Report of the Networking Activity on 'Gordon Research Conference "Plant-Herbivore Interaction"' within the framework of the EUROCORES Programme entitled 'Ecology of Plant Volatiles, from Molecules to the Globe'.

Grant number 457

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Summary

In 2013 the 12th Gordon Research Conference Plant-Herbivore interaction (GRC-PHI) was held from 24 Feb – 1 March in Ventura, CA. Twenty five invited speakers each presented their latest, unpublished results on various topics pertaining to plant-herbivore interactions. Each talk was followed by a vivid discussions and each session ended with a general discussion in which many members of the audience participated. During the four poster sessions, a total of 160 posters were presented, both by young and established scientists. In total, this meeting was attended by ten scientists involved in the EurVOL program. Six of them presented posters, three were co-authors on posters, one of which served also as co-organiser and vice-chair, and one associated member presented an invited talk on herbivore-induced induction of plant volatiles. Several other talks and posters presented unpublished results on the role of plant volatiles in plant-herbivore interactions, which greatly inspired further research activities of the ESF/EUROCORES sponsored attendees. Several inter- and intra network activities were organized during the conference.

The final programme of the event

Please find the final program at the end of this document as attachment 1.

A description of the scientific content of the event

With 200 participants from all over the world it was the best attended GRC Plant-Herbivore Interactions in its series. The series started in 1980 and has been continued in an uninterrupted three-year cycle ever since. The 12th GRC-PHI 2013 was organized by Colin Orians (chair) and Nicole van Dam (vice-chair). Overall, the GRC-PHI meetings are aimed at the future and focus on new applications of theory and methods that are or will soon emerge as frontiers. In addition, as with previous conferences, the organisers have brought in perspectives integral to understanding plant herbivore interactions such as vertebrate herbivore and microbial systems that are often underrepresented due to the predominance of studies on terrestrial plants and invertebrates. The structure of our program (see attachment 1) encouraged analysis of their similarity and differences so that mainstream theory can incorporate their perspective. The choice of topics for this conference was not all inclusive; this is rather impossible with a field as broad and interdisciplinary as Plant-Herbivore interactions. Each of the selected speakers proved to be excellent communicators and presented work that is considered novel and influential. Moreover, each speaker has shared, as agreed beforehand, their latest unpublished findings . Gordon Conference meetings are special in that the discussions are meant to be 'off the record' and informal, to allow a much greater discourse and the challenging of accepted notions and dogmas without fear of incrimination. The evaluation forms of this and previous GRC conferences show that this is highly valued by the participants and they indicate that attendance of the GRC –PHI greatly inspires their research efforts in the years thereafter.

Not only after the talks, but also at the poster sessions there was active exchange of unpublished work. The posters were displayed at the very end of the lecture hall, which incited participants to have a look at the posters in between sessions – and even after the evening sessions ! – as well. This ensured that also the research presented as a poster was well visible and discussed.
Several afternoon break-out sessions were organised by the participants themselves: one on multitrophic interactions, and one on the application of metabolomics in ecology, which were well attended by the participants, including the ESF/EuroVOL members. These informal and *ad hoc* meetings incited intensive discussions among participants on future research directions in the field.

An assessment of the results and impact of the event on the EUROCORES programme

In brief, the impact of the event on the Eurocores programme is threefold:

1. The ESF-EurVOL members have been able to disseminate their latest research to the global research community studying plant-herbivore interactions, thereby receiving feedback that may help to improve their future research activities
2. International colleagues outside Europe have become aware of ESF/EUROCORES and its active participation in funding research and networking activities such as this conference
3. ESF- EuroVOL members have taken the opportunity to network within and between their respective programs

Ad1. Herbivore-induced plant volatiles are important elements of plant-insect interactions. They do not only attract natural enemies, but also herbivores and pollinator behaviour are affected by plant volatiles. It is for this reason that eight members of the EuroVOL A-BIO-VOC (M. Dicke, , B. Albrectsen, E. Khalinger,S. Papazian) and InvaVOL (T. Turlings, P. Anderson, G. Desurmont, H. Danner, N. van Dam) programs attended the GRC-PHI meeting this year. The importance of the ESF-EuroVOL program for the field was also evidenced by the fact that an associate member of A-BIO-VOC, M. Hilker, was one of the invited speakers at the conference. All members have been actively involved in the dissemination of the results they have been obtained in their ESF-programs, either by presenting posters themselves, or as co-authors on posters of post-docs and PhD students (Dicke, Turlings and van Dam). Several members have been participating in the general discussions as well as in the break-out discussion groups that were organised by participants in the afternoons.

Ad 2. A permanent poster with the logo of the sponsors, including that of ESF, was hung on a poster board. Additionally, a slide with the logos of the sponsors was projected in the 15 minutes preceding each session (see Figure 1). As requested, the poster presenters had printed the ESF logo on their posters and explicitly acknowledged ESF/EUROCORES funding. Finally, the chair has mentioned the names of all sponsors, including ESF/EUROCORES, during the opening speech of the conference.

Figure 1. Poster board with permanent poster with sponsor logos (left) and slide at the beginning of each session with sponsor logos (right), including ESF logo.

Ad 3. The author is aware of the following intra- and inter EuroVOL program meetings that have taken place at the GRC-PHI:

1. Nicole van Dam and Holger Danner (invaVOL) met with Benedicte Albrectsen and Stefano Papazian (A-BIO-VOC) to discuss research and a communal review paper for Phytochemical analysis (will be submitted mid July 2013)
2. The members of the InvaVOL programme organized a business lunch to prepare for the mid-term meeting in Florence in April 2013
3. Peter Anderson and Nicole van Dam (both InvaVOL) met to initiate a COST initative

List of speakers and participants

The list of speakers can be found in attachment 1, the list of poster presenters in attachment 2.

Attachment 1: Final program

Plant-Herbivore Interaction
The Changing Face of Plant-Herbivore Studies

February 24 - March 1, 2013

Ventura Beach Marriott
Ventura, CA

Chair: **Colin M. Orians**

Vice Chair:
Nicole M. Van Dam

The 2013 meeting will be the 12th Gordon Research Conference on Plant-Herbivore Interactions. For over 30 years, the GRC series on Plant-Herbivore Interactions has served as a premier forum for scientists investigating the ecology and evolution of plant-herbivore interactions. In addition to being an important venue for sharing late breaking results, its broad influence makes the conference series an influential determinant of research directions in the field.

The 12th GRC on Plant-Herbivore Interactions will bring together an outstanding group of junior and senior scientists. Sessions will include evolution of plant defenses, microbial contributions to extended phenotypes, and the consequences of induction to individuals, populations and communities. The conference will embrace mechanism and theory, and link ecology and evolution. To complement the diverse themes of the session presentations, four poster sessions are scheduled for the evenings and all attendees are encouraged to contribute a poster.

The collegial atmosphere of this Conference and breadth of research areas represented, with programmed morning and evening discussion sessions and opportunities for informal gatherings in the afternoons and evenings, provides an exciting venue for scientists from different disciplines to brainstorm and debate across disciplinary boundaries.

Contributors

SUNDAY

4:00 pm - 8:00 pm	Arrival and Check-in (Office Closed 6:00 pm - 7:45 pm)
6:00 pm	Dinner
7:30 pm - 7:40 pm	Welcome / Introductory Comments by GRC Site Staff
7:40 pm - 9:30 pm	**The Changing Face of Plant-Herbivore Studies** Welcome and Session Introduction by Chair **Colin Orians** (Tufts University)
7:50 pm - 8:40 pm	**Jonathan Gershenzon** (Max Planck Institute of Chemical Ecology) "Keynote Presentation: Franken-Plants: Is genetic engineering a monstrous benefit in studying chemical mediation of plant-herbivore interactions?"
8:40 pm - 9:00 pm	Discussion
9:00 pm - 11:00 pm	Opening Reception

MONDAY

7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	**Genetic and Ecological Drivers of Chemical Defense Evolution in Plants** Discussion Leader: **Judith X. Becerra** (University of Arizona)
9:00 am - 9:10 am	Discussion Leader - Announcements and Session Introduction
9:10 am - 9:40 am	**Dietrich Ober** (Kiel University) "Molecular evolution of new traits - The example of the pyrrolizidine alkaloids"
9:40 am - 9:50 am	Discussion
9:50 am - 10:20 am	**Judith X. Becerra** (University of Arizona)

10:20 am - 10:30 am	Discussion
10:30 am	Group Photo / Coffee Break
11:00 am - 11:30 am	**Lissy Coley** & **Thomas Kursar** (University of Utah) "The anti-herbivore defenses of the speciose Neotropical tree genus Inga: their evolution and their relationship to herbivore host choice and local tree diversity"
11:30 am - 11:40 am	Discussion
11:40 am - 12:10 pm	**Sergio Rasmann** (University of Lausanne) "Evolutionary and ecological drivers of anti-herbivore defenses along ecological gradients"
12:10 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	Poster Session
6:00 pm	Dinner
7:30 pm - 9:30 pm	**Herbivore Detoxification: New Insights from Genomics**
	Discussion Leader: **Shai Morin** (Hebrew University)
7:30 pm - 7:45 pm	Discussion Leader - Announcements and Session Introduction
7:45 pm - 8:15 pm	**Noah Whiteman** (University of Arizona) "The evolution of herbivory in the *Drosophilidae*: insights from genomics"
8:15 pm - 8:30 pm	Discussion
8:30 pm - 9:00 pm	**Fang Zhu** (University of Kentucky) "Functional genomics on highly efficient detoxification mechanisms in Colorado potato beetle"
9:00 pm - 9:30 pm	Discussion
TUESDAY	
7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	**Beyond Secondary Chemicals: Integrating Plant Nutrients**
	Discussion Leader: **Denise Dearing** (University of Utah)
9:00 am - 9:10 am	Discussion Leader - Announcements and Session Introduction
9:10 am - 9:40 am	**Spencer Behmer** (Texas A&M University) "Insect herbivore nutrition: new molecular insights"
9:40 am - 9:50 am	Discussion
9:50 am - 10:20 am	**Georg Jander** (Boyce Thompson Institute) "Manipulation of plant metabolism by an insect-vectored virus"
10:20 am - 10:30 am	Discussion
10:30 am	Coffee Break
11:00 am - 11:30 am	**Clare McArthur** (The University of Sydney)

	"The variable effectiveness of plant defense compounds in a nutrient backdrop"
11:30 am - 11:40 am	Discussion
11:40 am - 12:10 pm	**Jennifer Forbey** (Boise State University) "From lab to landscape: scaling up dose-response curves in plant-herbivore systems"
12:10 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	Poster Session
6:00 pm	Dinner
7:30 pm - 9:30 pm	**Plant Mediated Interactions**
	Discussion Leader: **Nicole van Dam** (Radboud University Nijmegen)
7:30 pm - 7:45 pm	Discussion Leader - Announcements and Session Introduction
7:45 pm - 8:15 pm	**Coco Gómez** (University of Rhode Island) "Exotic herbivore interactions: scaling down from landscape patterns to plant and insect responses"
8:15 pm - 8:30 pm	Discussion
8:30 pm - 9:00 pm	**Lee Dyer** (University of Nevada, Reno) "Ubiquitous defensive synergies and trophic interactions"
9:00 pm - 9:30 pm	Discussion
WEDNESDAY	
7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	**Consequences of Induction: From Individuals to Communities**
	Discussion Leader: **Erik Poelman** (Wageningen University)
9:00 am - 9:10 am	Discussion Leader - Announcements and Session Introduction
9:10 am - 9:40 am	**Gregg Howe** (Michigan State University) "Jasmonate-induced plant defenses that target insect digestive physiology"
9:40 am - 9:50 am	Discussion
9:50 am - 10:20 am	**Monika Hilker** (Freie Universität Berlin) "Information transfer across trophic levels: Plants, insect eggs, and parasitoids"
10:20 am - 10:30 am	Discussion
10:30 am	Coffee Break
11:00 am - 11:30 am	**Andre Kessler** (Cornell University) "Ecological functions of induced plant responses to herbivory and the evolution of inducibility"
11:30 am - 11:40 am	Discussion

11:40 am - 12:10 pm	**Nora Underwood** (Florida State University) "Population-level consequences of associational effects: the influence of neighborhood on induced resistance and herbivore spatial distribution"
12:10 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	Poster Session
6:00 pm	Dinner
7:00 pm - 7:30 pm	Business Meeting
	Nominations for the next Vice Chair; Fill out Conference Evaluation Forms; Discuss future Site & Scheduling preferences; Election of the next Vice Chair
7:30 pm - 9:30 pm	**Shifting Interactions in a Changing World: Human-Altered Plantscapes**
	Discussion Leader: **John Orrock** (University of Wisconsin)
7:30 pm - 7:45 pm	Discussion Leader - Announcements and Session Introduction
7:45 pm - 8:15 pm	**Peter Hambäck** (Stockholm University) "Translating spatial heterogeneity in resources to insect densities: The role of search cues"
8:15 pm - 8:30 pm	Discussion
8:30 pm - 9:00 pm	**Aaron Gassmann** (Iowa State University) "Crop-insect interactions: the response of pests to transgenic agriculture"
9:00 pm - 9:30 pm	Discussion
THURSDAY	
7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	**Extended Phenotypes: Probing the Microbial World**
	Discussion Leader: **Martin Heil** (Cinvestav)
9:00 am - 9:10 am	Discussion Leader - Announcements and Session Introduction
9:10 am - 9:40 am	**Kari Saikkonen** (MTT Agrifood Research Finland) "Fungal endophytes - ubiquitous plant mutualists?"
9:40 am - 9:50 am	Discussion
9:50 am - 10:20 am	**Angela Douglas** (Cornell University) "Symbiotic microorganisms in phytophagous insect nutrition: how to make plants 'easy meat'"
10:20 am - 10:30 am	Discussion
10:30 am	Coffee Break
11:00 am - 11:30 am	**Sunshine Van Bael** (Tulane University) "Interacting symbioses: Leaf endophyte load and fungal garden development in leaf-cutting ants"

11:30 am - 11:40 am	Discussion
11:40 am - 12:10 pm	**Kelli Hoover** (Penn State University) "Genetic basis for the extended phenotype in a host-baculovirus system"
12:10 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	Poster Session
6:00 pm	Dinner
7:30 pm - 9:30 pm	**Shifting Interactions in a Changing World: Climate Change**
	Discussion Leader: **Christer Björkman** (Swedish Agricultural University)
7:30 pm - 7:45 pm	Discussion Leader - Announcements and Session Introduction
7:45 pm - 8:15 pm	**Evan DeLucia** (University of Illinois) "Reorganization of trophic dynamics in ecosystems exposed to elevated CO_2 and temperature?"
8:15 pm - 8:30 pm	Discussion
8:30 pm - 9:00 pm	**Elizabeth Crone** (Harvard University) "What drives herbivore population increases? Effects of changing climate, habitat, and hostplants on Baltimore checkerspot butterflies"
9:00 pm - 9:30 pm	Discussion
FRIDAY	
7:30 am - 8:30 am	Breakfast
9:00 am	Departure

Attachment 2: Poster schedule (names of ESF project members are marked in yellow)

Poster presenter	Affiliation	Poster Title	session	board#
ABDALA-ROBERTS, LUIS	UCR-IRVINE	Top-down and bottom-up forces influence herbivore selection on plants	**1**	1
AGRAWAL, ANURAG	CORNELL UNIVERSITY	Evolution of plant defense in real time	**2**	1
ALBRECTSEN, BENEDICTE	UMEA UNIVERSITY	Genetic basis of endophyte community on aspen (Populus tremula) is altered after introduction of a specialist beetle (Chrysomela tremula).	**3**	1
ALI, JARED	CORNELL UNIVERSITY	Specificity of direct and indirect belowground defenses of Milkweed (Asclepias spp.) to root herbivores (Tetraopes spp.)	**4**	1
ANDERSON, PETER	SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES	Herbivore-induced plant volatiles provide oviposition repellency and associational resistance against an herbivore	**1**	2
ANILKUMAR, KONASALE	MONSANTO	Discovery and optimization of hemipteran-active proteins for transgenic plant applications	**2**	2
ANSTETT, DANIEL	UNIVERSITY OF TORONTO	Contrasting latitudinal herbivory patterns in Oenothera biennis (Onagraceae)	**3**	2
AYAYEE, PAUL	PENNSYLVANIA STATE UNIVERSITY	Microbial Contribution to the Nitrogen Ecology of the Asian Longhorned Beetle	**4**	2
BAILEY, JOE	UNIVERSITY OF TENNESSEE	Indirect genetic effects mediate plant population, community and ecosystem response to climate change	**1**	3
BARBEHENN, RAYMOND	UNIVERSITY OF MICHIGAN	Protein quality vs. quantity in alternative host plants	**2**	3
BARBER, NICHOLAS	NORTHERN ILLINOIS UNIVERSITY	Arbuscular mycorrhizal fungi influence insect herbivory and pollination in an agroecosystem	**3**	3
BARBOUR, MATTHEW	UNIVERSITY OF BRITISH COLUMBIA	Consequences of plant genotype and the environment on herbivore-parasitoid interactions	**4**	3
BARTON, KASEY	UNIVERSITY OF HAWAII AT MANOA	Island plant defenses: Pua kala, the endemic Hawaiian prickly poppy, as a model system	**1**	4
BAZELY, DAWN	YORK UNIVERSITY	The occurrence and significance of large-scale patterns in the distribution and abundance of fungal endophyte-infected grasses	**2**	4
BEVINGTON, JOHN	DEPARTMENT OF BIOLOGICAL SCIENCES	Anti-Herbivore Defenses in Non-Myrmecophyte Cecropia	**3**	4
BISHOP, JOHN	WASHINGTON STATE UNIVERSITY	Herbivory and succession: Willow-stemborer effects at Mount St. Helens	**4**	4
BJORKMAN, CHRISTER	SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES	Plant quality affects biocontrol potential by omnivorous bugs	**1**	5
BOEGE, KARINA	UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO	Ontogenetic trade-offs in plant defense	**2**	5
BONELLO, PIERLUIGI	OHIO STATE UNIVERSITY	Are phloem phenolics involved in ash induced resistance to the emerald ash borer?	**3**	5

BOWERS, DEANE	UNIVERSITY OF COLORADO	Sequestration of iridoid glycosides by a specialist geometrid and the evolution of iridoid glycoside sequestration in the Lepidoptera	**4**	5
BREED, GREG	UNIVERSITY OF ALBERTA	Demographic consequences to a specialist herbivore (Euphydryas phaeton) following the adoption of the weedy exotic host-plant Plantago lanceolata.	**1**	6
BURGHARDT, KARIN	YALE UNIVERSITY	Plasticity in plant defensive traits to nutrient context	**2**	6
CAMPBELL, STUART	CORNELL UNIVERSITY	Co-evolution of plant mating and defence against herbivores: agents of selection and chemical ecological mechanisms	**3**	6
CAMPOS, MARCELO	MICHIGAN STATE UNIVERSITY	JAZ Repressor Proteins Regulate Tradeoffs Between Plant Growth and Defense	**4**	6
CASTEEL, CLARE	BOYCE THOMPSON INSTITUTE/CORNELL UNIVERSITY	The NIa-Pro Protein of Turnip mosaic virus Improves Growth and Reproduction of its Aphid Vector, Myzus persicae (Green Peach Aphid)	**1**	7
CASTELLS, EVA	AUTONOMOUS UNIVERSITY OF BARCELONA	Plant-herbivore interactions or colonization history: what drives changes in plant chemical defenses after invasion?	**2**	7
CHE-CASTALDO, CHRISTIAN	UNIVERSITY OF MARYLAND	Using multi-season occupancy models to investigate large-scale stem-borer insect herbivory dynamics in a primary successional landscape	**3**	7
CIPOLLINI, DONALD	WRIGHT STATE UNIVERSITY	Chemical defense profiles in native and non-native Lonicera species and their association with herbivore resistance.	**4**	7
CLISSOLD, FIONA	UNIVERSITY OF SYDNEY	Plant diet quality is more than just nutrients: Linking morphology, physiology and behaviour to nutritional outcomes.	**1**	8
COLE, CHRISTOPHER	UNIVERSITY OF MINNESOTA, MORRIS	Chemical defenses are a major growth cost for quaking aspen (Populus tremuloides)	**2**	8
CONSTABEL, PETER	UNIVERSITY OF VICTORIA	Using Transgenic Poplars to Dissect the Ecology and Function of Condensed Tannins	**3**	8
CRUTSINGER, GREGORY	UNIVERSITY OF BRITISH COLUMBIA	Comparing native and exotic slug herbivory in British Columbia forests	**4**	8
CUSHMAN, J. HALL	SONOMA STATE UNIVERSITY	Long-term and interactive effects of different mammalian consumers on growth, survival and recruitment of oaks	**1**	9
DANNER, HOLGER	RADBOUD UNIVERSITY NIJMEGEN	Direct and indirect induced defense responses of Brassica rapa after feeding by above- and belowground specialist herbivores	**2**	9
DAVIS, SAMANTHA	WRIGHT STATE UNIVERSITY	Constraints on the successful survival and reproduction of the rare butterfly, Pieris virginiensis, in its native woodland habitats.	**3**	9
DCOSTA, LILLA	ROYAL HOLLOWAY UNIVERSITY LONDON	Hybridization of Aesculus hippocastanum and its effect on leaf chemistry and susceptibility to Cameraria ohridella	**4**	9

DE LA PENA, EDUARDO	GHENT UNIVERSITY	Local adaptation of aphid populations to their host plant by mediation of the mycorrhizal community	**1**	10
DESURMONT, GAYLORD	UNIVERSITY OF NEUCHATEL	Alien interference: disruption of volatile-mediated interactions between plants and parasitoids by invasive insect herbivores	**2**	10
ENDARA, MARIA	UNIVERSITY OF UTAH	The relevance of host plant defensive traits and phylogeny in determining herbivore host choice in the speciose Neotropical tree genus, Inga.	**3**	10
ERB, MATTHIAS	MAX PLANCK INSTITUTE FOR CHEMICAL ECOLOGY	Induced plant tolerance against root-feeding insects	**4**	10
EUBANKS, MICKY	TEXAS A&M UNIVERSITY	Escape and Radiate: Have Orchids Escaped Herbivory or Insect Ecologists?	**1**	11
FATOUROS, NINA	WAGENINGEN UNIVERSITY	Direct and indirect plant defenses mediated by butterfly egg deposition: evidence for synergism in a wild crucifer	**2**	11
FORS, LISA	STOCKHOLM UNIVERSITY	Immune response towards the parasitoid wasp Asecodes lucens in two closely related Galerucella beetles	**3**	11
FOX, JENNIFER	LA TROBE UNIVERSITY	Plant proteinase inhibitors in transgenic cotton for defence against the cotton bollworm (Helicoverpa armigera)	**4**	11
FREDERICKSON, MEGAN	UNIVERSITY OF TORONTO	What happens when ants fail to defend an ant-plant against herbivores?	**1**	12
FUERSTENBERG-HAEGG, JOEL	COPENHAGEN UNIVERSITY	De Novo Biosynthesis of Cyanogenic Glucosides in Zygaena filipendulae	**2**	12
GAILLARD, MICKAEL	UNIVERSITY OF NEUCHATEL	Comparative performance of three pest species on maize and wild ancestor	**3**	12
GARCIA, LORIANN	TEXAS A&M UNIVERSITY	Overcompensation for insect herbivory: revisiting the evidence for plant herbivore mutualisms	**4**	12
GARNAS, JEFF	FORESTRY AND AGRICULTURAL BIOTECHNOLOGY INSTITUTE	Biotic and abiotic determinants of resource quality for the European woodwasp, Sirex noctilio	**1**	13
GARRIDO, ETZEL	NATIONAL UNIVERSITY OF MEXICO	Ready, Set, Defend!	**2**	13
GEHLKEN, KRISTINA	BOISE STATE UNIVERSITY	SEE NO, SMELL NO, TASTE NO EVIL – HOW VERTEBRATE HERBIVORES DETECT TOXIC PLANTS.	**3**	13
GENUNG, MARK	UNIVERSITY OF TENNESSEE	Evolutionary history determines how biodiversity affects communities and ecosystems	**4**	13
GIRON, DAVID	UNIVERSITY OF TOURS	Coping with a senescing environment: when insect reveal to plants the secret of eternal youth	**1**	14
GLASSMIRE, ANDREA	UNIVERSITY OF NEVADA, RENO	Phytochemical variation as a mechanism for divergence	**2**	14

GLOSS, ANDREW	UNIVERSITY OF ARIZONA	Host shift by adaptive evolution of an ancient detoxification pathway	**3**	14
GOLDMAN-HUERTAS, BENJAMIN	UNIVERSITY OF ARIZONA	Remodeling of chemoreceptor repertoires associated with a transition to herbivory in drosophilids	**4**	14
GONDA-KING, LIAHNA	UNIVERSITY OF RHODE ISLAND	Are exotic herbivores better competitors? A meta-analysis	**1**	15
GONZALEZ-KARLSSON, ADREA	UCLA	Ithomiine Butterfly Plant Use and Mating Success	**2**	15
GRIPENBERG, SOFIA	UNIVERSITY OF TURKU	Plant-seed predator interactions in a species-rich tropical plant community	**3**	15
HAMMER, TOBIN	UNIVERSITY OF COLORADO AT BOULDER	Microbiome dynamics in the neotropical butterfly Heliconius erato	**4**	15
HAUSER, THURE	UNIVERSITY OF COPENHAGEN	Combined impacts of a herbivore and a pathogen on plant performance and fitness	**1**	16
HAYNES, ALAN	WSL	Linkages between herbivores, grazing pressure, vegetation and ecosystem functioning	**2**	16
HEIL, MARTIN	CINVESTAV - UNIDAD IRAPUATO	Partner manipulation stabilizes a horizontally transmitted mutualism	**3**	16
HJALTEN, JOAKIM	SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES	Insect feeding on GM aspens is more affected by intentional (Bt induction) than of unintentional changes or clone differences in plant defence.	**4**	16
HOCHWENDER, CRIS	UNIVERSITY OF EVANSVILLE	Plant tolerance to foliar herbivores	**1**	17
HOLESKI, LIZA	UNIVERSITY OF WISCONSIN	The roles of physical and phytochemical defenses of Mimulus guttatus (yellow monkeyflower) in providing resistance to generalist and specialist herbivores.	**2**	17
HUBER, MERET	MAX PLANCK INSTITUTE FOR CHEMICAL ECOLOGY	The role of latex secondary metabolites in root herbivore defense	**3**	17
HUFFAKER, ALISA	USDA-ARS CMAVE	Plant Elicitor Peptides are Conserved Signals Regulating Direct and Indirect Anti-Herbivore Defense	**4**	17
HUGHES, KATHY	UNIVERSITY OF CALIFORNIA AT DAVIS	Spider mite attraction to herbivore induced plant volatiles resulting from damage by conspecifics	**1**	18
HUITU, OTSO	FINNISH FOREST RESEARCH INSTITUTE	SUSCEPTIBILITY OF NATURAL AND PLANTED SPRUCE SEEDLINGS TO VOLE DAMAGE	**2**	18
HUMPHREY, PARRIS	UNIVERSITY OF ARIZONA	Dissecting three-way interactions between plants, phyllosphere bacteria, and herbivorous insects	**3**	18
IASON, GLENN	JAMES HUTTON INSTITUTE	Genetic versus Environmental Determination of Epiphyte Community Composition in Aspen	**4**	18
JAMIESON, MARY	UNIVERSITY OF WISCONSIN	Climate warming in the southern boreal forest: consequences for plant-herbivore interactions	**1**	19
JANDER, GEORG	BOYCE THOMPSON INSTITUTE	A genetic and biochemical basis for natural variation in maize aphid resistance	**2**	19
JEFFREY, CHRISTOPHER	UNIVERSITY OF NEVADA, RENO	A quantitative metabolomic approach to chemical ecology	**3**	19
KALSKE, AINO	UNIVERSITY OF TURKU	Interactive effects of inbreeding in a specialized plant-herbivore interaction	**4**	19

KAPPERS, IRIS	LABORATORIES OF PLANT PHYSIOLOGY AND ENTOMOLOGY	Genome mining for enhanced biological control in cucumber	**1**	20
KARBAN, RICK	UNIVERSITY OF CALIFORNIA	Kin Recognition Affects Plant Communication and Defense	**2**	20
KATSANIS, ANGELOS	UNIVERSITY OF LAUSANNE	Ecology and evolution of chemical defences in coccinellid insects (Fam. Coccinellidae), and the effect of all trophic levels.	**3**	20
KAUFMAN, ARLEN	UNIVERSITY OF EVANSVILLE	Determination of secondary plant metabolites using Desorption Electrospray Ionization (DESI) and tandem mass spectrometry	**4**	20
KEEFOVER-RING, KEN	UMEA PLANT SCIENCE CENTRE	Differential performance and use of Populus tremula host chemistry by Chrysomela tremula leaf beetles	**1**	21
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