflies					
	16:45	:: Plenary Hall			16:45 :: Cosmos 3A					
32	Daniel Marquina  Alcohol is not the solution: different communities are recovered from storage ethanol and tissue homogenate of Malaise trap catches.		177	Vlad Eugen Dinca	The conundrum of species delimitation: a genomic perspective on a mitogenetically super-variable butterfly					
	17:00	:: Plenary Hall	5	17:00 :: 3 :	min Lightning Talks :: Cosmos 3A					
39	<sup>2</sup> Jeremy R. deWaard	Agricultural bio-surveillance via	396	John Hanson	Barcoding mammal field collections using PacBio					
		metabarcoding of bulk Malaise trap samples	416	Shehroz Rana	Low genetic diversity in Triops granarius (Crustacea, Notostraca) from vernal pools in Qatar					
16		htning Talks Cosmos :: 3B  Assessment of vegetation from soil	303	Nico Fuhrmann	A comparison of COI barcodes, whole mitochondrial genomes and nuclear genomes in detecting post-glacial radiation of a midge					
		eDNA metabarcoding: A blast from the past?	21	Mahima Karthikeyan	Combined multivariate analysis and DNA barcoding studies unravels the species complexity in Ficus (Moraceae) endemic to South India					
21	4 Gunnhild Marthinsen	DNA barcodes of basidiomycetes:	395	Nataliya Budaeva	DNA barcoding reveals cryptic diversity and genetic connectivity in the deep-sea annelids across the Greenland-Scotland Ridge					
		Large contribution from the Natural History Museum in Oslo	362	Stalin Nithaniyal	DNA barcoding, HPTLC fingerprinting and Phylo- genetic analysis of an endangered Talipot Plam (Corypha sp.) from Southern India					
19	6 Kailash Chandra	The Barcode of Life Data system (BOLD) identified putative moth	353	Fedor Čiampor	True story of the riffle beetles diversity in Latin America – revealed by DNA barcoding					
94	Vikas Kumar	(Lepidoptera) diversity in Indian Himalayan Regions  First large-scale DNA Barcoding	233	Adrian Cervant- es-Martínez	Clarifying the taxonomic status of Mastigodiapto- mus albuquerquensis using DNA barcodes and morpholgical analysis of Nearctic and Neotropical specimens					
		assessment of spiders in India	160	Piotr Gadawski	Integrative taxonomy of non-biting midges (Diptera: Chironomidae): Skadar Lake versus European barcode library.					
			86	Hilke Schröder	Identification of tree species in wood composite products by DNA barcoding					
			14	Adebiyi Adeniran	DNA barcoding of Phlebotomine sandflies (Diptera: Psychodidae) from a leishmaniasis endemic com- munity in Mexico					



#### TUESDAY :: ORAL & LIGHTNING PROGRAM :: 15:30 - 17.30

	Community Anal	ysis, Ecology & Evolution			er Biodiversity III
		air: lan Hogg			Agnes Bouchez
No.	Presenting Author	Title	No.	Presenting Author	Title
110.	-	:: Cosmos 3B	110.		Cosmos 3C+D
56	Julia Harvie	Species diversity mapping using metabaroding data	298	Kristian Meissner	SCANDNAnet - Validating and intercal- ibrating metabarcoding for routine use in Nordic freshwater biomonitoring
	15:45	:: Cosmos 3B		15:45 ::	Cosmos 3C+D
383	Kirsten Miller	Inextricably linked: revealing the con- nections between neighbouring com- munities through DNA metabarcoding of host-parasitoid networks	170	Lyndall Pereira- da-Conceicoa	An initial comparison of morphological and molecular approaches to water quality and biodiversity assessment in Southern Africa
	16:00	:: Cosmos 3B		16:00 ::	Cosmos 3C+D
72	Helena Wirta	Exposing an imprint of arctic climate change through the use of DNA barcodes	50	Naiara Sales	The Neotropical biodiversity in the genomics and metagenomics era: unveiling the hidden diversity and potential threats to its conservation
	16:15	:: Cosmos 3B		16:15 ::	Cosmos 3C+D
90	Kevin Beentjes	Environmental DNA-based ecotoxin assessments: a Living Lab	371	Arne Beermann	DNA metabarcoding of macroinvertebrates in a multiple stressor mesocosm experiment manipulating salinity, fine sediment and flow velocity
	16:30	:: Cosmos 3B		16:30 ::	Cosmos 3C+D
178	Cecilia Estalles	The COI gene as an indicator of mito- chondrial adaptation to hypoxic high altitude environments in birds	223	Demetrio Mora	A barcode reference library of stream diatoms from Central Mexico: setting the baseline for eDNA-based diversity assessments and biomonitoring
	16:45	:: Cosmos 3B		16:45 ::	Cosmos 3C+D
365	Jacqueline A. May	The effects of genetic coverage on phylogenetic imputation performance in life history trait datasets	187	Susie Wood	Using metabarcoding to characterise contemporary and historic lake communities in New Zealand
	17:00	:: Cosmos 3B		17:00 ::	Cosmos 3C+D
431	Alex Twyford	Towards a genomic barcode for resolving the recent species radiation of eyebrights (Euphrasia, Orobanchaceae)	372	Vera Zizka	Metabarcoding reveals seasonal diversity patterns in aquatic macro-and microorganism communities and the impact on biomonitoring aspects
	17:15	:: Cosmos 3B		17:15 ::	Cosmos 3C+D
331	Rodolphe Rougerie	From DNA barcode libraries to global macroecology and macroevolutionary studies in insects	393	Ian Kendrich Fonta- nilla	From phylogenetics to public health: Implication of DNA barcoding in determining the genetic diversity of Oncomelania hupensis quadrasi, snail intermediate host of Schistosoma japonicum in the Philippines
4	17:30 :: 3 min Lig	htning Talks :: Cosmos 3B			
287	Georgia Sarafidou	Genetic variability and population con- nectivity of Pinna nobilis in the Eastern Mediterranean Sea			
258	Jingchan Hu	DNA Barcodes and trajectories of body mass in canadian coleoptera			
289	Johan Pansu	Developing new eDNA-based ecological assessment tools for the management of land-based contaminants in the coastal environment			



#### TUESDAY :: POSTER PROGRAM :: 13:30 - 15:00

	Kiosk 1			Kiosk 2	
No.	Title	Presenting Author	No.	Title	Presenting Author
	,	-	:30	11111	
148	Comparison of capture array, metabarcoding and shotgun sequencing in recovering mamma- lian eDNA from contemporary soil samples	Meixi Lin	25	Mitobarcoding: A method for the detection of biological ingredients from mixtures based on whole genome sequencing	Mei Jiang
		13	:40		
194	Evaluation of species-specific primers and extraction methods for environmental DNA based detection of the American bullfrog	Meixi Lin	88	Constructing a DNA Barcode Reference Library for Plants and Mammals from Lebanon	Carol Saliba
		13	:50		
343	Application of eDNA methods for biomonitoring of Alpine lakes and rivers: the Eco-AlpsWater project for innovative ecological assessment	Valentin Vasselon	167	DNA barcoding of Odonata in Poland – first step for the national freshwater macroinvertebrate reference library	Tomasz Rewicz
		14	:00		
384	Investigating the community structure of eukaryotic benthic organisms by the extraction and analysis of limited mRNA	Amalia Mailli	199	Development of species identification marker for Anas poecilorhyncha and Anas platyrhynchos	Jumin Jun
		14	:10		
421	Menu à la MinION: Real-time DNA sequencing for diet of large African mammals	Daniel E. Sanchez	328	Building barcode libraries of Norwegian microcrustacea	Anders Hobæk
		14	:20		
133	From Theory to Practice: The Development and Validation of an eDNA Assay as a Commercial Method for the Detection of White- Clawed Crayfish	Christopher Troth	375	The first effort to establish DNA barcode reference library of Gobiidae species for Belarus and Ukraine using DNA barcoding	Helen Gajduchenko
		14	:30		
137	Tardigrade diversity assessment using morphology, DNA barcoding and multi-marker metabarcoding	Lasse Topstad	61	A case of direct application of DNA barcodes in medical diagnosis: Lagochilascarosis, a rare human disease in northern neotropics	Manuel Elías-Gutiérrez
		14	:40		
270	P.E.M.A.: a Pipeline for Envi- ronmental DNA Metabarcoding Analysis	Haris Zafeiropoulos	108	Starting a DNA barcode reference library for Chinese non-biting midges (Diptera: Chironomidae)	Xiao-Long Lin
		14	:50		
107	Development of Multiplex PNA-FMCA for Accurate and Rapid Analysis of Seven Species of Eels	Jang Wook Lee	262	DNA Barcode of Portuguese Neuroptera	Sónia Ferreira



#### TUESDAY :: POSTER PROGRAM :: 13:30 - 15:00

	Kiosk 3			Kiosk 4	
No.	Title	Presenting Author	No.	Title	Presenting Author
		,	13:30		
24	Developing PCR-RFLP and SNP based markers for determining cytoplasmic male sterile factors in the genus Amaranthus (Amaranthaceae)	Dhivya Selvaraj	6	DNA Barcoding of spiders from agricultural fields of Layyah, Pakistan	Muhammad Tahir
		,	13:40		
28	Characterization of the complete chloroplast sequence of Juniperus excelsa subsp. polycarpos M. Bieb (Cupressaceae)	Shahjahan S. Ahmed Rana	67	Molecular evidence for Wolbachia pipientis Hertig, 1936 endosym- biosis in tardigrades opens new research opportunities for DNA barcoding	Milena Roszkowska
		,	13:50		
36	Advances in DNA barcoding of the Cladocera (Crustacea) of the Far Eastern Palearctic	Alexey Kotov	81	OLICH: A reference library of DNA barcodes for Nordic lichens	Gunnhild Marthinsen
		,	14:00		
109	Molecular systematics and species delimitation in Coniocarpon and Arthonia punctiformis sensu lato (Arthoniaceae) in Norway	Victoria Moen	210	Use of emerging complete organelle DNA reference databases in the diet analyses of the herbivorous bird, western capercaillies (Tetrao urogallus)	Physilia Chua
		,	14:10		
138	Molecular study of Chaetozone Malmgren (Annelida, Polychaeta) reveals hidden diversity of a com- mon benthic polychaete	Maël Grosse	257	A new tool to identify the target 16S rRNA sequence from next generation sequencing data	Milena Roszkowska
		,	14:20		
151	Microsporidian infections in the Gammarus roeselii species com- plex (Amphipoda) over its geo- graphic range: evidence for both host-parasite co-diversification and recent host-shifts	Michal Grabowski	296	A DNA barcode library for 50% of Diptera reported to Germany and its implications biodiversity monitoring	Jerome Moriniere
		,	14:30		
166	Assessing diversity of marine bivalves (Mollusca, Bivalvia) in Norwegian waters using DNA barcoding, with emphasis on Pectinidae	Nathalie Skahjem	316	Using DNA barcoding to protect Aotearoa (New Zealand) native flowering plants	Stacey Meyer
			14:40		
218	DNA Barcodes reveal unexpected diversity of the pink coloured Clavaria (Basidiomycota, Clavariaceae) species of the Clavaria incarnata s.l. group	Ivona Kautmanova	357	DNA-barcoding in jumping bristle- tails (Archaeognatha): the Austrian species of Lepismachilis and Dilta	Nikolaus Szucsich
			14:50		
268	Resolving the Nitzschia palea spe- cies complex using transcriptom- ics to improve fresh water quality assessment	Ozan Ciftci	414	Assessing aerial tree pollen composition via metabarcoding analysis of environmental DNA	Abdullah Rafiq

#### TUESDAY :: POSTER PROGRAM :: 15:30 - 17:30

Kiosk 1 Kiosk 2						
	No.	Title	Presenting Author	No.	Title	Presenting Author
			15	:30		
	76	Molecular analysis of East Pacific green turtles that nest in Mexico		320	Assessment and status of southern African marine mammal collections	Keshni Gopal
			15	:40		
	77	Molecular analysis of Kemp's ridleys (Lepidochelys kempii) from Mexico	Miguel Angel Reyes- López	333	Biomonitoring coastal macrozooben- thic colonization of artificial substrates in NW Iberia using DNA metabarcoding	Filipe Costa
			15	:50		
	99	Effects of PAH contaminants on meiofauna and microbial community structures in Baltic Sea Sediments	Sven Iburg	374	Ctenophores – native aliens in Norwe- gian waters	Sanna Majaneva
			16	:00		
	154	End biodiversity loss through improved tracking of marine threatened invertebrates	Sonja Leidenberger	263	Filling the gap: DNA barcodes of Portuguese Diptera	Sónia Ferreira
			16	:10		
	198	The COI barcode database of Brachyura and Anomura collected along the Korean Peninsula over five years	Jumin Jun	288	DNA barcode of Iberian Trichoptera: documenting biodiversity for freshwa- ter biomonitoring in a Mediterranean hotspot	Joana Paupério
			16	:20		
	256	DNA barcodes reveal extensive hidden diversity in polychaetes questioning cosmopolitan distributions and calling for comprehensive taxonomic revision	Filipe Costa	326	AquaBOL.SK – barcoding of Slovak aquatic biota launched in the moun- tains	Zuzana Čiampovová- Zaťovičová
			16	:30		
	279	Phylogeny and barcoding with complete species coverage resolve relationships in the squid genus Lolliguncula Steen- strup, 1881	Jonathan Ready	430	Fishing for fish parasites: Establishing a DNA-barcoding protocol for reliable species identification of Gyrodactylus (Monogenea, Plathyhelmithes) ecto- parasites	Lukas Zangl
			16	:40		
	281	Status and highlights of the global DNA barcode reference library for marine peracarids (Crustacea: Peracarida)	Pedro Emanuel Vieira Filipe Costa	100	DNA barcoding of bees (hymenoptera): preliminary effort from Indian Himalaya	Avas Pakrashi
			16	:50		
	293	Hidden diversity and deep divergence in a presumed broadly distributed polychaete along the Atlantic coast of Americas	Pedro Emanuel Vieira Filipe Costa			
			17	:00		
	295	DNA barcoding of marine fishes of Bangladesh	Sagir Ahmed			
			17	:10		
	300	Community dynamics and barcoding of protozooplankton in the Trondheim Fjord, Norway	Jan-Konrad Wallin Katharina Bading			
			17	:20		
	305	Small-scale spatial variation of meio- faunal communities in Rio Lima estuary (NW Portugal) assessed through metabarcoding	Filipe Costa			



#### TUESDAY :: POSTER PROGRAM :: 15:30 - 17:30

Kiosk 3			Kiosk 4	osk 4	
No.	Title	Presenting Author	No.	Title	Presenting Author
		15	:30		
37	Identification of fish species of sushi products in Hong Kong	Grace Wing-Chiu But	105	Towards building a DNA barcode library of bird lice (Psocodea: Menoponidae, Philopteridae)	Jan T. Lifjeld
		15	:40		
39	Biodiversity in complex marketed herb-	Ancuta - Cristina	111	Identification of five species of Dalber-	Antso Rakotonirina
	al products - species identification and authentication for safety and efficacy	Manolica Hugo De Boer		gia (rosewood) from Madagascar using molecular barcode	Radanielina Tendro
		15	:50		
68	DNA barcoding of Hong Kong Ilex species	Lim Ho Kong	200	DNA barcoding analysis and phyloge- netic relationships of associated spe- cies of Juniperus polycarpos in Juniper forest Ziarat, Balochistan	Shahjahan S. Ahmed Rana
		16	:00		
145	Seafood on the Belgian market: do you get what you are paying for?	Sophie Gombeer	207	Barcoding of Bromeliaceae	Georg Zizka
		16	:10		
184	High diversity of dried "Charales" in food makets: A Mexican Barcode of Life network example in the formation of bachelor students	Alexei Elias Valdez	249	Enhancement of Croatian forest ecosystem services through assess- ment of fungal diversity based on DNA barcoding (ForFungiDNA) project	Armin Mešić
		16	:20		
212	Employing DNA barcode markers for identification and authentication of herbal samples of traded indian medicinal plants	Akanksha Priya	251	Beyond the DNA reference library of the German Barcode of Life project: Methods and applications in progress	Vera Rduch
		16	:30		
254	Selection of medicinal plants using DNA barcoding and chemical profiling: an example of Icelandic Huperzia selago	Maonian Xu	280	Five years as national research infrastructure: Status of the Norwegian Barcode of Life Network (NorBOL)	Torbjørn Ekrem
		16	:40		
276	Popular seafood labels threaten biodiversity of "Cação" (shark), "Merluza" (hake) and "Linguado" (flatfish) sold on the Brazilian market	Jonathan Ready	338	DNA barcoding of West-African birds	Jan T. Lifjeld
		16	:50		
317	Authentication of fishmeal by DNA metabarcoding	Markus Majaneva	58	DNA barcode evaluation for the Palm family	Xue-Jun Ge
		17	:00		
435	Authentication of Chinese traditional medicines Gusuibu based on DNA barcoding markers and SCAR markers from chloroplast genomes	Bo Tian	69	DNA Barcoding Antigua and Barbuda	Joseph Cross
		17	:10		
41	Medicinal Plant DNA barcoding system of Changbai Mountain National Reserve	Tianyi Xin	80	DNA barcoding assessment of com- mercial fishes in Malaysian waters: Es- tablishment of first large-scale national fish barcode database	Danial Hariz Zainal Abidin
		17	:20		
60	Molecular authentication of Radix Behen Albi (Bahman Sefid) commercial products reveals widespread adulter- ation	Abdolbaset Ghorbani	110	DNA barcodes for identification of rose- wood, palisander and ebony (Dalbergia and Diospyros) from Madagascar	Tendro Radanielina
	ution .				

#### WEDNESDAY :: ORAL & LIGHTNING PROGRAM

09:00 - 09:45

Overview of the outcomes of UN Biodiversity Conference 2018 and Q&A in relation to DNA barcoding

09:45 - 10:15

When is a bird in the hand worth two in the bush - and when not? Considerations about implementing DNA-metabarcoding in legally binding biodiversity monitoring

10:45 - 11:15

Towards plant barcode 2.0 and its application in environmental and ancient DNA studies

11:15 - 11:45

Dating West Antarctic ice sheet collapse using molecular sequence data

Butting West Athar ette 16			CC 01	Teet cottapse as	mg motecular sequence data
	Terrestr	ial Biodiversity II		Biosystemat	ics & Community Phylogenetics II
	Chair: .	Jeremy deWaard			Chair: Alex Twyford
No.	Presenting Author	Title	No.	Presenting Author	Title
	13:15	:: Plenary Hall			13:15 :: Cosmos 3A
274	Archana Chauhan	Characterization of the microbiome from high altitude permafrost affected soil	63	Lian-Ming Gao	Phylogenomic analysis of plas- tid and mitochondrial genomes improve the resolution of phylogeny of Ericales
	13:30	:: Plenary Hall			13:30 :: Cosmos 3A
342 Riikka Elo		Unveiling the hidden diversity of soil-dwelling oribatid mites (Acari: Oribatida) of Finland with DNA barcoding	330	Arni Sholihah	A thousand shades of grey: DNA barcoding the diverse, yet similar, Rasbora species (Ostariophysii, Cypriniformes, Cyprinidae) of Sundaland
	13:45	:: Plenary Hall			13:45 :: Cosmos 3A
244	Susana S. Santos	Assessing multi-taxon biodiversity in terrestrial ecosystem using environmental DNA: is soil sampling enough?	419	Zeynep Toprak	New insights on the Evolution of the Chasmophyte Silene: a case study of section Italicae (Caryophyl- laceae)
	14:00	:: Plenary Hall			14:00 :: Cosmos 3A
156	Anna Seniczak	DNA barcoding of Norwegian forest Oribatida – preliminary results reveal several taxonomic problems	89	Hilke Schroeder	Multiplexed chloroplast and nucle- ar marker sets for differentiation of 19 relevant poplar species for breeding
	14:15	:: Plenary Hall			14:15 :: Cosmos 3A
271	Katie McGee	DNA metabarcoding of plant-soil mi- cro- and macro-biomes for terrestrial restoration	188	Kiran Singewar	Differentiation, Identification and Phylogenetic Relationships of Methyl Salicylate Producing Birch Species through Chloroplast and Nuclear Markers
	14:30	:: Plenary Hall			14:30 :: Cosmos 3A
95	Kaomud Tyagi	Biosystematics studies of Thrips: Cryptic species and Species Complexes	64	Oscar Dore Ahossou	Species delimitation and phyloge- ography of African Parkia species
	14:45	:: Plenary Hall			14:45 :: Cosmos 3A
238	Marie-Eugenie Maggia	Earthworm community diversity in the rainforest of French Guyana	26	Yunheng Ji	Using complete plastomes and nuclear ribosomal DNA sequences as the next generation DNA barcodes in Panax (Araliaceae)





09:00 - 15:00				
Plenary Hall		ı		
Keynote :: Junko Sh	imura	Pape	r number: 304	Chair: Paul Hebert
Plenary Hall				
Plenary :: Florian Le	Plenary :: Florian Leese		r number: 428	Chair: Filipe Costa
Plenary Hall				
Plenary :: Inger Grev	ve Alsos	Pape	r number: 409	Chair: Filipe Costa
Plenary Hall				
Plenary :: Jan Strug	nell	Pape	r number: 301	Chair: Filipe Costa
	Legislation Frameworks Ilatory Practice I		Marino	e Biodiversity II
Chair: Bja	rte Rambjør Heide		Chair	: Jan Strugnell
No. Presenting Author	Title	No.	Presenting Author	Title
	:: Cosmos 3B			: Cosmos 3C+D
417 Gaute Voigt-Hansen	The Nagoya Protocol – Basic set up and implications for research	332	Anders Lanzén	A comparison of metabarcoding, metagenomics and morphotaxonomy of marine benthos – influence of primers, DNA extraction and reference data
			13:30 :	: Cosmos 3C+D
		352	Adriana E. Radulovici	New avenues for data curation: hack- athon on marine invertebrates
13:45	:: Cosmos 3B		13:45 :	: Cosmos 3C+D
403 Morten Walløe Tvedt	Contractual solutions	322	Molly Czachur	Hidden fish biodiversity: Using eDNA to characterise the hidden diversity of coastal fishes in South Africa
			14:00 :	: Cosmos 3C+D
		309	Nicole Fahner	Working towards standards in environ- mental DNA biomonitoring of marine ecosystems
14:15	:: Cosmos 3B		14:15 :	: Cosmos 3C+D
117 Kenny Meganck	DNA barcoding to identify Invasive Alien Species targeted by EU policies	252	Torkild Bakken	DNA barcoding assessment of species diversity in marine bristle worms (An- nelida), integrating barcoding with tra- ditional morphology-based taxonomy
14:30	:: Cosmos 3B		14:30 :	: Cosmos 3C+D
442 Philip Macdonald	Regulatory applications of barcod- ing in the Canadian food inspection agency's plant health program	153	Thomas G. Dahlgren	Significant taxon sampling gaps in DNA databases from the best-studied marine habitat on Earth limit the operational use of metabarcoding
14:45	:: Cosmos 3B		14:45 :	: Cosmos 3C+D
120 Kenny Meganck	DNA-barcoding for forensics: experiences from three years of BopCo	369	Alison Watts	Developing a Collaborative eDNA Monitoring Program in Estuarine Systems



#### WEDNESDAY :: ORAL & LIGHTNING PROGRAM :: 15:30 - 17:30

				Biosystematics & Community Phylogenetics III					
		ial Biodiversity III							
		likolaus Szucsich			Pablo Tubaro				
No.	Presenting Author	Title	No.	Presenting Author	Title				
	15:30	:: Plenary Hall		15:30	:: Cosmos 3A				
321	Gemma Collins	Namib Desert Collembola are deeply divergent and spatially isolated	408	Umapathy Senthilkumar	Miocene dispersal and diversification of climbing palms ('Rattans', tribe: Calameae, Arecaceae) in Indian subcontinent				
	15:45	:: Plenary Hall		15:45	:: Cosmos 3A				
245	Pedro Beja	The night shift: improving the conservation assessment of nocturnal flying insects using DNA metabarcoding	308	Kevin Burgess	Forest community assembly is driven by different strata-depen- dent processes along an elevational gradient				
	16:00	:: Plenary Hall		16:00	:: Cosmos 3A				
231	Cecilie Svenningsen	The spatio-temporal distribution of insects across Denmark assessed by citizen science and DNA	163	Dario Lijtmaer	Combining DNA barcodes and genomics to assess if a subtropical river in the Neotropics is acting as a geographic barrier for birds				
	16:15	:: Plenary Hall		16:15	:: Cosmos 3A				
135	Lucas Sire	DNA metabarcoding to quantify the ecological impact of forest decline on flying insect diversity in the Pyrenees	155	Dario Lijtmaer	DNA barcoding and the study of incipient speciation in Neotropical birds				
	16:30	:: Plenary Hall		16:30	:: Cosmos 3A				
185	Ruie Nie	Comparing of parataxonomy and metabarcoding method to assess the beetle biodiversity of Qinling Mountain	116	Nathalie Smitz	Population genomics and phyloge- ography of the African lion (Pan- thera leo) in Tanzania: a continental and country-wide genetic assess- ment				
	16:45	:: Plenary Hall		16:45	:: Cosmos 3A				
165	Meixi Lin	Mapping California biodiversity us- ing remote sensing and community science eDNA surveys	52	Mariana Lyra	Mapping phylogeographic ende- mism of Amphibians in a Brazilian hotspot: Implications for conserva- tion management decisions.				
	17:00	:: Plenary Hall		17:00	:: Cosmos 3A				
142	Philip Francis Thomsen	Environmental DNA metabarcod- ing of wild flowers reveals diverse communities of terrestrial arthro- pods	13	Joel Ogwang	Evolutionary Relationships of Threadfin Breams (Nemipterus spp., Nemipteridae) from Egyptian Red Sea Coast and eastern Medi- terranean Sea				
	17:15	:: Plenary Hall		17:15	:: Cosmos 3A				
74	Mingxin Liu	Comparing the effectiveness of beetle biodiversity monitoring through DNA metabarcoding and morphological approaches	12	Roel Dire Houdanon	Phylogeny communities of ectomy- corrhizal fungi from Guineo-Souda- nian ecozone of Benin (West Africa)				









#### WEDNESDAY :: ORAL & LIGHTNING PROGRAM :: 15:30 - 17:30

					11100
		Past Communities			ter Biodiversity IV
	Chair: Ir	nger Greve Alsos		Chair: Man	uel Elías-Gutiérrez
No.	Presenting Author	Title	No.	Presenting Author	Title
	15:30	:: Cosmos 3B		15:30 :	: Cosmos 3C+D
125	Natalia Kirichenko	DNA barcoding of a leafminer larvae pressed within leaves of herbaria shed light on its invasion history	366	Micaela Hellstroem	Analyses of fish, amphibian and mussel communities using eDNA metabarcoding vs. traditional methods.
	15:45	:: Cosmos 3B		15:45 :	: Cosmos 3C+D
158	Valentina Crobe	Molecular identification of endangered marine predators by barcoding ancient museum rostra of Mediterranean sawfish populations (Chondrichthyes, Pristidae)	66	Izabela Mendes	Development of eDNA metabar- coding markers for Neotropical fish species based on the mitochondrial 12S region
	16:00	:: Cosmos 3B		16:00 :	: Cosmos 3C+D
227	Miklós Bálint	Insights into long-term biodiversity dynamics assessed through eDNA barcoding and metabarcoding	235	Christopher Hempel	Using eDNA to monitor reintroduction success and distribution of an indicator fish species in a remediated stream
	16:15	:: Cosmos 3B		16:15 :	: Cosmos 3C+D
215	Youri Lammers	The importance of the reference library: discovery of unexpected species in ancient sedimentary DNA	71	Martha Val- dez-Moreno	Identifying freshwater fish larvae through DNA barcoding a tropical oligotrophic lake from southeast Mexico
	16:30	:: Cosmos 3B		16:30 :	: Cosmos 3C+D
173	Sandra Garcés Pastor	Long-term plant species turnover in the Alps, inferred from sedaDNA	267	Yannick Pütz	High resolution assessment of fish eDNA distribution in an alpine river
	16:45	:: Cosmos 3B		16:45 :	: Cosmos 3C+D
213	Jessica Louise Ray	Can sedimentary ancient DNA (sedaDNA) be used for sea ice reconstructions?	368	Jonas Quilang	DNA barcoding of Glossogobius spp. from seven lakes in the Philippines
4	17:00 :: 3 min Lig	htning Talks :: Cosmos 3B		17:00 :	: Cosmos 3C+D
272	Marcel Polling	Multilocus DNA metabarcoding of Pleistocene mammoth dung provides an integrated insight of changing Arctic vegetation and fungal-host interactions over time	302	Bettina Thalinger	Monitoring fish communities in Alpine rivers via eDNA
380	Laura Saskia Epp	Drivers of diversity and future scenarios for Arctic ecosystems from ethno-ecology, contemporary ecology and ancient environmental DNA			
381	Nataly Allasi Canales	Paleogenomic annotation of histor- ical Cinchona bark samples across time and space			









#### WEDNESDAY :: POSTER PROGRAM :: 13:15 - 15:00

Kiosk 1 Kiosk 2

		Presenting Author		Title				
		13	:15					
85	Characterizing diets of mammals from the Eastern Mediterranean Forest Region using DNA-me- tabarcoding	Liliane Bou Khdoud	15	Unveiling the rich Trichoptera diversity in Bosnia and Herzegovina – the case of Rhyacophila bosnica	Belma Kalamujić Stroil			
		13	:25					
141	Analyzing historical plant-polli- nator interactions by conducting pollen metabarcoding on natural history collections of German bumblebee species	Andreas Kolter	157	Modified primers for DNA barcod- ing and metabarcoding for invasive freshwater fishes	Alexey Kotov			
		13	:35					
48	Investigating the Mangrove Pro- ductivity Paradigm in Relation to Socio-economically Important US Fisheries	Kirthana G Pillay	164	Odonata of Malta – filling DNA bar- coding gap in the Mediterranean	Tomasz Rewicz			
		13	:45					
73	Using invertebrate DNA metabarcoding to track restoration trajectories of arthropods across two mine site chronosequences	Kristen Fernandes	219	Integrative taxonomical methods in revealing cryptic diversity of freshwater Palaemon shrimps	Michał Grabowski			
	13:55							
209	(Meta)barcoding plant-pollinator networks in agricultural habitats	Isabel C. Kilian Salas	261	DNA barcoding for conservation biogeography of non-biting midges in South America: the case of Poly- pedilum (Chironomidae: Diptera)	Fabio Laurindo da Silva			
		14	:05	15				
234	Inter-specific dietary compositions and niche overlap of two carnivo- rous grouper species (Serranidae) from pristine Raja Ampat reefs	Inna Puspa Ayu Hawis Madduppa	266	Investigating the potential of using eDNA from water samples for detecting stream-associated arthropod communities in Denmark	Mads Reinholdt Jensen			
		14	:15					
246	Effect of organic matter sedi- ment content on gut microbiome of gravid Monoporeia affinis: an experimental approach	Julie Garrison	275	DNA barcoding of freshwater stream fishes of the Belém area of endemism	Jonathan Ready			
		14	:25					
325	Quantifying pollinator diversity along urbanization gradients in the Loire valley	Carlos Lopez-Vaamonde	278	Molecular diversity in the mono- typic catfish genus Mastiglanis (Bockmann, 1994)	Jonathan Ready			
		14	:35					
397	Dietary analysis of bat feces be- tween rainy season and dry season	John Waller John Hanson	285	Measuring quantitative preferences to diet species by comparing gut contents and environments in numbers of DNA sequence reads from metabarcoding	Natsuko I. Kondo			



20



#### WEDNESDAY :: POSTER PROGRAM :: 13:15 - 15:00

Kiosk 3				Kiosk 4	
		Presenting Author			Presenting Author
		13	:15		
395	DNA barcoding reveals cryptic diversity and genetic connectivity in the deep-sea annelids across the Greenland-Scotland Ridge	Nataliya Budaeva	150	The Criconematina Project: DNA barcoding of terrestrial nematodes	Thomas Powers
		13	:25		
286	DNA barcoding of leafhopper vectors (hemiptera: Cicadellidae) of phytoplasma on ornamental crops	Ramasamy Asokan	208	FreshBase: building a genome ready reference collection of UK freshwater macroinvertebrates	Ben Price
		13	:35		
350	Cytochrome C Oxidase based DNA barcoding of genus Barilius from Jammu region of Jammu and Kashmir State of India	Rakesh Kumar	211	How to Make the Field Guide "DNA of Forests"	Kazutoshi Tsuda
		13	:45		
14	DNA barcoding of phlebotomine sandflies (Diptera: Psychodidae) from a leishmaniasis endemic community in Mexico	Adebiyi Adeniran	226	German Barcode of Life 2 (GBOL2)  – Diatom DNA barcoding and eDNA metabarcoding in the context of the EU Water Framework Directive (2000/60/EC)	Demetrio Mora
		13	:55		
160	Integrative taxonomy of non-biting midges (Diptera: Chironomidae): Skadar Lake versus European barcode library	Piotr Gadawski	406	DNA barcoding of the Israeli marine biota	Guy Paz
		14	:05		
233	Clarifying the taxonomic status of Mastigodiaptomus albuquer- quensis using DNA barcodes and morpholgical analysis of Nearctic and Neotropical specimens	Adrian Cervantes- Martínez Martha A. Gutierrez-Aguirre	362	DNA barcoding, HPTLC finger- printing and phylogenetic analysis of an endangered Talipot Plam (Corypha sp.) from Southern India	Stalin Nithaniyal John Adams
		14	:15		
353	True story of the riffle beetles diversity in Latin America – revealed by DNA barcoding	Fedor Čiampor	443	Census of planetary biodiversity made easy with Beckman Coulter automation	Natalia V. Ivanova
		14	:25		
396	Barcoding mammal field collections using PacBio	John Hanson			
		14	:35		
416	Low genetic diversity in Triops granarius (Crustacea, Notostraca) from vernal pools in Qatar	Shehroz Rana Kuei-Chiu Chen			



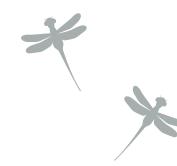
#### WEDNESDAY :: POSTER PROGRAM :: 15:30 - 17:30

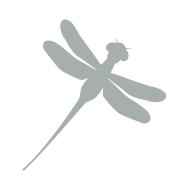
Kiosk 1 Kiosk 2							
	No.	Title	Presenting Author		No.	Title	Presenting Author
				15:	:30		
	407	Genetic diversity of Gomphocarpus sinaicus Boiss. within and between wadi systems of the St Katherine Protectorate (South Sinai, Egypt)	Samy Zalat		389	Barcoding in the deep Sea: The exceptional diversity of giant protists (Foraminifera, Xenophyophora) on abyssal plains	Maria Holzmann Jan Pawlowski
				15	:40		
	258	DNA barcodes and trajectories of body mass in Canadian Coleoptera	Jingchan Hu		436	DISCO: Creating a research hub for eDNA research in California	Adam R. Wall
				15:	:50		
	287	Genetic variability and population connectivity of Pinna nobilis in the Eastern Mediterranean Sea	Georgia Sarafidou		70	DNA barcoding for the identification of non-indigenous marine species in tunisia (Southern Mediterranean) : progress and prospects	Mouna Rifi
				16	:00		
	289	Developing new eDNA-based ecological assessment tools for the management of land-based contaminants in the coastal envi- ronment	Johan Pansu		103	Detecting habitat and population struc- ture of endemic Halmaheran walking shark (Hemiscyllium halmahera) using molecular approach	Hawis Madduppa
				16	:10		
	303	A comparison of COI barcodes, whole mitochondrial genomes and nuclear genomes in detecting post-glacial radiation of a midge	Nico Fuhrmann		104	Revealing hidden diversity of planktonic organisms in a Indonesian reef system using environmental DNA	Hawis Madduppa
				16	:20		
	389	Barcoding in the deep Sea: The exceptional diversity of giant protists (Foraminifera, Xenophyophora) on abyssal plains	Maria Holzmann Jan Pawlowski		122	DNA barcodes of Nordic Echinoder- mata	Katrine Kongshavn
				16	:30		
	196	The Barcode of Life Data system (BOLD) identified putative moth (Lepidoptera) diversity in Indian Himalayan Regions	Kailash Chandra		136	Barcoding marine fouling crustaceans from Brazil: new insights into bioinva- sion and cryptic diversity	Andrea Desiderato
				16:	:40		
	94	First large-scale DNA Barcoding assessment of spiders in India	Vikas Kumar		284	Barcoding Canada's ecozones: Past progress, future steps	Jessica A. Schultz
				16	:50		
					363	Dietary assessment of Groupers in Raja Ampat: insight DNA Metabarcoding	Hawis Madduppa
				17	:00		
					379	Artificial Reef Monitoring Structures (ARMS) providing insights on the marine biodiversity and community structure	Christina Pavloudi
				17	:10		
					404	Dietary versatility of coral reef fishes in response to habitat degradation	Friederike Clever
				17	:20		
					411	The quest for the Pole: Are larvae of boreal benthic species already capable of reaching the Arctic Ocean?	Raphaelle Descoteaux

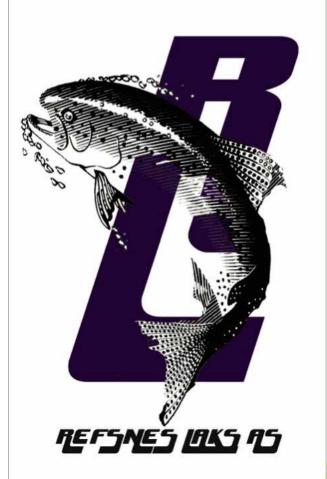
#### **WEDNESDAY :: POSTER PROGRAM :: 15:30 - 17:30**

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	Kiosk 4	
	Title	Presenting Author
	15:30	
59	Appropriate genetic marker for genus Cryptosporidium	Lenka Luptakova
	15:40	
193	Rapid detection of all twelve CITES-listed shark species by loop-mediated isothermal amplification	Hoi-Yan Wu
	15:50	
221	Identification of plant species in mixed seed samples using High Throughput Sequencing (HTS) technology and DNA barcodes	Marie-Jose Cote
	16:00	
390	Molecular detection and identification of the invasive Chinese pond mussel Sinan- odonta woodiana (Bivalvia: Unionidae) from Lake Danao, Leyte and Bato Creek, Oriental Mindoro Philippines using DNA Barcoding	Rogel Victor Mendoza
	16:10	
79	DNA barcoding in the early detection of the invasive alien species, the Fall Army- worm, Spodoptera frugiperda J.E. Smith (Lepidoptera: Noctuidae) and its strain status in India	Asokan Ramasamy
	16:20	
130	DNA barcoding and identification of intermediate slug hosts in the framework of an epidemiological survey in Germany	Yoo Ree Van Bourgonie
	16:30	
146	African bushmeat in Brussels: high prices and high levels of misidentification	Sophie Gombeer
	16:40	
190	Application of DNA barcoding to identify the tropical timber trees from southern Yunnan	Jian-lin Hu
	16:50	
260	The effect of rotenone on protist community composition in freshwater lakes	Markus Majaneva
	17:00	
435	Authentication of Chinese traditional medicines Gusuibu based on DNA barcoding markers and SCAR markers from chloroplast genomes	Bo Tian
	17:10	
41	Medicinal plant DNA barcoding system of Changbai Mountain National Reserve	Tianyi Xin
	17:20	
60	Molecular authentication of Radix Behen Albi (Bahman Sefid) commercial prod- ucts reveals widespread adulteration	Abdolbaset Ghorbani









#### THURSDAY :: ORAL & LIGHTNING PROGRAM

09:00 - 09:45

GO-SEE: Global Ocean Systems Ecology & Evolution

09:45 - 10:15

Pollen preference and diet diversity of eastern honey bees revealed by genome-skimming

10:45 - 11:15

Can environmental RNA revolutionize biodiversity science?

11:15 - 11:45

#### Making good on the promise of molecular monitoring

			Mak	ing g	ng good on the promise of molecular monitoring					
			trial Biodiversity IV r: Maria Kuzmina			ommunity Phylogenetics IV				
	No.	Presenting Author	Title	No.	Presenting Author	Title				
		13:1	5 :: Plenary Hall		13:15	:: Cosmos 3A				
	47	Genevieve Estimation of fungal diversity in tem- Laperriere perate and boreal Quebec forests using soil DNA meta-barcoding and iden- tification of ecological variables that influence fungal communities		183	Mark Stevens	Retracing origins of Pacific leaf-cutter bees (Megachilidae)				
		13:3	0 :: Plenary Hall		13:30	:: Cosmos 3A				
	140	Caitlin Potter	Metabarcoding-based assessment of airborne pollen assemblages	112	Mikko Pentinsaari	Holarctic or introduced? DNA bar- codes provide insights on biogeog- raphy of beetles				
		13:4	5 :: Plenary Hall		13:45	:: Cosmos 3A				
2	216	Stephanie Swenson	Evaluating airborne pollen bio- monitoring with metabarcoding in Germany	282	Andrea Desiderato	Prominent evolutionary divide between Macaronesian islands and nearby continental coasts in multi- ple peracarids (Crustacea): over 60 suspected new species.				
		14:00 :: Plenary Hall			14:00	:: Cosmos 3A				
	334	Andreas Frisch	Hidden treasures in your front yard: Crustose lichens and lichenicolous fungi in the Norwegian boreo-nemoral and boreal rain forests	217	Huai-Jun Xue	Species status, delimitation and phylogenetic relationship of three Altica flea beetles				
		14:1	5 :: Plenary Hall		14:15 :: Cosmos 3A					
	351	Marie Davey	Overlooked Biodiversity: Fungi in Norway's Coastal Heathlands	283	Mark Stevens	Extreme genetic diversity of Collembola among subterranean calcretes in arid Australia				
		14:3	0 :: Plenary Hall		14:30	:: Cosmos 3A				
	169	Georgina L. Bren- nan	Temperate grass allergy season defined by spatio-temporal shifts in airborne pollen communities	205	Tommi Nyman	Origin and loss of species and genetic diversity: insights from barcode-based inference of parasite communities of northern European seals				
		14:4	5 :: Plenary Hall		14:45	:: Cosmos 3A				
	179	Guilherme Oliveira	DNA barcoding and genomics tools to unravel the Amazonian biodiversity	182	Mark Stevens	Hidden secrets of biodiversity: DNA barcoding of Hymenoptera suggests a precision in species richness esti- mates that does not match accuracy				
4	5	15:00 :: 3 min Li	ghtning Talks :: Plenary Hall							
1	186	Paul Nevill	eDNA metabarcoding - a new approach to monitoring restoration							



09:0	0 - 15:00				
Plen	ary Hall				
Key	note :: Colomba	nn de Vargas	Pape	r number: 433	Chair: Jan Pawlowski
Plen	ary Hall				
Pler	nary :: Xin Zhou		Pape	r number: 319	Chair: Natasha de Vere
	ary Hall				
Pler	nary :: Melania (		Pape	r number: 269	Chair: Natasha de Vere
	ary Hall				
	nary :: Kat Bruc	 Р	Pape	r number: 423	Chair: Natasha de Vere
1 101		Food, Feed & Medicinal Plants II	'		oding, Technical Advances III
		air: Hugo de Boer			nair: Xin Zhou
No.	Presenting Author	Title	No.	Presenting Author	Title
	13:	15 :: Cosmos 3B		13:15	:: Cosmos 3C+D
181	Chang Liu	Zhen-Tracking: A Block-Chain Based Tracking System Based on Genetic Fingerprints	359	Mehrdad Hajibabaei	Can environmental DNA metabarcoding stand the test of time?
	13:	30 :: Cosmos 3B		13:30	:: Cosmos 3C+D
134	Bastien Anthoons	Metabarcoding to trace adulteration in local Greek products	349	Frode Fossøy	River benthos - testing water samples, alcohol filtrates and insect soups in relation to primer generality and sequence depth
	13:	45 :: Cosmos 3B		13:45	:: Cosmos 3C+D
418	Hyun-Seung Park	Horizontal transfer of chloroplast genome flux makes confusion for Plant DNA barcoding	172	Owen S. Wangensteen	From COI metabarcoding to metaphylogeography: finding the optimal way to get robust haplotype information from raw HTS data
 337	14:00 :: 3 min l	_ightning Talks :: Cosmos 3B  A national system for tracing escaped farmed			
337	ITIIIa Galloway	salmon by their DNA and rare mineral deposits	197	Bruce Deagle	:: Cosmos 3C+D  Counting with DNA in environmental
311	David Baisch	Technology advancement and DNA barcoding: developing hardware applications for govern- mental and commercial environments		Brace Beagle	metabarcoding studies: are sequence counts useful?
259	Mengyue Guo	A study on the identification of Epimedium species		14:15	:: Cosmos 3C+D
228	Linchun Shi	The use of DNA barcoding to monitor the species composition of Pheretima (Di Long) in herbal markets and their medicinal products	240	Linda Neaves	DNA barcodes and beyond: Using targeted capture to distinguish bamboos and understand giant panda diet
225	Ming-yue Li	ITS2 barcode would be an effective method for the identification of proprietary Chinese medicine Sanqi tablet	20		:: Cosmos 3C+D
224	Jinxin Liu	Multitudinous species identification for bulk samples based on high-throughput sequencing using ITS2 and full-length COI, rbcL, matK with a PCR-free approach	32	Alejandra Ortega	One gene to rule them all: 18S mini-barcode distinguishes marine macrophyte lineages
201	Umapathy	Two-tiered authentication of "Nilavembu Kudineer", an herbal decoction treating Den-	005		:: Cosmos 3C+D
	Senthilkumar	gue and Chikungunya using DNA barcodes and HPTLC fingerprints	339	Gregory Singer	Comparing metagenomic and metabarcoding approaches in water samples from a marine environment
191	Chae Eun Lim	DNA barcoding projects of the native vascular plants in Korea			
168	Monique Wesselink	DNA Barcode identification of "Magic Mush- rooms"			



Identification of the medicinal plants in Aconitum L. from China by DNA Barcoding

78

Hong Wang

#### THURSDAY :: ORAL & LIGHTNING PROGRAM :: 15:30 - 16:45

	eDNA & Metabarco	ding, Technical Advances IV		Barcode Projects, Networks & Initiatives II			
	Chair: Pete	er David Heintzman		Chair:	Jan Terje Lifjeld		
No.	Presenting Author	Title	No.	Presenting Author	Title		
	15:30	:: Plenary Hall		15:30	:: Cosmos 3A		
440	Wieland Meyer	Dual DNA barcoding and metage- nomics as basis of precision-based diagnosis of mycoses	356	Sónia Ferreira	IBI – InBIO Barcoding Initiative: DNA Barcoding Portuguese terres- trial invertebrate biodiversity		
	15:45	:: Plenary Hall		15:45	:: Cosmos 3A		
377	Kevin Burgess	Whole genome shotgun sequencing enables species identification and quantification of pollen species mixtures	127	Alfried Vogler	The SITE-100 project for site- based sampling and mitochondrial metagenomics of arthropods		
	16:00	:: Plenary Hall		16:00 :: Cosmos 3A			
241	Bilgenur Baloglu	Get outside: Metabarcoding with the Nanopore MinION	250	Vera Rduch	German Barcode of Life project: legacy and progeny		
	16:15	:: Plenary Hall	16:15 :: Cosmos 3A				
128	Babett Günther	Limiting PCR biases and limitations due to PCR-based metabarcoding short length fragments: A comparison with two possible al- ternatives, capture by hybridisation and Nanopore sequencing	314	Alex V. Borisenko	Arctic BIOSCAN: bridging biodiversity science, DNA barcoding and Traditional Knowledge in the Canadian Arctic		
	16:30	:: Plenary Hall		16:30	:: Cosmos 3A		
370	Valentin Vasselon	Use of diatom DNA metabarcoding for freshwater quality assessment: progress and prospects in the frame of French rivers monitoring networks	147	Sophie Gombeer	Barcoding organisms and tissues of policy concern: experiences from three years of BopCo		











#### THURSDAY :: ORAL & LIGHTNING PROGRAM :: 15:30 - 16:45

	Building the Re	ference Library of Life III		DNA Barcoding in	n Legislation Frameworks ulatory Practice II
	Chai	r: Chenxi Liu	Chair: Robert Hanner		
No.	Presenting Author	Title	No.	Presenting Author	Title
	15:30	:: Cosmos 3B		15:30 :	:: Cosmos 3C+D
124	Markus J Anken- brand	Automated reference database creation for any marker and taxonomic group	424	Tzitziki Loeza-Quin- tana	Molecular detection of invasive alien species using real-time quantitative PCR, a tool to advance management strategies
	15:45	:: Cosmos 3B		15:45 :	:: Cosmos 3C+D
273	Marie Føreid Merkel	The key to the treasure chest – selections of herbarium specimens for DNA extraction	239	Lawrence Wangh	FASTFISH-ID™: A universal single-tube test for rapid DNA authentication of any species of commercial fish using a portable device
	16:00	:: Cosmos 3B		16:00 :	:: Cosmos 3C+D
307	Jacopo D'Ercole	The fidelity of DNA barcodes from museum specimens: no cause for concern	121	Marine Cusa	Successful field application of a novel universal method for rapid fish species identification.
	16:15	:: Cosmos 3B		16:15 :	:: Cosmos 3C+D
7	Rahul Jamdade	Evaluation of Arabian plant bar- codes: An effort on integration of machine learning approach towards accurate species identifi- cation	425	Robert G Young	Molecular biosurveillance for species of regulatory interest using a high concentration salt solution
	16:30	:: Cosmos 3B		16:30 :	:: Cosmos 3C+D
220	Maria Kuzmina	The DNA barcode reference library for the Canadian mosses recovered from herbarium specimens	426	Robert Hanner	Curating reference libraries for regulatory applications of DNA barcoding









#### THURSDAY :: POSTER PROGRAM :: 13:15 - 15:00

	Kiosk 1			Kiosk 2	
No.	Title	Presenting Author	No.	Title	Presenting Author
		13	3:15		
429	Ancient sedimentary DNA reveals both climatic and human impact on vegetation history in Varanger, Northern Norway	Dilli P Rijal	294	Genetic diversity of freshwater fishes of Bangladesh assessed by DNA barcoding	Md Sagir Ahmed
		13	3:25		
272	Multilocus DNA metabarcoding of Pleistocene mammoth dung provides an integrated insight of changing Arctic vegetation and fungal-host interactions over time	Marcel Polling	315	Spatial variation in Aotearoa (New Zealand) groundwater Crustacea	Stacey Meyer
		10	3:35		
380	Drivers of diversity and future scenarios for Arctic ecosystems from ethno-ecology, contemporary ecology and ancient environmental DNA	Laura Saskia Epp	388	Thriving through the Ice Age. European proglacial refugia and genetic diversity of a widespread freshwater isopod	Michał Grabowski
		13	3:45		
381	Paleogenomic annotation of historical Cinchona bark samples across time and space	Nataly Allasi Canales	400	Hydrous ferric oxides (HFO) precipitated from contaminated waters at several abandoned Sb deposits – microbiological, mineralogical and geochemical assessment.	Bronislava Lalinská-Voleková
		13	3:55		
			44	Influence of accuracy, repeatability and detection probability in the reliability of species-specific eDNA based approaches	Quentin Mauvisseau
		14	4:05		
			87	Inventorying Merbok River fish through DNA barcoding: Develop- ing a local database of metabar- code studies	Danial Hariz Zainal Abidin
		14	4:15		
			101	DNA metabarcoding for commu- nity profiling of mosquitoes in Sweden	Tobias Lilja
		14	4:25		
			192	eDNA in the field: identifying factors that influence the detection of benthic macroinvertebrates using environmental DNA in northern freshwater habitats	Kamil Chatila-Amos
		14	4:35		
			237	Utility of environmental DNA (eDNA) and environmental RNA (eRNA) for monitoring freshwater zooplankton diversity under acidifi- cation stress	Kaushar Kagzi



#### THURSDAY :: POSTER PROGRAM :: 13:15 - 15:00

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	NIUSK 3	
	13:15	
290	Ribulose-bisphosphate carboxy- lase gene (rbcL) sequence based identification of Fagonia spp. of Pakistan	Sikandar Farooq
	13:25	
297	Macromycetes and plants from the areas contaminated by Sb mining in Slovakia – diversity, toxicity and	Ivona Kautmanová

#### 13:35

Target capture sequence analysis using Angiosperm353 nuclear gene bait set on hemi-parasitic Euphrasia, to unravel taxonomic complexities resulting from hybridisation, varying ploidy levels, and repeated evolution of autogamous lineages

remediation potential

Stephen Garrett

#### 13:45

432 Description of a new Nitzschia species from saline bomb crater ponds Éva Ács

#### 13:55

434 Extended phylogeny of the lichenized algal genus Trebouxia (Trebouxiophyceae, Chlorophyta): insights from chemosystematics and symbiotic pattern of Icelandic cetrarioid lichens

Maonian Xu

#### 14:05

21 Combined multivariate analysis and DNA barcoding studies unravels the species complexity in Ficus (Moraceae) endemic to South India Mahima Karthikeyan

#### 14:15

86 Identification of tree species in wood composite products by DNA barcoding Hilke Schröder

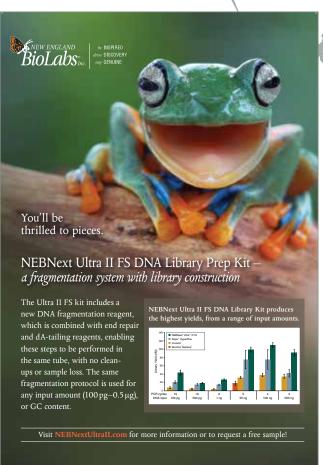
#### 14:30

118 Identification of disease vectors from foreign deployment sites of the Belgian armed forces using DNA-based technologies Nathalie Smitz

#### 14:35

439 DNA metabarcoding of fungal communities in medicinal and edible Lotus seeds

Weijun Kong





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#### THURSDAY :: POSTER PROGRAM :: 15:30 - 16:50

Kiosk 1 Kiosk 2

No.		Presenting Author		Title	
		15	:30		
162	Assessment of vegetation from soil eDNA metabarcoding: A blast from the past?	Maria Ariza	78	Identification of the medicinal plants in Aconitum L. from China by DNA barcoding	Hong Wang
		15	:40		
186	eDNA metabarcoding - a new approach to monitoring restoration	Paul Nevill	168	DNA barcode identification of "Magic Mushrooms"	Monique Wesselink
		15	:50		
214	DNA barcodes of basidiomycetes: Large contribution from the Natu- ral History Museum in Oslo	Gunnhild Marthinsen	191	DNA barcoding projects of the native vascular plants in Korea	Chae Eun Lim
		16	:00		
324	Environmental DNA (eDNA) metabarcoding enables early de- tection of non-indigenous aquatic invertebrates and fish in Belarus- sian rivers	Tatsiana Lipinskaya	201	Two-tiered authentication of "Nilavembu Kudineer", an herbal decoction treating Dengue and Chikungunya using DNA barcodes and HPTLC fingerprints	Umapathy Senthilkumar
		16	:10		
386	Optimization of molecular methods involved in the eDNA metabar- coding of benthic macroinverte- brate communities	Mike Wright	224	Multitudinous species identification for bulk samples based on high-through- put sequencing using ITS2 and full-length COI, rbcL, matK with a PCR-free approach	Jinxin Liu
		16	:20		
402	A barcode gap-analysis for aquatic biomonitoring in Europe	Fedor Čiampor	225	ITS2 barcode would be an effective method for the identification of proprietary Chinese medicine Sanqi tablet	Ming-yue Li
		16	:30		
311	Technology advancement and DNA barcoding: developing hardware applications for governmental and commercial environments	David Baisch	228	The use of DNA barcoding to monitor the species composition of Pheretima (Di Long) in herbal mar- kets and their medicinal products	Linchun Shi
		16	:40		
337	A national system for tracing escaped farmed salmon by their DNA and rare mineral deposits	Trina Galloway	259	A study on the identification of Epimedium species	Mengyue Guo









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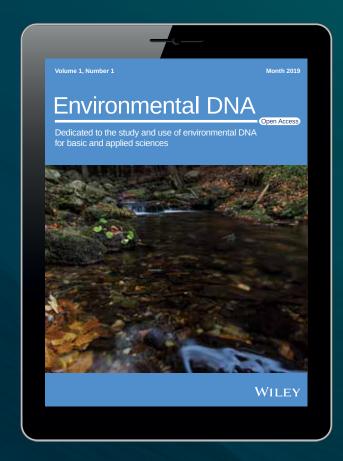




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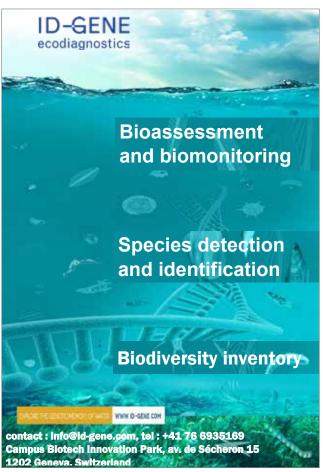
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#### PROGRAM AT A GLANCE

	1			
Time	Monday 17	Tuesday 18	Wednesday 19	Thursday 20
09:00	Opening Ceremony	Conf. address: Gunnar Bovim	Keynote:	Voyanto
09:15	Erik Solheim, Bjarne Foss	Keynote:	Junko Shimura	Keynote: Colomban de Vargas
09:30	Keynote:	Nancy Knowlton		
09:45	- Dan Janzen		Plenary: Florian Leese	Plenary: Xin Zhou
10:00 10:15		Plenary: Kristy Deiner	T toriali Leese	AIII ZIIOU
10:30		. w.iety Demier		
10:45	Plenary:		Plenary:	Plenary:
11:00	Mailyn Adriana González	Plenary:	Inger Greve Alsos	Melania Cristescu
11:15	Plenary:	Hugo de Boer	Plenary:	Dlanany Kat Pruca
11:30	Mike Bunce	Plenary:	Jan Strugnell	Plenary: Kat Bruce
11:45		Paul Hebert		
12:00			\$\$\$	\$\$\$
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15:30 16:00 16:30 16:45	PARALLEL 2	PARALLEL 4	PARALLEL 6	
15:30 16:00 16:30	PARALLEL 2	PARALLEL 4	PARALLEL 6	PARALLEL 8  Closing Ceremony
15:30 16:00 16:30 16:45	PARALLEL 2	PARALLEL 4	PARALLEL 6	
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