

> The Corum, Montpellier, France > 8 - 11th October 2012

Abstract book

the 18th International Conference



E-sove

2012

From biology
to integrated
control in a
changing world

European Society for Vector Ecology
www.esove2012.eu





Programme

Full programme

> Monday 8th October

10:00 - 13:30 **Participants arrival and registration**

12:00 - 13:00 **Press conference**

13:30 - 14:00 **Conference opening address**
Chaired by B. Alten

14:00 - 14:30 **Keynote address 1: A. Estrada-Peña**
Partners and contenders: ticks, hosts, pathogens, and environment

Session 1 (14:30 - 19:00) Vector behaviour: life-history traits, fitness, intra- and inter-species competition, biology of populations, invasive species

Chaired by F. Simard & J. Lundström

14:30 - 14:50 **Paper 1.1: C. Oliva**
Are males *Aedes albopictus* sexually prudent?

14:50 - 15:10 **Paper 1.2: G. Lacour**
Winter is coming: diapause phenology, wing shape and size seasonality of a temperate population of *Aedes albopictus*.

15:10 - 15:30 **Paper 1.3: J. Prudhomme**
Spatiotemporal dynamics and bio-ecology of sandflies in the region of Montpellier.

15:30 - 15:50 **Paper 1.4: M. Pombi**
Reproductive isolation among sympatric taxa of the *Anopheles gambiae* complex in Burkina Faso.

15:50 - 16:10 **Paper 1.5: O. Roux**
Divergence in cue utilization for larval behavioural response to a predator between cryptic species of the malaria mosquito, *Anopheles gambiae*.

16:10 - 16:40 **Coffee Break**
Chaired by M. Zgomba & J. Pinto

16:40 - 17:00 **Paper 1.6: P. Labbé**
Resistance to insecticides in mosquito vectors: the role of duplications in adaptation.

17:00 - 17:20 **Paper 1.7: L. Durnez**
Specific behavior and diversity of malaria vectors in the Greater Mekong Region: do we need more than ITNs or IRS?

17:20 - 17:40 **Paper 1.8: J. Figuerola**
Feeding patterns of potential West Nile virus vectors in South-West Spain.

17:40 - 18:00

Paper 1.9: H. Jost

Mosquito, bird and human surveillance of Usutu virus in Germany in 2011 and 2012.

18:00 - 18:20

Paper 1.10: R. Venail

Assessing diversity and abundance of vector populations at a national scale: Example of *Culicoides* surveillance in France after Bluetongue virus emergence.

18:20 - 18:40

Paper 1.11: C. Garros

Assessment of the host/vector contact for Palaearctic *Culicoides* biting midges (Diptera: Ceratopogonidae). Implications for Orbivirus transmission.

18:40 - 19:00

Paper 1.12: E. Leger

Host community structure and the evolution of specialization in the generalist tick *Ixodes ricinus*.

19:00

Welcome cocktail reception

> Tuesday 9th October

8:30 - 9:00

Keynote address 2: L. Alphey

Genetic control of vector insects

Session 2 (9:00 - 12:10) Vector status: taxonomy, systemic, phylogeny

Chaired by C. Garros & L. Neves

9:00 - 9:20

Paper 2.1: Y.M. Linton

Mosquito barcoding: A modern approach to vector identification for disease control.

9:20 - 9:40

Paper 2.2: F. Gunay

Study on revision of mosquito fauna with barcoding technique in Turkey: New country records and a suspected new species in *Anopheles maculipennis* complex.

9:40 - 10:00

Paper 2.3: J. Lundström

Distribution and abundance of the sibling arbovirus vector species *Culex torrentium* and *Culex pipiens* in Europe and the implications for outbreak risk evaluations.

10:00 - 10:20

Paper 2.4: B. Mathieu

The *Culicoides* of the subgenus *Avaritia* (Diptera: Ceratopogonidae) in the Palaearctic region: Through unsuspected diversity with epidemiologic implications.

10:20 - 10:50

Coffee Break

Chaired by K. McCoy & Y.M. Linton

10:50 - 11:10

Paper 2.5: C. Kaufmann

MALDI-TOF mass spectrometry for the identification of insect vectors.

11:10 - 11:30

Paper 2.6: P. Muller

Identification of cryptic mosquito species by molecular protein profiling.

11:30 - 11:50

Paper 2.7: J. Depaquit

Phlebotomine sandflies vectors of leishmaniasis and arboviruses in Europe and the Mediterranean basin: The point of view of a taxonomist.

11:50 - 12:10

Paper 2.8: E. Rogozi

Small mammals (Rodentia and Insectivora): taxonomy, distribution and bioecology. A new study on the hostability of DOB/BEL virus and *Leptospira* spp. in Albania.

Session 3 (12:10 - 18:50) Vector control: biocides, repellents, traps, integrated vector management, personal protection, human and social sciences, SIT, irradiation, Wolbachia, genetic control

Chaired by C. Lagneau & F. Chandre

12:10 - 12:30

Paper 3.1: O. Yamada

Candidate insecticides for vector control.

12:30 - 14:00

Lunch break

14:00 - 14:20

Paper 3.2: G. Duvallet

Personal protection against vectors: Recommendations of a French group of experts.

14:20 - 14:40

Paper 3.3: D. Strickman

Insect repellents and associated personal protection for a reduction in human disease.

14:40 - 15:00

Paper 3.4: D. Kline

Evaluation of spatial repellents under laboratory, semi-field and field conditions.

15:00 - 15:20

Paper 3.5: C. Antonio-Nkondjo

Insecticide resistance and the bionomics of urban populations of *Anopheles gambiae* in Cameroon.

15:20 - 15:40

Paper 3.6: L. Despres

The evolution of resistance to the bioinsecticide *Bacillus thuringiensis israelensis* in mosquitoes.

15:40 - 16:00

Paper 3.7: B. Caputo

Wild mosquito females can contribute to the control of *Aedes albopictus* pre-imaginal stages in urban areas.

16:00 - 16:30

Coffee Break

Chaired by M. Weill & R. Bellini

16:30 - 16:50

Paper 3.8: P. Guerin

Standardizing visual control devices for tsetse fly vectors of African trypanosomiasis.

16:50 - 17:10

Paper 3.9: L. De Vooght

Expression and extracellular release of a functional anti-trypanosome Nanobody® in *Sodalis glossinidius*, a bacterial symbiont of the tsetse fly.

17:10 - 17:30

Paper 3.10: C. Atyame

Utilization of the bacterium *Wolbachia* to control *Culex pipiens quinquefasciatus* mosquito in the islands of the South-Western Indian Ocean.

17:30 - 17:50

Paper 3.11: J. Bouyer

Study of the competitiveness of allochthonous sterile males during the tsetse eradication campaign in Senegal.

17:50 - 18:10

Paper 3.12: S. Boyer

Sterile Insect Technique to control *Aedes albopictus*.

18:10 - 18:30

Paper 3.13: Z. Harrat

Assessment of the national campaign against cutaneous leishmaniasis in Algeria.

18:30 - 18:50

Paper 3.14: P.M. Dramé

Evaluation of the effectiveness of malaria vector control measures in urban settings of Dakar by a specific *Anopheles* salivary biomarker.

> Wednesday 10th October

8:30 - 9:00

Keynote address 3: H. Guis

Assessing the impacts of climate change on vector-borne diseases: What are the challenges and knowledge gaps we need to overcome?

Session 4 (9:00 - 10:20) Impacts of the vector control: ecotoxicity in the food chain, politic and societal perceptions

Chaired by C. Duchet & N. Becker

9:00 - 9:20

Paper 4.1: C. Duchet

Population-level effects of spinosad and *Bacillus thuringiensis israelensis* in *Daphnia magna*: Comparison of laboratory and field microcosm exposure conditions.

9:20 - 9:40

Paper 4.2: M. Schaefer

Flood-water mosquito control, using aerial application of *Bti*, has no negative impact on non-target organisms in the river Dalälven flood-plains.

9:40 - 10:00

Paper 4.3: L. Lagadic

Non-target aquatic invertebrate communities in coastal wetlands of Morbihan sprayed with VectoBac WG since 2006.

10:00 - 10:20

Paper 4.4: J. Fourrier

Impact of pyriproxyfen on the honeybee *Apis mellifera* L.: Effect of a chronic exposure during the larval stage on the adult behavior.

10:20 - 10:50

Coffee Break

Session 5 (10:50 - 15:40) Eco-epidemiology of vector borne diseases: spatiotemporal dynamics of the transmission, geomatics, modelling

Chaired by A. Bouattour & T. Lefrançois

10:50 - 11:10

Paper 5.1: K. McCoy

Population structure and pathogen circulation in seabird ticks of the *Ornithodoros capensis* complex.

11:10 - 11:30

Paper 5.2: N. Hartemink

Habitat connectivity and other landscape factors in the context of vector-borne diseases.

11:30 - 11:50

Paper 5.3: V. Versteirt

The spatial modelling of biodiversity hotspots for indigenous mosquito species in temperate Europe, implications for field sample design and spatial MBD risk analysis. A case study in the Benelux.

11:50 - 12:10

Paper 5.4: G. L'Ambert

Is transmission of West Nile virus in the Rhône Delta (France) driven by human activities?

12:10 - 12:30

Paper 5.5: A. Tran

A GIS-based multi-criteria evaluation approach to map Rift Valley fever risk areas in Europe.

12:30 - 14:00

Lunch break

Chaired by G. Duvallet & J. Bouyer

14:00 - 14:20

Paper 5.6: B. Purse

Understanding seasonality in midge abundance in tropical and temperate environments - implications for *Culicoides*-borne disease transmission.

14:20 - 14:40

Paper 5.7: L. Bichaud

Epidemiologic relationship between Toscana virus infection and *Leishmania infantum* due to common exposure to *Phlebotomus perniciosus* sandfly vector.

14:40 - 15:00

Paper 5.8: D. Cianci

Models for abundance and habitat preference of *Aedes albopictus*.

15:00 - 15:20

Paper 5.9: P. Ezanno

A generic climate-driven model to evaluate control strategies of mosquito populations in temperate wetlands.

15:20 - 15:40

Paper 5.10: M. Braks

Towards an integrated approach in surveillance of vector-borne diseases in Europe.

16:00 - 17:30

Visits of:

- the museum Fabre, exposition Caravage

- the Jardin des Plantes and the Conservatoire d'Anatomie of Montpellier

19:00

Departure by bus, to the Gala dinner at Château de Pouget (19:30 - 23:30) in Vérargues

> Thursday 11th October

8:30 - 9:00

Keynote address 4: P. Volf

Leishmania-sand fly interaction: From the field to the lab and vice versa

Session 6 (9:00 - 11:50) Vector-pathogen interactions: vector competence, immunity of vector, vector manipulation by parasites

Chaired by D. Fontenille & Y. Ozbek

9:00 - 9:20

Paper 6.1: V. Hrobarikova-Seblova

Development of various strains of *Leishmania donovani* complex in sand flies and biting midges.

9:20 - 9:40

Paper 6.2: A. Marie

What modifications in salivary glands are induced by parasites? Differential proteomic study of *Anopheles gambiae* salivary glands uninfected versus infected by wild *Plasmodium falciparum*.

9:40 - 10:00

Paper 6.3: M. Capurro

Designing of a virus-regulated Mosquito Lethal Gene.

10:00 - 10:20

Paper 6.4: A. Darries

Wildlife vaccination without capture using an insect-vector. European wild rabbit, flea and recombinant vaccine against myxomatosis and RHD.

10:20 - 10:50

Coffee Break

10:50 - 11:10

Paper 6.5: E. Veronesi

Culicoides biting midges and vector competence for Schmallenberg virus.

11:10 - 11:30

Paper 6.6: S. Epis

Midichloria, the bacterium that invades tick mitochondria: Interactions with the host tick and insights from genome studies.

11:30 - 11:50

Paper 6.7: A. Costero-Saint Denis

The U.S. National Institutes of Health research funding process and description of the Vector Biology Program.

11:50 - 12:10

Conference closing address

Chaired by B. Alten

12:10 - 14:00

Lunch break

Annex programme

> Tuesday 9th October

18:00 - 20:00

SOVE and EMCA Board Meetings

> Thursday 11th October

12:30 - 14:00

SOVE General Meeting

14:00 - 15:30

EDENext Vector Control Session

15:30 - 16:00

Coffee break

16:00 - 18:00

EDENext Vector Control Session

Poster programme

Posters will be displayed throughout the Conference (8-11 Oct 2012). A complete list is given in the conference abstract book.