

PROGRAMME

MONDAY JUNE 8TH

08.30 – 10.00: Arrival, registration

10.00 – 10.30: Welcoming addresses

- Local Organizer – Sebastiano Barbagallo
- Rector of the University of Catania – Antonino Recca
- Dean of the Faculty of Agriculture – Agatino Russo

10.30-12.00: Opening Session

Chair: A.F.G. Dixon, Co-Chair: A. Binazzi

- A.F.G. DIXON - History of Aphid Symposia
- S. BARBAGALLO, A. BINAZZI & L. LIMONTA – A short historical account on aphids and aphidologists in Italy

SESSION 1. APHID GENOMICS, MOLECULAR GENETICS AND EVOLUTION

Chair: A.C.C. Wilson, Co-Chair: C.D. von Dohlen

Plenary Lecture

12.00: D. TAGU, S. JAUBERT-POSSAMAI, F. LEGEAI, J.-P. GAUTHIER, C. RISPE, O. EDWARDS & THE INTERNATIONAL APHID GENOMICS CONSORTIUM - The pea aphid genome to study phenotypic plasticity

12.45 – 14.00: Lunch

Oral presentations

- **14.00:** J.C. CAROLAN, A.E. DOUGLAS, K. REARDON, C.I.J. FITZROY & T. WILKINSON - Proteomic profiling of pea aphid saliva and salivary glands
- **14.15:** T. CORTÉS, B. ORTIZ-RIVAS & D. MARTÍNEZ-TORRES - The circadian clock system in the pea aphid *Acyrtosiphon pisum*
- **14.30:** J.-J. ZHOU, X.L. HE, R. LIU & L.M. FIELD - Odorant-binding proteins in aphids
- **14.45:** D. SRINIVASAN, L. AÑO, B. FENTON, S. JAUBERT-POSSAMAI & D. STERN - Molecular mechanism of facultative parthenogenesis in the Pea Aphid, *Acyrtosiphon pisum*
- **15.00:** T.K. WALSH, J.A. BRISSON, K. GORDON, H.M. ROBERTSON, S. JAUBERT-POSSAMAI, D. TAGU & O. EDWARDS - DNA methylation in the pea aphid
- **15.15:** A.C.C. WILSON, P. ASHTON, F. CALEVRO, H. CHARLES, S. COLELLA, G. FEBVAY, G. JANDER, P. KUSHLAN, S. MACDONALD, J. SCHWARTZ, G. THOMAS & A. DOUGLAS - Genomic insight into the amino acid relations of the pea aphid with its symbiotic bacterium *Buchnera aphidicola*
- **15.30:** N.M. GERARDO, B. ALTINCICEK, C. ANSELME, H. ATAMIAN, S. BARRIBEAU, M. DE VOS, J.D. EVANS, T. GABALDÓN, M. GHANIM, A. HEDDI, I. KALOSHIAN, A. LATORRE, C. MONEGAT, A. MOYA, A. NAKABACHI, B.J. PARKER, V. PÉREZ-BROCAL, M. PIGNATELLI, Y. RAHBÉ, J. RAMSEY, C. SPRAGG, J. TAMAMES, D. TAMARIT, C. TAMBORINDEGUY & A. VILCINSKAS - Uncovering the limitation of the aphid immune response

- **15.45:** Y. RAHBÉ, D. COSTECHAREYRE, S. BALMAND & G. CONDEMINE - A model aphid bacterial pathogen: the phytopathogen *Dickeya dadantii* (*Erwinia chrysanthemi*) and its insect-specific virulence factors
- **16.00:** F. FRANCIS, E. DE PAUW & E. HAUBRUGE - Application of proteomic tools to investigate the respective role of aphid and symbiotic bacteria in relation to host plant
- **16.15:** D. CARAGEA, O. EDWARDS & G. REECK - Identification and annotation of predicted secreted salivary proteins in the pea aphid, *Acyrtosiphon pisum*

16.30 – 17.00: Coffee break

Chair: C. Favret, Co-Chair: D. Tagu

Plenary Lecture

17.00: C.D. VON DOHLEN - Aphid molecular systematics: History, progress and prospects

Oral Presentations

- **17.45:** M. CABRERA-BRANDT, A.X. SILVA, E. FUENTES-CONTRERAS, G. LE TRIONNAIRE, D. TAGÚ & C.C. FIGUEROA - Response in the aphid *Myzus persicae* to insecticide pressures: searching for genetic targets of selection
- **18.00:** M. KUTSUKAKE, H. SHIBAO, K. UEMATSU & T. FUKATSU - Molecular basis of self-sacrificing gall repair by soldier aphids in the social aphid, *Nipponaphis monzeni*
- **18.15:** A. FORNECK, R. MAMMERLER & M. GRIESSER - No “most successful” clones for Grape Phylloxera in European leaf feeding habitats - Why?
- **18.30:** H.D. LOXDALE & W. WEISSER - Why are there so few aphid clones?
- **18.45:** S. THOMAS, P. MISTRAL, V. CHAREYRON, B. BARRAL, N. BOISSOT & F. VANLERBERGHE-MASUTTI - Genetic diversity of the melon aphid *Aphis gossypii* Glover in different melon growing areas of France
- **19.00:** H. KIM & S. LEE - Phylogenetic relationships of the known species-groups of the genus *Aphis*, based on molecular and morphological characters with evidence of cryptic speciation in the *gossypii* group
- **19.15:** G. COCUZZA, V. CAVALIERI, L. ZAPPALÀ & S. BARBAGALLO - Genetic relationship among species of the *Aphis frangulae/gossypii* group based on mitochondrial DNA sequences

19.30: Shuttle bus to hotel

TUESDAY JUNE 9TH

SESSION 2. APHID BIODIVERSITY AND SYSTEMATICS

Chair: J.M. Nieto Nafria, Co-Chair: F.W. Quednau

Plenary Lecture

09.00: O.E. HEIE & P. WEGIEREK - A classification of the Aphidomorpha (Hemiptera: Sternorrhyncha) under consideration of the fossil taxa

Oral Presentations

- **09.45:** F.W. QUEDNAU - Phylogenetic aspects of the evolution of the Saltusaphidinae
- **10.00:** Z. ZHANG & Y. HONG - Fossil aphids found in China (Hemiptera, Aphidomorpha) with special introduction to the oldest aphid from the Triassic
- **10.15:** A.V. STEKOSHCHIKOV & S.V. BUGA - Aphid fauna of arctic and subarctic regions
- **10.30:** L. JIANG, G. QIAO, G. ZHANG & T. ZHONG - Species diversity and fauna of Aphids in Northeast China

- **10.45:** X.-L. HUANG & G.-X. QIAO - Relationship between patterns of species richness and sampling effort: a case study of aphids in China

11.00 – 11.30: Coffee break

- **11.30:** S. BARBAGALLO, A. BINAZZI, V. CAVALIERI, A. LA PERGOLA & L. LIMONTA - Biodiversity and chorological outlines for Italian aphid fauna
- **11.45:** D. MIFSUD, A. TABONE & S. BARBAGALLO - Aphids (Hemiptera: Aphidoidea) associated with trees in the Maltese Islands (Central Mediterranean): A preliminary check-list
- **12.00:** R. RAKAUSKAS - Describing cryptic species – is the game worth candles?
- **12.15:** R.G. FOOTIT - DNA Barcodes to Explore Diversity in Aphids
- **12.30:** A. COEUR D'ACIER, F. DORKELD, S. HUDAVERDIAN, J-C.SIMON & J-Y. RASPLUS - Toward a molecular identification tool for European Aphididae
- **12.45:** D.M. LAGOS, R. GIORDANO, F. SOTO-ADAMES & D.J. VOEGTLIN - Preliminary results of the molecular phylogeny and morphological evaluation of the genus *Aphis* (Hemiptera: Aphididae) in North America

13.00 – 14.30: Lunch

14.30-15.30: Poster Session 1 & 2

Chair: R. Foottit, *Co-Chair:* O.E. Heie

Plenary Lecture

- **15.30:** S. CHAKRABARTI - Diversity, distribution and endemism of Aphids (Hemiptera) in Indian subregion of Oriental realm

Oral Presentations

- **16.15:** G. GORUR, B. AKYUREK, U. ZEYBEKOGLU, H. AKYILDIRIM & İ. TEPECİK - New additions to the Turkey Aphid (Hemiptera:Aphidoidea) Fauna
- **16.30:** J. TURCINAVICIENE & R. RAKAUSKAS - *Macrosiphum* on *Knautia* in Central Europe – molecular data support the synonymy of *M. silvaticum* and *M. knautiae* (Hemiptera: Aphididae)
- **16.45:** B. ORTIZ-RIVAS, N. PÉREZ HIDALGO & D. MARTÍNEZ-TORRES - Molecular phylogenetics and systematics of Iberian Fordini

17.00 – 17.30: Coffee break

- **17.30:** M. SANO & S. AKIMOTO - Phylogenetic position and biogeography of gall-forming aphids on *Zelkova*
- **17.45:** C. FAVRET & D.C. EADES - Introduction to Aphid Species File
- **18.00:** J.M. NIETO NAFRÍA, C. FAVRET, S. AKIMOTO, S. BARBAGALLO, S. CHAKRABARTI, M.P. MIER DURANTE, G. MILLER, N. PÉREZ HIDALGO, G.-X. QIAO, M. SANO, A.V. STEKOLSHCHIKOV & P. WEGIEREK - Several nomenclatural clarifications on genus-group names in the Aphididae (Hemiptera Sternorrhyncha)
- **18.15:** J.M. NIETO NAFRÍA (coord.) Presentation and Discussion on “Part of available names of Aphidoidea taxa of genus group”

18.30: First shuttle bus to hotel (two buses available)

18.30 – 20.00: “EXAMINE” Working Group Meeting

Chair: R. Harrington, *Co-Chair:* P. Verrier

20.00: Second shuttle bus to hotel (one bus available)

WEDNESDAY JUNE 10TH

8.00 – 19.00: Social Excursion (Mount Etna Parkland)

THURSDAY JUNE 11TH

SESSION 3. APHID BIOLOGY AND ECOLOGY

Chair: P. Kindlmann, *Co-Chair:* N. Mills

Plenary Lecture

9.00: S. AKIMOTO - Effects of inbreeding and outbreeding on aphid biology

Oral Presentations

- **09.45:** A. RABATEL, N. BENDRID, G. DUPORT, S. COLELLA, J. BERMINGHAM, Y. RAHBÉ, T. WILKINSON, H. CHARLES, G. FEBVAY & F. CALEVRO - Metabolic requirements in essential amino acids in parthenogenetic pea aphid embryos
- **10.00:** F. TJALLINGII - Plant penetration variables; how to use them?
- **10.15:** A.C.C. WILSON, K.B. HURLEY, S.U. CHAN, D.H. JONES & L. DA S. L. STERNBERG - Complete trophic signature reversal by aphid parasitism
- **10.30:** J.M. ALVAREZ, B. SRINIVASAN & F. CERVANTES - Potato viral infections affect the biology and behavior of aphid vectors

10.45 – 11.15: Coffee break

- **11.15:** S. POINTEAU, S. BANKHEAD-DRONNET, X. PINEAU, A. SALLÉ & F. LIEUTIER - Role of temperature on the development and fecundity of the emergent species *Phloeomyzus passerinii* (Aphididae: Phloeomyzinae)
- **11.30:** A.F.G. DIXON - Thermal tolerance and resource partitioning in aphids
- **11.45:** C. VORBURGER, C. SANDROCK, A. GOUSKOV, L. GEHRER & P. RODRIGUEZ - Symbiont-mediated coevolution in aphid host-parasitoid systems
- **12.00:** H.F. VAN EMDEN - Artificial diet for aphids – thirty years' experience
- **12.15:** M. LA SPINA & J.A. SÁNCHEZ - Defensive behavior of four *Myzus persicae* (Sulzer) (Hemiptera: Aphididae) clones during a parasitoid attack
- **12.30:** M. GISH, A. DAFNI & M. INBAR - Pea aphids drop off the plant to evade incidental predation by mammalian herbivores

12.45 – 14.15: Lunch

14.15 - 15.15: Poster Session 3 & 4

Chair: A.F.G. Dixon, *Co-Chair:* S. Akimoto

Plenary Lecture

15.15: N. MILLS & D. LATHAM - Quantifying the role of predation in the seasonal dynamics of mealy plum aphid populations in California

Oral Presentations

- **16.00:** W.W. WEISSER - Aphid alarm pheromone: costs and benefits
- **16.15:** T. THIEME & A.F.G. DIXON - Do plants affect the population dynamic of aphids?

16.30 – 17.00: Coffee break

- **17.00:** O. AMEIXA & P. KINDLMANN - Testing the assumptions of cage exclusion experiments in field conditions

- **17.15:** P. KINDLMANN & O. AMEIXA - The true role of predators in man-made ecosystems
- **17.30:** E.L. CLARK, A.J. KARLEY, T.J. DANIELL, J. WISHART & S.F. HUBBARD - The community composition and influence on aphid performance of the bacteria associated with the cabbage aphid (*Brevicoryne brassicae*)
- **17.45:** S. BOQUEL, A. AMELINE & P. GIORDANENGO - Potato plant acceptance of apterous and alate morphs of the aphids, *Myzus persicae* and *Macrosiphum euphorbiae*
- **18.00:** E. JOUSSELIN & A. COEUR D'ACIER - Life-cycle evolution and host plant use in the genus *Brachycaudus*: insight from a molecular phylogeny
- **18.15:** C.-A. DEDRYVER, V. FIÉVET, J.S. PIERRE, M. PLANTEGENEST & A. VIALATTE - A synthetic overview of *Sitobion avenae* population functioning in France
- **18.30:** J.R. BELL, R. HARRINGTON, S. WELHAM, S. CLARK & J. PICKUP - The GAMES aphids play

18.45: Shuttle bus to hotel

20.30: Social dinner

FRIDAY JUNE 12TH

SESSION 4. APHIDS IN AGRICULTURE, HORTICULTURE AND FORESTRY

Chair: H. van Emden, *Co-Chair:* S. Chakrabarti

Plenary Lecture

09.00: S.L. CLEMENT - Fungal endophytes in temperate grasses: important or insignificant mediators of host plant resistance to aphids?

Oral Presentations

- **09.30:** J.C. REESE, G.R. REECK & H. TRICK - Host plant resistance to aphids: a new strategy
- **09.45:** G. POWELL, S. STEWART, S. KANVIL, N. ISMAIL, J. MANSFIELD, B. FEYS, J.-M. PROSPERI, T. HUGUET, C. BEN & L. GENTZBITTEL - The pea aphid and *Medicago truncatula*: a wealth of interactions
- **10.00:** S.A. STEWART, S. HODGE, J.M. MANSFIELD & G. POWELL - Clone-specific resistance in *Medicago truncatula* against the pea aphid
- **10.15:** T. ABDULRAZAK & S. JAYARAJ - Effects of genotypes of inter/border crops on aphid incidence and their natural enemies in a rain fed cotton ecosystem
- **10.30:** G. ARADOTTIR, A. KARP, S. HANLEY, I. SHIELD, C. WOODCOCK, S. DEWHIRST, C.M. COLLINS, S. LEATHER & R. HARRINGTON - Host selection of the giant willow aphid (*Tuberolachnus salignus*)
- **10.45:** L.S. MCMENEMY, S.A. MACFARLANE, S.E. HARTLEY & S.N. JOHNSON - Co-operation between plant enemies – do raspberry viruses attract more aphid vectors?

11.00 – 11.30: Coffee break

- **11.30:** A. CHERQUI, H. SAMAHA, F. BAILLIEUL, P. GIORDANENGO & C. RUSTERUCCI - Aphid saliva effects on plant defense
- **11.45:** R. HARRINGTON, M. STEVENS, D. COX, S. FOSTER, P. HALLSWORTH, S. PARKER & M. TAYLOR - Complementary methods for monitoring sugar beet aphids to improve risk management of virus yellows
- **12.00:** S. BOQUEL, P. GIORDANENGO, P. LASUE & A. AMELINE - Do non-colonising potato aphids exhibit behaviour which facilitates non-persistent virus transmission?

- **12.15:** M. UZEST, D.GARGANI & S. BLANC - Towards the characterization of the functional role of the common duct in aphid stylets
- **12.30:** S. LIU & B.C. BONNING - A plant virus transmission-blocking peptide
- **12.45:** R. VAN TOOR, G. MALLOCH & B. FENTON - A concept for management of virus vectors and insecticide resistance in *Myzus persicae* on potatoes

13.00 – 14.30: Lunch

Chair: R. Harrington, *Co-Chair:* S. Clement

14.30: T. THIEME – Clip by Urs Wyss "Aphids and other phloem feeding insects - when it rains sugar"

Oral Presentations

- **15.15:** M. DANIELS, J.S. BALE, H.J. NEWBURY, R.J. LIND & J. PRITCHARD - Impairment of xylem-feeding behaviour in response to a sublethal dose of thiamethoxam is associated with dehydration and reduced performance in the bird cherry-oat aphid (*Rhopalosiphum padi*)
- **15.30:** A.M. PUINEAN, S.P. FOSTER, L. OLIPHANT, N.S. MILLAR, M.S. WILLIAMSON & I. DENHOLM - Characterisation of neonicotinoid resistance in the peach-potato aphid, *Myzus persicae* (Hemiptera: Aphididae)
- **15.45:** D. VUKAŠINOVIĆ, O. PETROVIĆ–OBRADOVIĆ, J. JOVIĆ & A. VUČETIĆ - Morphological and molecular identification of apple pests *Aphis spiraecola* and *Aphis pomi* in Serbia
- **16.00:** M. BEN HALIMA KAMEL - Efficacy of *Lysiphlebus testaceipes* in control of *Aphis gossypii* on pepper
- **16.15:** Z. BASKY - Aphids on ragweed

16.30 – 17.00: Coffee break

17.00: Closing session

Chair: H. van Emden, *Co-Chair:* S. Barbagallo

- **Election of a Standing Committee**
- **Proposal for the next Symposium**
- **Agreements on “Part of available names of Aphidoidea”**
- **Closing addresses**

18.30: Shuttle bus to hotel....

....and to the 9th ISA!!!

List of Posters

SESSION 1. APHID GENOMICS, MOLECULAR GENETICS AND EVOLUTION

- S1.1.** O. CHRISTIAENS & G. SMAGGHE - Cloning and characterization of the ecdysone cascade with ecdysone receptor (EcR) and Ultraspiracle (Usp) in the pea aphid.
- S1.2.** O. CHRISTIAENS & G. SMAGGHE - The *Acyrtosiphon* genome contains at least 19 nuclear receptors with the ecdysone cascade revealing an increase in evolutionary rate.
- S1.3.** C. FITZROY, J. CAROLAN & T. WILKINSON - Evidence for the conservation of salivary proteins among aphid species.
- S1.4.** A. ISHIKAWA, Y. OKUMURA, Y. NAKAGAWA & T. MIURA - Regulations of polyphenic wing development in the vetch aphid *Megoura crassicauda*: morphogenesis, tradeoffs, and gene expressions.
- S1.5.** S. COLELLA, A. VELLOZO, L. COTTRET, G. FEBVAY, F. CALEVRO, Y. RAHBÉ, M.F. SAGOT & H. CHARLES - AcypiCyc (*Acyrtosiphon pisum* Cyc database) and CycADS (Cyc Annotation Database System): moving from genome sequence annotation to metabolic network analyses.
- S1.6.** R.N. RAO, E.J.M. VAN DAMME, B. GESQUIÈRE, K. GEVAERT & G. SMAGGHE - Proteomic analysis of GNA binding proteins in the pea aphid.
- S1.7.** S.A.K. RAO, T. WILKINSON & J. CAROLAN - Characterization of salivary proteins from cereal aphids.
- S1.8.** K. REARDON, J. CAROLAN & T. WILKINSON - Characterization of the salivary gland proteome of the Pea Aphid (*Acyrtosiphon pisum*) and other aphid species.
- S1.9.** M. ALEOSFOOR, K.A. IZADPANAH, M. SADEGH SADEGHI, M. MARDI, M. MASOOMI, M. SAEED MOSSADEGH & M.A. OMIDBAKSH FARD - Genetic diversity of *Rhopalosiphum padi* L. (Hom.: Aphididae) using microsatellite markers.
- S1.10.** B. BEJI, M. MEZGHANI-KHEMAKHEM, S. BOUHACHEM, H. HARBAOUI, M. MAKNI & H. MAKNI - Polymorphism of *Aphis fabae* in Tunisia assessed by RAPD markers.
- S1.11.** M. MEZGHANI-KHEMAKHEM, I. KHARRAT, D. BOUKTILA, H. MAKNI & M. MAKNI - Tunisian *Schizaphis graminum* biotype inferred by COI sequences.
- S1.12.** T. KANBE & S. AKIMOTO - Allelic and genotypic diversity in asexual populations of the pea aphid *Acyrtosiphon pisum* in Japan.
- S1.13.** J. WANG & G. QIAO - Identifying species in the subtribe Aphidina (Hemiptera Aphididae: Aphidinae) using DNA sequences and resolving some species complex problems.

SESSION 2. APHID BIODIVERSITY AND SYSTEMATICS

- S2.1.** N. BAKHTADZE, SH. BARJADZE, N. KINTSURASHVILI, G. BAKHTADZE, N. ZHUKOVSKAYA & N. CHAKVETADZE - Biodiversity of the aphid fauna (Hemiptera: Aphidoidea) of Georgia.
- S2.2.** S. BARBAGALLO, G.E. COCUZZA & P. SUMA - An Eriosomatine aphid relict: *Zelkovaphis trinacriae*, living in Sicily on *Zelkova sicula*.
- S2.3.** SH. BARJADZE & N. GRATIASHVILI - *Zelkova*-feeding Eriosomatinae from Georgia (Hemiptera: Aphidoidea).
- S2.4.** S. BELLA, D. MIFSUD, N. PÉREZ HIDALGO & S. BARBAGALLO - *Greenidea ficicola*: is it an example of rapid colonization due to climatic changes?
- S2.5.** S. CHAKRABARTI & D. DAS - Aphid fauna of Bhutan and their host association.
- S2.6.** A. COEUR D'ACIER, N. PÉREZ HIDALGO, L. SOLDATI & O. PETROVIC-OBRADOVIC - The European inventory of Alien aphids.
- S2.7.** O.E. HEIE & P. WEGIEREK - An attempt to make a phylogenetic classification all aphids, both extinct and extant taxa (Hemiptera).

- S2.8.** L. JIANG, G. QIAO, G. ZHANG & T. ZHONG - Distribution pattern of Aphids in Northeast China.
- S2.9.** S.M. MADJZADEH, M. MEHRPARVAR & F. ABOLHASANZADEH - Morphometric discrimination of host-adapted populations of *Brachycaudus helichrysi* (Kaltenbach) (Hem.: Aphididae).
- S2.10.** M.P. MIER DURANTE, J. ORTEGO & J.M. NIETO NAFRÍA - Aphids from Argentine Northwest (NOA).
- S2.11.** B. ORTIZ-RIVAS & D. MARTÍNEZ-TORRES - Combined nuclear and mitochondrial molecular data support the existence of three main lineages in the phylogeny of aphids.
- S2.12.** B. OSIADACZ - To the problem of the genus *Uroleucon* Mordv. in Europe.
- S2.13.** N. PÉREZ HIDALGO, W. VILLALOBOS MULLER, M.P. MIER DURANTE, X. ESPADALER & J.M. NIETO NAFRÍA - Biodiversity of aphids in Costa Rica.
- S2.14.** S. POINTEAU, F. LIEUTIER & S. BANKHEAD-DRONNET - Morphology and morphometry of the development instars in *Phloeomyzus passerinii*, the poplar woolly aphid (Aphididae: Phloeomyzinae).
- S2.15.** K. WIECZOREK - Siphini Mordvilko, 1928 (Aphidoidea, Chaitophorinae) – taxonomy, bionomy and distribution.

SESSION 3. APHID BIOLOGY AND ECOLOGY

- S3.1.** S. CHAKRABARTI & M. DEBNATH - Diversity of aphids *vis-a-vis* aphidophagous predators in Northwest and Western Himalayas, India.
- S3.2.** K. DANCEWICZ & B. GABRYŚ - Stylet penetration of *Adelges laricis* (Vallot) on its secondary host *Larix decidua* Mill.
- S3.3.** P.I. KERCHEV, C.H. FOYER, B.FENTON & R.D. HANCOCK - Reactive oxygen and antioxidants modulate the interaction between *Myzus persicae* (Sulzer) and plant hosts.
- S3.4.** B. KORDAN, W. SŁOMKA, B. GABRYŚ & K. DANCEWICZ - Feeding site dependant probing behavior of the pea aphid *Acyrtosiphon pisum* on two species of lupines *Lupinus* sp.
- S3.5.** M. KUTSUKAKE, H. SHIBAO, K. UEMATSU & T. FUKATSU - Wound repair and regeneration of gall tissue by soldier aphids in a social aphid, *Nipponaphis monzeni*.
- S3.6.** M. LA SPINA & J.A. SÁNCHEZ - Intraspecific variation between *Myzus persicae* (Sulzer) (Hemiptera: Aphididae) clones in development, longevity, fecundity and other biological parameters.
- S3.7.** B. LESZCZYŃSKI, R. KRZYŻANOWSKI & A. GADALIŃSKA-KRZYŻANOWSKA - Side effect of bird cherry tree on development of *R. padi* local colonies.
- S3.8.** M.B. PONSEN & W.F. TJALLINGII - Morphology of Aphid salivary glands.
- S3.9.** C. SEMPRUCH & B. LESZCZYŃSKI - Accumulation of putrescine within triticale attacked by grain aphid, *Sitobion avenae* (F.).
- S3.10.** S. FATTAH-HOSSEINI & H. ALLAHYARI - On the biological differences of *Schizaphis graminum* Rond. (Homoptera: Aphididae) in wheat varieties: A comparative survey of 2 equations.
- S3.11.** S. FATTAH-HOSSEINI & H. ALLAHYARI - The pea aphid; *Acyrtosiphon pisum* (Harris) (Aphididae: Homoptera) from developmental to reproductive aspects on broad bean.
- S3.12.** I. SPRAWKA, S. GOŁAWSKA & B. LESZCZYŃSKI - Effect of lectin PHA on feeding behavior of grain aphid.
- S3.13.** D.K. SUZUKI, Y. FUKUSHI & S. AKIMOTO - Do aphid galls provide good nutrients for the aphids?: comparisons of amino acid concentrations in galls among *Tetraneura* species (Aphididae: Eriosomatinae).
- S3.14.** K. UEMATSU, M. KUTSUKAKE, T. FUKATSU, M. SHIMADA & H. SHIBAO - Colony defense by post-reproductive adults in a social aphid.
- S3.15.** H.F. VAN EMDEN, J. S. KILBANE & J. PETERSSON - Changing the host selection responses of aphids through a short experience of a novel secondary plant compound.

- S3.16.** F.J. VERHEGGEN, E. HAUBRUGE, F. FRANCIS, C.M. DE MORAES & M.C. MESCHER - Variation of alarm aphid pheromone production: impact of the social environment.
- S3.17.** D.G.M. VITALE, M.V. BRUNDO, L. SOTTILE, R. VISCUSO & S. BARBAGALLO - Morphological and ultrastructural investigations of the male reproductive system in aphids: observations of *Tuberculatus (Tuberculoidea) egglari* Börner (Hemiptera: Aphidoidea).

SESSION 4. APHIDS IN AGRICULTURE, HORTICULTURE AND FORESTRY

- S4.1.** T. ABDULRAZAK & S. JAYARAJ - Effect of certain botanicals and entomopathogenic fungi against cotton aphids.
- S4.2.** J.S. AMEY, A.O. O'REILLY, M.S. WILLIAMSON, L.M. FIELD, B.A. WALLACE & T.G.E. DAVIES - Molecular identification of the *Myzus persicae* voltage gated sodium channel.
- S4.3.** S.V. BUGA & A.V. STEKOSHCHIKOV - Aphids as pests of fruit- and berry-producing plants in Byelorussia.
- S4.4.** J.D. BURD & G.J. PUTERKA - Plant resistance management strategies for greenbug (*Schizaphis graminum*) in wheat-sorghum cropping systems.
- S4.5.** P. CRAVEDI, G.C. MANICARDI, S. CASSANELLI, V. TALESA, C. DELBUONO, D. BIZZARO, E. MAZZONI - Insecticide resistance in Italian populations of the peach potato aphid *Myzus persicae* (Hemiptera: Aphididae).
- S4.6.** S.KR. GHOSH, G.S.S. MAHAPATRA & G. CHAKRABORTY - Field efficacy of plant extracts and microbial insecticides against aphid (*Aphis gossypii*) infesting okra (*Abelmoschus esculentus*).
- S4.7.** C. GILSENAN, J. CAROLAN, G. PURVIS, T.L. WILKINSON & M.F. RYAN - Does plant resistance to cereal aphids increase under a bi-cropping regime?
- S4.8.** E. HUUSELA-VEISTOLA - Variation in the abundance of *Rhopalosiphum padi* in Finland.
- S4.9.** R. JAFARI & S. MODARES - Study of the population fluctuations of the cabbage aphid *Brevicoryne brassicae* in Sistan (Iran).
- S4.10.** S.M. KIRCHNER, L. HILTUNEN, E. VIRTANEN, T.F. DÖRING & J.P.T. VALKONEN - *Potato virus Y* transmitting aphids in a Finnish seed potato area.
- S4.11.** P. LASUE & V. PINCHON - Comparison of two types of yellow water traps for sampling alate aphids.
- S4.12.** N.C. LAWO, M. GRIESSER & A. FORNECK - Rootstock-phylloxera interaction.
- S4.13.** S. LIU, Z. WANG, S. SIVAKUMAR, L. GEORGIEVSKA, G.F. KING, W.A. MILLER & B.C. BONNING - Toward aphid-resistant transgenic plants.
- S4.14.** I. MARKKULA, M. LESKINEN, P. PYLKKÖ, J. KOISTINEN, S. OOPERI, K. TIILIKKALA, H. OJANEN & S. RAISKIO - Detection of aphid migrations in Finland.
- S4.15.** L. MDELLEL & M. BEN HALIMA KAMEL - Aphids on almonds and peach: biology and life cycle in different area of Tunisia.
- S4.16.** B. MONSION & V. BRAULT - Annotation of *Acyrtosiphon pisum* genes potentially involved in Luteoviridae transthyretinosis: yeast two-hybrid system to confirm interaction between aphid and virus proteins.
- S4.17.** J. OLBRECHTOVÁ & A. KÖHLER - Autumn migration of *Rhopalosiphum padi* in the Czech Republic 1994 – 2008 and the risk of spread *Barley yellow dwarf virus* (BYDV).
- S4.18.** Y. PELLETIER & X. NIE - The importance of the behaviour of the vector in PVY transmission.
- S4.19.** L. POLJAKOVIC-PAJNIK & S. ORLOVIĆ - Physiological response of different poplar clones to aphid colonization.
- S4.20.** L. POLJAKOVIC-PAJNIK & O. PETROVIC-OBRADOVIC - Poplar aphids in Serbia.
- S4.21.** J. POMPON, D. QUIRING, P. GIORDANENGO & Y. PELLETIER - Physiological impact of xylem consumption on *Macrosiphum euphorbiae*.

- S4.22.** X. PONS & B. LUMBIERRES - Monitoring aphids in urban green areas: a simple method for evaluating aphid damage.
- S4.23.** M. RIVI, E. MAZZONI, A. CRINITI, S. CASSANELLI, D. BIZZARO & G.C. MANICARDI - Karyotype variation and insecticide resistance in Italian populations of the peach-potato aphid *Myzus persicae* (Hemiptera: Aphididae).
- S4.24.** M. RUSZKOWSKA - Aphids on cereals and wild grasses in different environments.
- S4.25.** E. SCHLIEPHAKE - Evaluation of plant genetic resources of wheat and barley for aphid resistance.
- S4.26.** S. SHAHIDI-NOGHABI, E.J.M. VAN DAMME & G. SMAGGHE - The carbohydrate-binding activity of the elderberry protein SNA-I is a determining factor for its insecticidal activity.
- S4.27.** R. THIEME, M. HEINZE, T. THIEME, J. SCHUBERT & U. HEIMBACH - Analysis of the behaviour of virus transmitting Peach-potato Aphid, *Myzus persicae*, feeding on wild potato, *Solanum tarnii*, interspecific somatic hybrids and their progeny.
- S4.28.** J. VITOU & O. EDWARDS - *Diuraphis noxia* overwintering strategy can affect its performance on resistant and susceptible wheat.
- S4.29.** B. XU - The occurrence and control of cucumber aphid (*Aphis gossypii*) in Liaoning province, China.
- S4.30.** G. XU, P. LIU & L. XU - Control of cucumber aphid in greenhouse with biological methods in early spring.
- S4.31.** S. ZHANG - Control of *Myzus malisuctus* depending on natural enemies.
- S4.32.** Y. ZHAO & G. XIWU - Status of cotton bollworm and cotton-melon aphid resistance to insecticides and a pesticide management strategy in China.

