The Simuliid Bulletin

Number 63 January 2025

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Cover Image: Typical landscape of Cappadocia (Photo: Matúš Kúdela)

From the Editor

Last year, we had the opportunity to meet and discuss all topics related to blackflies at the X. International Simuliidae Symposium in Cappadocia, Türkiye. The successful meeting was organized by Prof. Alparslan Yildirim and Prof. Abdulah Inci from Erciyes University and hosted participants from around the world. In the January issue of the Simuliid Bulletin, you can find a report on the meeting, along with the abstracts and program published in the supplement of the current issue.

Unfortunately, 2024 brought also sad news as the simuliid community lost several members and respected experts. In this issue, we include obituaries for John Davies and John McCreadie, both of whom made significant contributions to the Simuliid Bulletin.

John Davies served as the editor of the British Simuliid Group Bulletin and later the Simuliid Bulletin for 25 years. Thanks to his dedicated work, the bulletin has continued successfully to this day. I am deeply grateful for his kind advice and support when I began my role as editor and throughout the years following.

John McCreadie, an excellent entomologist, and statistician became co-editor of the Simuliid Bulletin in 2018. He always found time to assist with editing the bulletin, and his kind advice and positive energy will be greatly missed.

In 2024, we also lost Ninel Petrova, a remarkable entomologist who dedicated her career to researching the structure and evolution of polytene chromosomes in blackflies and non-biting midges.

Tatiana Kúdelová, Editor

FORTHCOMING MEETINGS

20th Annual North American Black Fly Association (NABFA) Meeting

February 6-9, 2024

Harrisburg, Pennsylvania

The 20th Annual meeting of the North American Black Fly Association will take place along with a 2-day taxonomic workshop focusing on basic black fly taxonomy in Harrisburg, PA. The taxonomic workshop will be led by Mr. Denny Keen of the PADEP, Ms. Carey LaMere of the MMCD and Dr. Peter Adler, Professor Emeriti at Clemson University. The workshop will be held **February 6 & 7** and the NABFA meeting will take place on the **8th & 9th**. Workshop participants are encouraged to participate and present in the NABFA meeting. The workshop will take place at the PADEP laboratory, which has facilities for 25 participants. Workshop participants are encouraged to collect and preserve samples this season to bring to the event.

John Walz – NABFA President
Metropolitan Mosquito Control District
St. Paul, Minnesota US 55104
Office: 651-643-8388
Email: johnwalz@mmcd.org

XII INTERNATIONAL EMCA CONFERENCE & V EMCA TRAINING COURSE, ANTWERP, BELGIUM, 1st ANNOUNCEMEN

March 25 -28, 2025

Antwerp, Belgium

The **XII International European Mosquito Control Association (EMCA) Conference** is scheduled to take place from **March 25th to March 28th, 2025**. This event will be hosted at the renowned Institute of Tropical Medicine (ITM), a leading center for tropical disease research and training in Antwerp, Belgium. The venue with its unique blend of tradition and modernity offers an inspiring setting for our conference.

In addition to the conference **V EMCA 1-day Training Course on Insecticide Resistance in Mosquitoes** will take place on **March 24th**. This intensive course will provide valuable insights and hands-on experience in addressing mosquito insecticide resistance, an increasingly critical issue in our field.

IMPORTANT DATES:

January 27, 2025: Closing date for submission of abstracts

February 10, 2025: Notification of acceptance of abstracts and training course participation

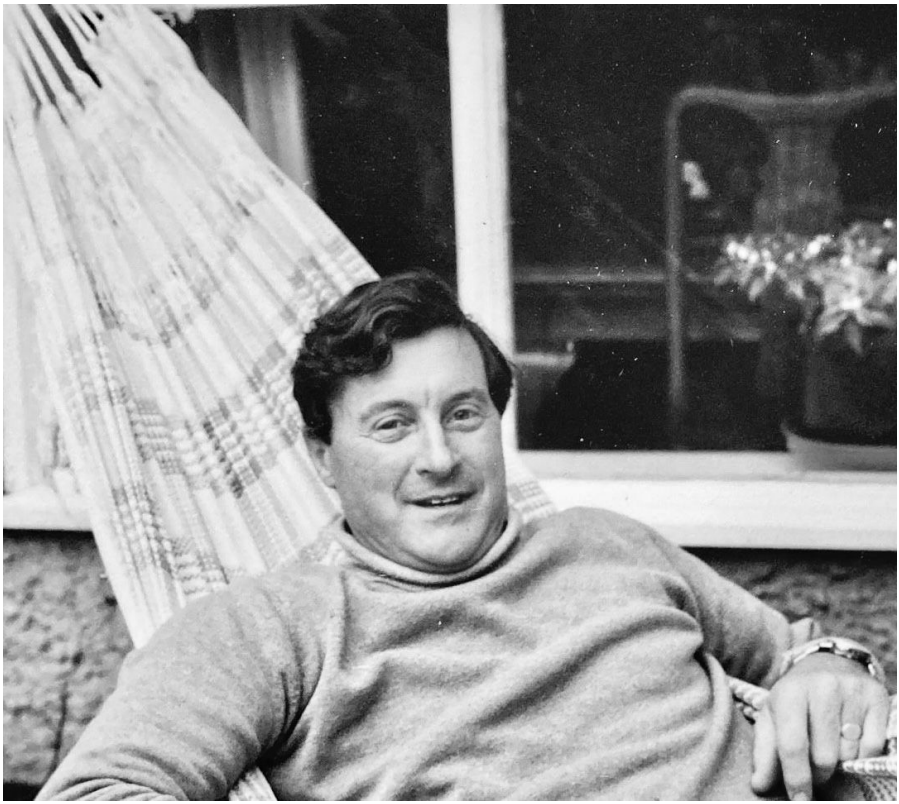
February 24, 2025: Closing date of registration

More information on registration, the conference agenda and the training course will be available on the website: https://www.emca2025.eu/

OBITUARIES

Dr. John Balfry Davies (1932 – 2024)

Robert A. Cheke



John Davies relaxing in a hammock, early 1980s (Photograph by Linda Davies).

Dr John B. Davies, who died suddenly on Saturday 24 August 2024, was a medical entomologist who worked on a variety of disease vectors but is remembered particularly for his research on the biology and control of simuliids. Born in Malawi on 25 April 1932, where his father worked as a British Colonial officer, John was educated at Bedford School in England and at Imperial College,

London, where he graduated in entomology. Soon afterwards he was joining the Colonial Service himself as a medical entomologist, tasked with work on sleeping sickness and their vector tsetse flies (*Glossina* spp.) in Nigeria. There he met and married Carol who was an administrator for the Nigerian Government's Ministry of Land and Survey. Next, his long association with blackflies began in 1959 when he took over from Roger Crosskey (who had also started his career on sleeping sickness), to manage the control of onchocerciasis vectors at Abuja (now Suleja) (Davies 1968, Davies *et al*. 1968, Bump 2014).

When he left Nigeria in 1962, John took up a post with the Mosquito-Sandfly Research Unit of the Ministry of Health at Montego Bay, Jamaica, where his son Peter was born at Mona near Kingston on 11 September 1963. In 1966 John joined the British Medical Research Council (MRC), Caribbean Epidemiology Centre, at Port of Spain, Trinidad and Tobago, working at the Trinidad Regional Virus Laboratory on *Culicoides* midges (often referred to there as sandflies at the time) and mosquitoes, but he continued an association with blackflies in Latin America. John and Carol's second child, Linda, was born in Port of Spain, Trinidad on 10 August 1967. From the West Indies, John moved to Ouagadougou, Upper Volta (now Burkina Faso) in 1975 to work for the Vector Control Unit of the WHO Onchocerciasis Control Programme in the Volta River Basin (OCP) to renew his association with the *Simulium damnosum* complex and its control. John was closely involved with control operations and research at OCP, making major contributions to the seminal work on reinvasions by participating in the demonstrations that savannah members of the complex could travel 500 km or more (Garms *et al.* 1979, Walsh *et al.* 1981). For this research, Rolf Garms, Frank Walsh and John were awarded the Düsseldorfer Hygienepreis Silver Medal in 1980. After leaving the OCP in 1981, John maintained his MRC links, basing himself at his home at the Wirral, close to the Liverpool School of Tropical Medicine whence he renewed research activities on onchocerciasis and its vectors, mostly in Sierra Leone.

John was a stalwart of the British Simuliid Group. He took

over the editorship of the *Bulletin* from Trevor Williams for issue number 4 published in December 1994. He continued editing the *Bulletin* until 2018, having facilitated its successful metamorphosis in 2015 into the *The Simuliid Bulletin* with number 45, when the British Simuliid Group was disbanded. In 2002 he also took over the running of the Simuliidae online news list and later launched and maintained the websites (http://www.blackfly.org.uk/ and https://simuliid-bulletin.blogspot.com/) where electronic copies of the Bulletin appeared from number 36 in 2011 onwards. We all owe a debt of gratitude to John for his indefatigable work on these publications, without which it is unlikely that they would have prospered. John was always generous with his advice to young and old, passing on his wisdom with a characteristic smile and chuckle. He will be much missed. During his career John contributed to a prodigious number of publications on diverse aspects of midges, mosquitoes, tsetse flies and blackflies, most of which are listed below. John is survived by Carol, Peter and Linda.

Acknowledgement

I am very grateful to Linda and Peter Davies and J. Frank Walsh for help with writing this obituary.

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John William McCreadie (1956–2024)

Peter H. Adler,
Department of Plant and Environmental Sciences, Clemson University, Clemson, SC 29634 USA; padler@clemson.edu

Anyone who has studied black flies since the mid-1980s will recognize the name of John W. McCreadie. He was a prolific researcher whose ecological studies of black flies were marked by quantitative rigor. On 21 August 2024, John succumbed to complications from a severe fall while on vacation in Canada.

Born on 3 October 1956 in Toronto, Canada, John expressed an early interest in the outdoors, particularly insects. In 1979, he received his Bachelor's of Science (Honors) in Entomology from the University of Guelph, Canada, and a Master's of Science from Memorial University in St. John's, Newfoundland, Canada, working on the biting flies of cattle under his advisor, Gordon Bennett. After considering a career path in veterinary medicine, John decided that insects were his true calling and began his doctoral program under the supervision of Murray Colbo in Memorial University's famed Research Unit on Vector Pathology. In 1991, he was awarded a Ph.D. Subsequently, John received a prestigious postdoctoral fellowship from the Natural Sciences and Engineering Research Council of Canada and came to Clemson University to work in my lab from 1991 to 1993. For the next 6 years, he remained at Clemson University as an adjunct assistant professor of entomology. Although proud of his Canadian background, John had no intention of returning to the cold, snowy winters of the North. In 1999, he declined a job offer from a prominent university in the chilly northern United States and pressed further southward with his family to southern Alabama to accept an offer from the Department of Biology at the University of South Alabama in Mobile. He became a full professor responsible for research and for teaching courses such as General Entomology, Biometry, Experimental Designs in Biology, and Freshwater Ecology. John and his wife of 42 years, Edith ("Edi"), a medical doctor, had three children, Katie, Alana,

and Kane. John felt strongly that being a father was his most important calling.

John's biological interests were diverse but often involved community structure, biodiversity, and symbiosis. Throughout his career, he concentrated on arthropods of medical and veterinary importance. His experience with these arthropods ranged from the ecology of tabanids to the seroepidemiology of Californian and Powassan viruses. Most recently, he began studying ticks to determine the species in Alabama and the pathogens they transmit. John also had a keen interest in aquatic insects. He recognized that southern Alabama's vast Mobile–Tensaw River Delta, the second largest delta in the contiguous United States, held a treasure of insect biodiversity, and he set out to document it, collecting thousands of aquatic and terrestrial specimens, many of which formed the basis of theses for his graduate students. In 2002, he established the University of South Alabama Arthropod Depository to house insects that he and his students collected during their many field trips into the Delta.

John's central focus, however, was always black flies. While at Memorial University, he chose to devote his doctoral efforts to black flies, specifically the notorious group of pests and taxonomic nightmares known as the *Simulium venustum* species complex. John used cytotaxonomy to understand the ecology of this large species complex, having visited the laboratory of Klaus Rothfels to learn how to interpret their chromosomal band patterns. John held a Pesticide Applicator's License in Newfoundland and Labrador for 5 years and from 1986 to 1989, during his doctoral program, he also worked as the director of Labrador City's program to control black flies, often leaning from the side of a low-flying seaplane to treat the streams and rivers with *Bacillus thuringiensis* var. *israelensis*. At the end of his involvement with the program, John provided a control manual to the town council of Labrador City.

During his postdoc at Clemson University, John began working on three principal projects that he would continue to refine and expand throughout his career: 1) developing models of simuliid species distributions and diversity at different spatial scales, 2) exploring relationships between cryptic species of black flies and habitat, and 3) studying the ecology of parasites and pathogens that infect black flies. In 1995, John made his first trip to South America, where he worked with Neusa Hamada on the ecology of Amazonian black flies. This experience set the scene for

comparative analyses of the ecological relationships of Nearctic and Neotropical black flies. John continued his involvement with Neotropical freshwater ecology, often supported by funding from the National Geographic Society. In addition to Brazil and Venezuela, John made several trips to the tropics, including the Virgin Islands, mainland Ecuador, and the Galapagos Islands, having become intrigued by the single species of black fly that mysteriously appeared in the Galapagos archipelago in 1989. The results of these latter expeditions would form the basis of his last published paper.

In 2012, John began compiling the North American Black Fly Database, entering all published and unpublished North American collection records and ecological data for larval and pupal black flies and their associated parasites. This geo-referenced database provided a means of probing broad questions about biogeography, ecology, symbiosis, systematics, and control of black flies. About 10 of John's publications were based on the contents of this database.

Of his nearly 100 publications, 57 included black flies. Selecting John's most influential works on black flies is challenging, but among his most noteworthy contributions were his studies of 1) the ecology of members of the *S. venustum* species complex in northeastern Canada, which corroborated the taxonomic evidence of unique, albeit cryptic, species; 2) the factors that influence species distributions at scales from a single rock to an ecoregion; 3) the drivers of species richness across latitudinal gradients; 4) the factors that influence distributions of parasites of larval black flies at scales from a single larva to a continent; and 5) the context-dependent nature of symbiotic relationships between black flies and their trichomycete fungi. In addition to his publications, John presented his research at numerous scientific conferences. Although abstracts of many of his presentations exist, none substitute for the experience of having heard his delivery. He was a gifted public speaker, perfectly at ease before any audience. His presentations included venues such as the Entomological Society of America, the various North American black fly meetings, and the international Simuliidae conferences. John's professional legacy can be seen in his publications, the many students he mentored in medical entomology and freshwater ecology, and the colleagues whose lives he influenced.

John's success as a scientist was based on his vast

knowledge, dedication to hard work, relentless pursuit of answers to biological questions, and perhaps above all, his joy of working with insects. He took great care in entering his data; I often saw him at his desk, poring over his field notes and printouts for long hours, intent on ensuring the accuracy of the data before undertaking his analyses. On a personal note, John was not only a long-time collaborator, but also a close friend for 40 years. He was brilliant, broadly knowledgeable, self-confident, and loved an intellectual argument, traits that might initially have made him seem intimidating. But beneath this persona was a kind heart, a generous soul, and a wonderful sense of humor. His breadth of knowledge on subjects as diverse as world history, barbequing, and music from Bach to Black Sabbath helped inform his larger perspective on life. His positive energy was inspirational. He often said, "If you have a bad day, it's OK to go home and cry in your beer, but you better be back in the lab the next morning at 8 o'clock." And he always was. John was a statistical wizard, obvious from his publications and the numerous statistics courses he taught for university graduate students. Those who knew John might, therefore, be surprised to learn that he initially had such trepidation about mathematics and statistics that he had considered not pursuing a doctoral degree, but his fierce resolve allowed him not only to navigate a demanding research program, but also to become a master of quantitative biology. He was fearless in the field, whether in the swamps of South Carolina or the rainforests of South America. John's field work typically involved crashing through thorns, fire ants, and barbed wire with his sampling gear, clad in short pants and happily unconcerned about the streamside venomous snakes. Returning to the vehicle with his samples and ecological data, John was jubilant about the ecological questions he could address and how he would go about the analyses—utterly oblivious to his bleeding, scratched, and bitten legs.

John always signed off in his e-mails with a characteristically humorous nod to his Canadian heritage: "Calm down and let the Canadian guy handle it." And with this, I let the inimitable John McCreadie have the last word.

Figure 1. John William McCreadie. **A.** Applying the larvicide *Bacillus thuringiensis* var. *israelensis*, Labrador City, Canada, summer 1988; photo by M. H. Colbo. **B.** Collecting in Cedar Creek, South Carolina, 10 March 1997; photo by D. Werner. **C.** Clemson University, 20 March 1997; photo by P. H. Adler. **D.** Clemson University, August 1999; photo by P. H. Adler. **E.** 4th International Simuliidae Symposium, Antalya, Turkey, 15

October 2010; photo by D. C. Currie. **F.** Collecting in Alabama, April 2018; photo by Department of Biology, University of South Alabama (USA). **G.** Professor, University of South Alabama, February 2019; photo by Department of Biology, USA.

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MEETING REPORT

The X International Simuliidae Symposium Cappadocia, Türkiye

Samuel Krčmárik,
Department of Zoology, Comenius University in Bratislava,
Slovakia; Samuel.krcmarik@uniba.sk

Traditional holiday for all blackfly enthusiasts – the International Simuliidae Symposium was held on November 4th – 8th 2024 in Cappadocia, Türkiye. The tenth Symposium was organized by prof. Alparslan Yildirim and prof. Abdullah Inci under the patronage of Erciyes University and the Turkish Society for Parasitology.

Fig. 1. X. International Simuliidae Symposium participants (left to right): **First row**: Nesrin Delibasi, Simge Sahin, Alina Denis Kizgin, Alparslan Yildirim, Peter H. Adler, Abdullah Inci, Yusuf Ozbel, Helge Kampen, Samuel Krčmárik, Matúš Kúdela, Samba Deguene Diop. **Second row**: Robert A. Cheke, Atefeh Khazeni, Sümmani Çifci, Gencay T. Tasci, Umit Şirin, Ebru Ceren Fidan, Doreen Werner, Waraporn Jumpato, Boutaïna Belqat, Varvara Topolenko, Rasa Bernotiene, Manuela Carnaghi, Olga Filippenkova, Frances Hawkes, Ahsen Meliha Toroslu, David López-Peña, Tiong Kai Tan, Van Lun Low

After the opening ceremony, almost two dozen of oral presentations and 9 posters were presented by participants from four continents. The first plenary presentation by the event's honorary president prof. Peter H. Adler showed cases of unexpected relations between blackflies and nature conservation. The following contributions focused on various aspects of blackfly research, from molecular and cytotaxonomic to ecological and parasitological. Abstracts are provided in the supplement of the current issue.

Fig. 2. X. International Simuliidae Symposium excursion participants (left to right): **First row**: Umit Şirin, Ebru Ceren Fidan, Batuhan Askim Arslanhan, Abdullah Inci, Doreen Werner, Rasa Bernotiene, Peter H. Adler, Alparslan Yildirim, Samuel Krčmárik. **Second row:** Helge Kampen, Alina Denis Kizgin, Tiong Kai Tan, Van Lun Low, Waraporn Jumpato, Atefeh Khazeni, Ahsen Meliha Toroslu, Olga Filippenkova, Boutaïna Belqat, David López-Peña, Robert A. Cheke, Matúš Kúdela, Manuela Carnaghi. **Third row:** Frances Hawkes, Sümmani Çifci, Gokmen Zafer Pekmezci,, Varvara Topolenko, Nesrin Delibasi, Simge Sahin, Kerem Oter

During a closing discussion, dr. Rasa Bernotiene volunteered to organize the next symposium in Lithuania.

Part of the symposium was an excursion, during which participants explored the breathtaking landscapes of Cappadocia, visited an underground city, centuries old churches carved into rock

formations and an underground pottery workshop. A highlight of the program was the Turkish night in an underground restaurant, an occasion of traditional culture and local culinary specialities.

The symposium provided valuable scientific insight into simuliids as well as many opportunities for collaboration. During a closing discussion, dr. Rasa Bernotiene volunteered to organize the next symposium in Lithuania.

Fig. 3. A) Ortahisar town, B – D Goreme Open-Air Museum

We truly enjoyed the conference, company of colleagues from around the world and the beautiful country. We would like to express our deep gratitude to prof. Yildirim, prof. Inci and the whole organizing committee for their hospitality and hard work preparing an unforgettable event. We are looking forward to our next visit to Türkiye, and we hope to meet with all friends and colleagues in Lithuania in 2026.

Notes for Contributors

Send your file by e-mail in MSWord .DOC or .DOCX or in .RTF (PDF can be accepted, but can present formatting problems) to simuliidbulletin@gmail.com

The Editors expect that contributors will act responsibly and check all references for accuracy. Contributors bear full responsibility for all data and conclusions drawn from them and are careful that any data obtained from other workers has been used with permission and suitably acknowledged.

The Simuliid Bulletin / published twice a year / Publisher: Simuliid Research Group, Bradáčova 2, SK-85102 Bratislava, Slovakia, IČO 52544567 / Date of issue: 31.1.2025 (Online) 3.2.2025 (Print) / 1/2025/ Annual volume 32 / Price: free / ISSN 2397-5075 (Online) ISSN: 2397-5067 (Print)/ EV 5887/20.

The Simuliid Bulletin / vychádza dvakrát ročne / Vydavateľ: Simuliid Research Group, Bradáčova 2, SK-85102 Bratislava, Slovakia, IČO: 52544567 / Dátum vydania: 31.1.2025 (online verzia), 3.2.2025 (tlačená verzia) / 1/2025 / 32. ročník / cena: bezplatne / ISSN 2397-5075 (online verzia), ISSN: 2397-5067 (tlačená verzia)/ EV 5887/20.

The Simuliid Bulletin

ISSN 2397-5067 (Print)
ISSN 2397-5075 (Online)

Publisher: Simuliid research group
Bradáčova 2, SK-85102 Bratislava, Slovakia
E-mail: simuliidbulletin@gmail.com

The Simuliid Bulletin is an informal publication intended to disseminate information about the Simuliidae (Diptera). It is published twice each year on the internet as a downloadable file at URL http://www.simuliid-bulletin.blogspot.com (note the hyphen) or http://www.blackfly.org.uk.

Content covers scientific papers, short research notes, notices and accounts of meetings, and articles of anecdotal or general interest that would not normally be found in international journals. Geographical cover is world-wide. Reports of research carried out by graduates, young scientists and newcomers to the subject are particularly encouraged. It is an ideal medium for offering new ideas and stimulating discussion because of the very short interval between acceptance and publication. Contributions may be accepted up to two weeks before the publication dates at the end of January or July.

The Simuliid Bulletin conforms to the requirements of the International Code of Zoological Nomenclature.
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