

# The Pollinator Information Network Newsletter

Editorial

January 28, 2019. Vol. 3, Issue 1

## Welcome to the first issue of volume 3 of the Pollinator Information Network Newsletter!

The *Pollinator Information Network Newsletter* is one of the projected outputs of an ongoing project of the JRS Biodiversity Foundation, *i.e.* “The Pollinator Information Network for Two-Winged Insects” or simply PINDIP. The PINDIP project has its own website: <https://www.pindip.org/>.

In this issue, we will introduce two, new 5-years projects of the Royal Museum for Central Africa with partners from South Africa, Tanzania and Mozambique ad nin which dipteran pollinators are the focus. Find out more on these projects on pages 2-3.

We will be looking back to the 9<sup>th</sup> International Congress of Dipterology (ICD9) (page 4) and two of the symposia organized at ICD9 (pages 5-6). We will also highlight the preliminary results of a field campaign to collect Diptera in several National Parks in Uganda (pages 7-8).

You will find more information on two recent calls: the ARPPIS-DAAD PhD scholarships for study at the International Centre of Insect Physiology and Ecology (*icipe*), Kenya (page 9) and the SYNTHESIS+ visitor grants call (page 10). Finally, we announce a second training course on entomology that will be organized later this year in Tanzania (pages 11-12) and the 10<sup>th</sup> International Symposium on Syrphidae (ISS10) (page 13). As usual, the issue ends with a list of new, although incomplete, published research related to pollination biology in its broadest sense. We invite everyone concerned to submit relevant information for the *Newsletter*, including summaries of their own research and projects on pollination biology – or publications that they want to see highlighted, relevant literature, upcoming conferences and symposia, possibilities for cooperation and grant applications related to plant-pollinator networks, *etc.*, before the 15<sup>th</sup> of March.

Enjoy reading!

Kurt Jordaens  
on behalf of the PINDIP team

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## **New project: Diversity of Pollinating Diptera in South African biodiversity hotspots (DIPoDIP)**

The Diversity of Pollinating Diptera in South African (SA) biodiversity hotspots (DIPoDIP) project will study the biodiversity of selected true fly families (Bombyliidae, Nemestrinidae, Syrphidae, Tabanidae) in several Biodiversity Hotspots of SA. The project will improve the taxonomy and resolve phylogenetic relationships of these families and provide basic data on their distribution, pollination ecology in order to study plant-pollinator co-evolution. This will be achieved through training of PhD, MSc and BSc students and joint fieldwork and research. The research will deliver data for Red List assessments and improved conservation strategies for these Biodiversity Hotspots and a workshop with local partners, conservationists, Red List assessors and stakeholders will be organized to translate the results for policy making . Results will be presented to the larger public to raise awareness of the importance of these fly families in pollination, food security and nature conservation.

Budget: 441.000 €

Period: 2019-2023

Partners:

Promotor:

Dr. Kurt Jordaens, Royal Museum for Central Africa, Department of Biology

Co-promotor:

Dr. Marc De Meyer, Royal Museum for Central Africa, Department of Biology

African partners:

Dr. John Midgley, KwaZulu-Natal Museum, Pietermaritzburg, South Africa

Dr. Alan Ellis, University of Stellenbosch, Stellenbosch, South Africa

Dr. Timo van der Niet, University of KwaZulu-Natal, Pietermaritzburg, South Africa

Dr. Michelle Hamer, South African National Biodiversity Institute, Pretoria, South Africa

## New project: Agroecological methodology in VEGetable crops (AGROVEG)

Horticultural crops can provide sustainable income and food security for African farmers. However, their production is hampered by the presence of several pests, among which tephritid fruit flies are a major concern. Pest control is currently done by indiscriminate, expensive and often inefficient use of pesticides, having a negative impact on the farmers' health and on their environment. This project proposes the development of an environmental friendly methodology, along agroecological principles, to mitigate the impact of fruit flies on vegetables that are biologically fruits such as cucurbits and solanaceous crops. This agroecological approach aims at strongly reducing the impact of control methods on the ecosystem while having a positive effect on beneficial organisms such as pollinators. Through the project the local partners will strengthen their research units and further enhance their expertise with regard to fruit fly pests and their control.

Budget: 774.000 €

Period: 2019-2023

Partners:

Promotor:

Dr. Marc De Meyer, Royal Museum for Central Africa, Department of Biology

Co-promotors:

Dr. Massimiliano Virgilio & Dr. Kurt Jordaens, Royal Museum for Central Africa, Department of Biology

African partners:

Dr. Maulid Mwatawala, Sokoine University of Agriculture (SUA), Department of Crop Science and Horticulture

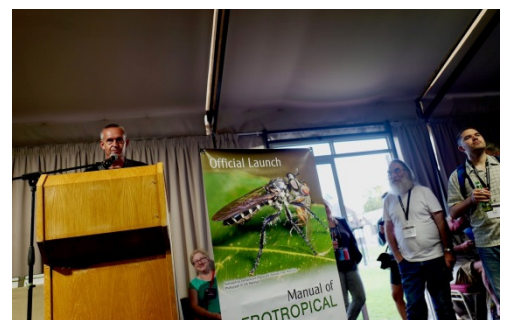
Dr. Domingos Cugala, Eduardo Mondlane University (EMU), Faculty of Agronomy and Forest Engineering

**REPORT**

The theme of the 9<sup>th</sup> International Congress of Dipterology was “Afrotropical Dipterology” and specific symposia were planned that had special relevance to African delegates, but the scientific programme included other general thematic and taxon-based symposia and poster sessions, and all major aspects of dipterology, including systematics, morphology, physiology, evolution, biodiversity and conservation, ecology, agriculture and forensics were covered.

A total of 270 full delegates and students from 51 countries attended the Congress, including 60 delegates from 12 African countries; the largest contingent of African delegates ever to attend ICD and the scientific Programme included four excellent plenary talks, 23 symposia, 258 oral presentations and 57 poster presentations. The full programme and abstract book can be downloaded from the congress website: <https://icd9.co.za/>

An overview of two of the symposium organized can be found on the following pages.



# The importance of Diptera in plant-pollinator networks

Symposium at the 9<sup>th</sup> International Congress of Dipterology 2018

At ICD9 Kurt Jordaens (Royal Museum for Central Africa) convened a symposium on the importance of Diptera in plant-pollinator networks. Fifteen speakers presented at the symposium. The abstracts of their presentation and email address can be downloaded from the congress website: <http://icd9.co.za/>

**keynote:** Flies in the eyes of flowers – the beauty of the beast – *Bruce Anderson*

- Matching tubes and tongues – local coevolution or ancient species sorting – *Timotheüs van der Niet* et al.
- Diversity underestimated ? Identifying lineages in the hypervariable keystone pollinator species *Prosoeca peringueyi* (Lichtwardt) (Nemestrinidae) from the Succulent Karoo biodiversity hotspot – *Genevieve Theron* et al.
- Flowers fuel flies – supply of nectar for long-proboscid flies (*Prosoeca* sp.: Nemestrinidae) – *Harald W. Krenn* et al.
- The relevance of short-proboscid pollinators associated with flowers with nectar spur – *Ximo Mengual* et al.
- Pollinator body size influences stigmatic pollen print, irrespective of the evaluation method used – a meta-analysis – *Rita Földesi* et al.
- Diptera – drivers of diversification in Stapelinae (Apocynaceae: Asclepiadoideae) – *Annemarie Heiduk* et al.
- Bee flies (Bombyliidae) and not bees are the keystone pollinators of spring mass flowering displays in Southern African deserts - *Allan G. Ellis*
- Study of the impact of natural ecosystems degradation on the abundance and diversity of hoverflies (Syrphidae) in Burundi – *Eugène Sinzinkayo* et al.
- Diversity of Diptera families on wild and cultivated plants in Cameroon – *Sidonie Fameni Topé* et al.
- Insects visiting flowers of Oil palm, *Elaeis guineensis* Jaccquin (Arecales: Arecaceae), in Uganda – *James P. Egonyu* et al.
- Flies are essential pollinators of Avocado (*Persea americana* Mill.) in Marang'a County, Kenya – *Joseph Mulwa*
- Insect pollinators of cocoa, *Theobroma cacao* (L.) (Malvaceae) in Cameroon – *Nadia Karelle Toukem* et al.
- Foraging behaviour of the *Calliphora* Robineau-Desvoidy sp. (Calliphoridae) on Castor bean flowers in Cameroon – *Michelson Azo'o Ela* et al.
- A conspectus of research on the role of Diptera in plant-pollination in the Afrotropical Region – *Kurt Jordaens*

Funding was secured from the JRS Biodiversity Foundation and the Directorate General for development Cooperation (DGD) Belgium to the Royal Museum for Central Africa (RMCA).

Symposium at the 9<sup>th</sup> International Congress of Dipterology 2018

At ICD9 Burgert Muller (National Museum Bloemfontein) and John Midgley (KwaZulu-Natal Museum) convened a symposium on biodiversity informatics of Diptera. Eight speakers presented at the symposium. The abstracts of their presentation and email address can be downloaded from the congress website: <http://icd9.co.za/> update from the symposium organizers:

**Keynote:** Diptera biodiversity informatics – moving entomological data forward – *John M. Midgley*

- The KwaZulu-Natal Museum's contributions to the PINDIP project – *Tricia Pillay et al.*  
A regional collaborative effort in digitizing and monitoring African insects – *Kudzai Mafuwe et al.*
- A pilot study to delimit tsetse target populations in Zimbabwe – *Gerald Chikowone et al.*
- Shaping our taxonomic legacy – tools to accelerate biodiversity discovery and make data openly accessible – *Torsten Dikow*
- Discovering the diversity and biology of South Africa nose flies (Rhiniidae) through entomological collections – *Arianna Thomas-Cabianca et al.*
- An overview of the horse flies (Tabanidae) of South Africa – centralising and assessment of major collections for spatiotemporal analysis – *Louwrens P. Snyman et al.*
- Potential of specimen digitisation in conservation – a case study of Tabanidae in the National Museums of Kenya – *Laban N. Njoroge & Josiah C. Achieng*
- Diptera collections as data sources for biodiversity and conservation management planning – a South African case study – *Burgert S. Muller*
- Biodiversity informatics is an ever changing and growing field that highlights the importance of data associated with specimens generated from research, museums, field work and other collections; and their application in answering various questions and problems.

Funding was secured from the JRS Biodiversity Foundation and the Directorate General for development Cooperation (DGD) Belgium to the Royal Museum for Central Africa (RMCA).

## SPOTLIGHT



## Uganda fieldwork : Biodiversity of selected families of Diptera (true flies) occurring in Western Uganda

Uganda have ten national parks and while the parks are renowned for their high diversity of mammals and birds, very little is known from other groups, such as insects. The Diptera (true flies) of Uganda thus remain poorly known and sampled, and they have not been the subject of any previous dedicated bio-inventory project. A few selected studies have been published, based on limited sampling and for very specific species-groups or families with a high negative health (such as tsetse fly) or agricultural (such as Tephritidae, fruit flies) impact. Virtually all other information on the occurrence of Diptera in Uganda is scattered throughout the (older) dipterological literature.



views on the Rwenzori National Park (left) and the Bwindi Impenetrable National Park (right). photos: © Ximo Mengual

From 1 – 18 December 2018 an international team of six people collected Diptera (mainly Syrphidae, but also Platypezidae and Pipunculidae) in three National Parks situated in Western Uganda, viz. Rwenzori Mountains NP, Kibale Forest NP and Bwindi Impenetrable NP, and in the Mabamba swamps in the vicinity of Entebbe. The national parks constitute the eastern most part of the tropical moist broadleaf forest belt of Central Africa and all have the highest extinction risk index. The team sampled true flies (Diptera) in several pristine habitat types in the areas using Malaise traps, pan traps and netting. The material is now being identified and reference DNA barcode databases will be constructed. Moreover, we established the first Diptera reference collection in Uganda which will be curated at Makerere University. We therefore hope to contribute to the knowledge of this poorly studied insect order in Uganda and hope to raise appreciation of this insect order in conservation management programs in the future.



Photographs of hover flies (Syrphidae) encountered in Uganda. Photos: © Menno Reemer

The expedition team consisted of the following people: James Peter Egonyu (Makerere University, Uganda), Jeffrey H. Skevington (Canadian National Collection of Insects, Arachnids and Nematodes – Agriculture and Agri-Food Canada), Gunilla Ståhls (University of Helsinki / Museum of Helsinki, Finland), Menno Reemer (Naturalis Biodiversity Center, The Netherlands), Ximo Mengual (Zoologisches Forschungsmuseum Alexander Koenig, Germany) and Kurt Jordaens (Royal Museum for Central Africa, Belgium). The fieldwork was financially supported by the JRS Biodiversity Foundation and the Royal Museum for Central Africa.



Team members (from left to right): Ximo Mengual, Jeff Skevington, Menno Reemer, James Egonyu, Kurt Jordaens, Gunilla Ståhls  
Photo: © Ximo Mengual



Malaise trap at Rwenzori National Park  
Photo: © Ximo Mengual





ARPPIS-DAAD PhD scholarships for study at the International Centre of Insect Physiology and Ecology (*icipe*), Kenya

## **Three-Year Doctoral Training in Insect and Related Sciences for Development**

Further information: <http://www.icipe.org/news/arppis-daad-phd-scholarships-study-icipe>

Deadline for applications: 11th February 2019

Kindly share with your networks.

### **Contact:**

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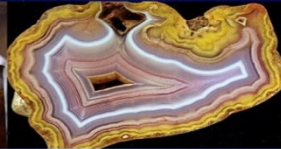
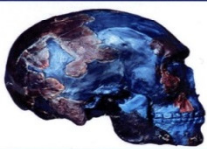


## SYNTHESESYS+ visitor funding

Access Call 1 of SYNTHESESYS+ will be launched on 1st February 2019. Call deadline will be 12th April 2019, 17.00 UK time.

# SYNTHESESYS

Synthesis of systematic resources



Contact SYNTHESESYS for details of the online application process and deadlines:

Annual Calls for proposals in October (2013 - 2016)

Visits will be scheduled between January 2014 and August 2017

email: [synthesys@nhm.ac.uk](mailto:synthesys@nhm.ac.uk)

[www.synthesys.info](http://www.synthesys.info)

SYNTHESESYS is a project supporting an integrated European infrastructure for natural history collections funded via the EC Research Infrastructure Activity, FP7 Programme



SYNTHESESYS Project funding is available to provide scientists (Users) based in European Member and Associated States to undertake short visits to utilise a 'Taxonomic Access Facility' (TAF). Collections, staff expertise and analytical facilities are available for Users, at any one of the 21 partner institutions for the purposes of their research. See the TAF list below for more information, and to help you make your choice: <http://www.synthesys.info/access.html>

What SYNTHESESYS+ offers :

- The 13 TAFs (Taxonomic Access Facilities) institutions represent an unparalleled resource for taxonomic research offering:
- Collections amounting to over 390 million natural history specimens, including 4.1 million type specimens
- Internationally renowned taxonomic and systematic skill base
- Chemical analysis, molecular and imaging facilities

Before applying, all applicants should:

- Read information on the organisation and TAF an applicant would like to visit
- Read the TAF infrastructure list (<http://www.synthesys.info/access/taf-infrastructure-list.html>)
- Make contact with a prospective host at the organisation you would like to visit. Discussing your proposal with your host is an essential requirement of a successful project bid

Follow SYNTHESESYS+ on social media:

twitter: <https://twitter.com/synthesyseu?lang=en>

facebook: <https://www.facebook.com/synthesysproject/>

# Training course in taxonomy and systematics of African pollinating flies

November – December 2019

## Organisation:

The training will be organized by several institutions: the Royal Museum for Central Africa (RMCA) in Belgium, the Sokoine University of Agriculture (SOI) in Tanzania, and the KwaZulu-Natal Museum and National Museum Bloemfontein in South Africa.



## Background:

The objective of this group training is to ensure, for the sake of the African scientists or the persons confronted with the problem, a basic training on the identification and ecology of African Diptera, with special emphasis on those families (e.g., Bombyliidae, Calliphoridae, Nemestrinidae, Rhiniidae, Syrphidae, and pangonine Tabanidae) that have a significant role in plant-pollinator networks.

It shall consist of ex-cathedra courses on morphology, classification, identification, identification methods, collection methods, and conservation methods of Diptera, with a focus on the target families listed above. Practical exercises will be used to comment on, and test, the topics presented in the courses.

Participants shall be asked to bring material they collected so it can be identified during practical work sessions. Likewise, should they have large datasets at their disposal, these may also be analysed.

## When/where? :

The course will take place at the Sokoine University of Agriculture (Tanzania) at the end of 2019 (November-December) and be taught in English. Exact dates will be distributed as soon as possible.

### **Participant profile and admission requirement:**

The training can receive 10-14 participants, among whom researchers and employees who are confronted with pollinating flies on a professional level. They may be employees from agricultural institutes, professors of agricultural faculties, researchers from national or international institutions, etc.

Participants must have a minimum level of knowledge in basic Diptera ecology.

The candidates' maximum age at the moment of their application is not to exceed 45 years.

Only applications from people with residence in Sub-Saharan Africa and working for an institution, ministry, research institute or university can be taken into consideration. Applications from consultants or individuals cannot be accepted.

Candidates must be citizens of one of the following countries: Benin, Burundi, Burkina Faso, Côte d'Ivoire, Cameroon, Democratic Republic of Congo, Ethiopia, Guinea, Kenya, Madagascar, Mali, Mozambique, Niger, Rwanda, Senegal, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe. This list is not restricted and may be changed in 2019.

Scientists with a diploma other than MSc or PhD. should demonstrate a record of substantial work related to the subject that is presented (Diptera of the target families; plant-pollinator networks, etc.).

All applications will be subject to an evaluation by internal experts.

### **More information :**

More information on the trainings organised by the RMCA can be found on:

<http://www.africamuseum.be/research/collaborations/training>

As soon as we have more details, they will be posted on the website of the RMCA. If you want to receive updates on the training, contact Kurt Jordaens at [kurt.jordaens\(at\)africamuseum.be](mailto:kurt.jordaens(at)africamuseum.be)



Upcoming

# Symposium: 10<sup>th</sup> International Symposium on Syrphidae (ISS10)

**Lesvos, Greece**  
**8 – 14 September 2019**

<https://cbbc.pmf.uns.ac.rs/en/iss10/>

In 2019, the 10<sup>th</sup> International Symposium on Syrphidae (ISS10) will be held on the beautiful Aegean island of Lesvos, Greece, from 8-14 September.

ISS10 is a co-organization of the University of the Aegean, Department of Geography, Mytilene, Greece and the University of Novi Sad, Department of Biology and Ecology, Novi Sad, Serbia.

This is a preliminary schedule of the ISS10:

- Arrival: 8 September 2019
- Symposium: 9 -11 September 2019
- Excursion: 12 September 2019, Kallonis, Eresos, Sigri, Petrified forest
- IUCN workshop: 13 - 14 September 2019  
(the workshop can be one or two days more; more information will be presented soon)

Further details about abstract submission, prices and booking will be announced soon!

If you have additional questions or suggestions feel free to contact the symposium organizers at [syrphidae10@gmail.com](mailto:syrphidae10@gmail.com) or on <https://cbbc.pmf.uns.ac.rs/en/iss10/>.



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