IUSSI, BRITISH SECTION

(International Union for the Study of Social Insects)

AUTUMN NEWSLETTER, SEPTEMBER 2003

Editor/Secretary's Note

Dear Fellow Members of the British Section,

I hope you have had a good summer. This is the last section newsletter edited by me. The new section officers, including the new Secretary, will take their posts after our Winter Meeting on 5th December in Dublin. Thank you very much to those who made nominations. The nominees for the posts of President and Secretary are unopposed. You can find their names on p. 2. There were two nominations for the post of Treasurer. Please cast your vote for Treasurer as soon as possible via an e-mail or postal ballot!

2003 Ballot for Officers of the British Section of the IUSSI – p. 2

Vote for Treasurer!

Please find ballot form attached and details of nominees on p. 2

With best wishes,

Ana Sendova-Franks, 8th September 2003, UWE

Officers of the British Section of the IUSSI

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Meetings site **http://www.zi.ku.dk/iussi/meetings.html**
Who's who site **http://www.zi.ku.dk/iussi/newsletter.html**

Annual Winter Meeting Friday, 5 December 2003, Dublin

This year's Winter Meeting of the British Section of the IUSSI will be held in Dublin, at historic Trinity College. The meeting will take place on Friday 5th December, starting around 09:00 and continuing, with the usual break for lunch, until around 17:00. If there is sufficient interest from those who plan to attend, the evening's entertainment will be provided through the Department of Zoology's Christmas Party, involving music, 'dancing', and, of course, the magical 'Black Stuff' (highly recommended!).

Jane and Mark recommend that people plan to fly in on Thursday the 4th. Ryanair provides many cheap flights to Dublin, as does AerLingus. Flights will get more expensive as the conference approaches, so a word to the wise - book soon. A list of hostels, B&Bs and hotels will be circulated, along with the complete programme, in the second half of September.

The meeting is being organised by Mark Brown (**mabrown@tcd.ie**) and Jane Stout (**stoutj@tcd.ie**). We are currently putting the programme together, and would urge members to contact us asap if they'd like to present a talk. Similarly, if people wish to bring posters, please let us know because, if there are sufficient posters, we will schedule a wine-and-poster-viewing session.

We look forward to seeing as many of you as possible in Dublin, and are sure you will find a trip to the Emerald Isle worthwhile.

2003 Ballot for Officers of the British Section of the IUSSI: Vote for Treasurer!

2003 ballot for officers of the British Section of the IUSSI: ANNOUNCEMENT OF THE NAMES OF NOMINEES AND BALLOT DETAILS

The officers of the British Section of the IUSSI are: the President, the Treasurer and the Secretary. The terms of the current officers, Professor Francis Ratnieks (President), Dr. Andrew Bourke (Treasurer) and Dr. Ana Sendova-Franks (Secretary), are coming to an end. The results from the nomination process for new officers are the following.

President: Professor Lotta Sundström, University of Helsinki – unopposed

Secretary: Dr. Mark Brown, Trinity College Dublin – unopposed

Treasurer: Dr. Adam Hart, University of Sheffield and Dr. Robert Paxton, Queen's University Belfast

This is a call for members to vote for Treasurer. Please vote by returning the attached ballot either by e-mail or post to the outgoing Secretary, Ana Sendova-Franks. The deadline for voting is 15th October 2003 (the date by which your vote should be received by the Secretary). The results of the ballot for Treasurer will be announced at the Winter Meeting in December 2003. The new officers take over at the beginning of 2004.

Ballot procedure (time scale for voting, ASAP but not later than 15th October 2003):

1. **Each member of the British Section of the IUSSI has the right to cast one vote.**
2. **Casting a vote consists in selecting one of the two names on the ballot by deleting the other name.**
3. **Only votes received by the outgoing Secretary by 15th October 2003 will be counted.**
4. **The winner of the vote will be decided by a simple majority such that a single extra vote will count as a win.**
5. **If the candidates get an equal number of votes, the decision will be made by the outgoing Treasurer by the toss of a coin.**
6. **The results from the ballot will be available for inspection by any of the other two outgoing officers.**

News from other Sections of the IUSSI

The Australian section of the IUSSI now has a web site, which can be found at: **http://www.bio.usyd.edu.au/IUSSI/**. The next section meeing will take place in August 2004, in conjunction with the XXII International Congress of Entomology to be held in Brisbane.

Other Forthcoming Meetings

2nd International Workshop on the Mathematics and Algorithms of Social Insects...organised by Drs. Tucker Balch and Carl Anderson at Georgia Institute of Technology, Atlanta, Georgia, U.S.A, 15 – 17 December 2003. For those interested, the preliminary program is now available on **http://www.insects.gatech.edu/schedule.htm** and registration has started on **http://www.insects.gatech.edu/registration.htm**.

XXII International Congress of Entomology, *Strength in Diversity*, 15-21 August 2004, Brisbane, Australia... Further details of this meeting can be found at: **http://www.ccm.com.au/icoe/**.

The European Conference of Apidology "EurBee", Udine, Italy, 19-23 September 2004... For more information, please visit **http://web.uniud.it/eurbee/**, a copy of the First Circular is also enclosed with this newsletter.

News from Social Insect Labs in the British Section

Belfast... At the beginning of April this year, **Rob Paxton** moved from Germany to the Queen's University Belfast to take up a new position in the Behaviour, Ecology, Evolution Research group (with the appropriate acronym BEER) of the School of Biology and Biochemistry (the acronym SOBB would be appropriate, given the climate). Two of his group have remained in Tübingen to complete doctoral theses there, namely local lady **Marion Zobel**, working on the behavioural ecology of the locally abundant, eusocial sweat bee *Lasioglossum malachurum*, and **Gustavo Makert** from Ribeirão Preto, Brazil, working on caste differentiation in *Melipona* stingless bees and jointly supervised by Klaus Hartfelder, ex-Tübingen and now at the University of São Paulo at Ribeirão Preto, Brazil. Two others have transferred with Rob to continue their doctoral theses in Belfast; **Antonella Soro** is working on the sociogenetics of eusocial sweat bees, including the enigmatic *Lasioglossum marginatum*, and **João Paulo de Holanda Neto** from Fortaleza, NE Brazil, working on cashew (*Anacardium occidentale*) pollination, which is primarily bee-mediated in the plant's native NE Brazil. With the move, the research of Rob's group is also set to expand to cover bumble bees and their microsporidian parasites, part of an EU project called 'Pollinator Parasites', coordinated by Ingemar Fries (SLU-Uppsala) and with additional lead partners Tjeerd Blacquiere (PPO Bee Research Unit, linked to Wageningen), Ronny Larsson (Lund), Paul Schmid-Hempel (ETH-Zürich) and Niek Steeghs (Bunting Brinkman Bees, the commercial partner) – see: http://www.entom.slu.se/res/Bumble%20Bee/index.htm.

Microsporidia are widespread intracellular parasites of many animals and that occasionally cause catastrophic bumble bee colony collapse, an obvious economic problem for those breeding bumble bees for sale as pollinators. The EU project aims to understand the biology and develop methods to control Microsporidia in bumble bees, with our emphasis more on the genetical aspects of the research. Joining Rob on the bumble bee/microsporidia work at Queen's is Dr. **Wee Tek Tay**, a former PhD student of Ross Crozier's and currently at the Roslin Institute in Edinburgh, though maybe better known to Finnish members as he spent 1.5 years postdocing with Lotta Sundström's group and later with Arja Kaitala in Oulu. Though not yet physically in N. Ireland, Tek is set to move later this summer with partner Tammy and their newborn son, Ethan (compared to Tek and Tammy'a 'home' in Australian, at least Ethan will have no need for sun-block during the first few years of life). Also involved with the 'Pollinator Parasites' project will be **Julia Klee**, who will arrive this summer from the University of Frankfurt to start a PhD on the genetic characterisation of microsporidia infecting bumble bees and their phylogeography.

The next British Section-IUSSI in December, organised by Mike Brown just down the road from us at Trinity College Dublin, will provide a good opportunity for us to exchange news, learn new faces and catch up with former colleagues. **Rob Paxton**

Sheffield… It has been a busy time at the Laboratory of Apiculture and Social Insects over the last few months. There have been quite a few comings and goings. **Luis Medina** has now returned to Mexico after passing his viva (with Rob Paxton as external examiner) on July 16th. Luis and his colleagues in Mexico remain close friends of LASI and we will doubtless be visiting them when the weather turns colder! To continue the tradition of Mexican PhD students at LASI, **Juan Antonio Pèrez-Sat**o has joined the lab to study for a PhD in apiculture. Another new face is **Elva Robinson**, who joins us from Cambridge to study for a PhD in complex systems and social organization. Finally, **Nigel Raine** leaves us at the end of August. He is looking into further post-docs and we all wish him the very best of luck.

A nice aspect of the summer at LASI is the people that visit or come to work temporarily at the lab. This summer we have been glad to welcome **Andy Higginson**, a PhD student from Nottingham University studying honey bee foraging and **Luke Holman** and **Amelia Lewis** from Sheffield University who have been summer helpers. Other visitors have included old friends like **Thibaud Monnin** and **Kevin Foster**.

LASI has been very active lately in 'bringing science to the people' with all members of the lab getting involved in visiting local schools, attending the National Honey Show, the National Beekeeping Conference, National Science Week and The Aston-LASI Science Event. LASI has a commitment to publicizing science and raising the public profile of social insects and this commitment is starting to pay off – recently for example LASI has become involved with Sheffield City Museum planning exhibits and demonstrations of social insects.

We also include brief profiles of the current LASI members. **Francis Ratnieks**: As Director of LASI Francis is involved with all aspects of the research carried out. As well as research, he has been busy over the summer with teaching undergraduates and developing several apiaries in the Peak District. **Nicolas Chaline, Stephen Martin and Nigel Raine***:* Nic, Steve and Nigel study worker policing in the honey bee. Nigel achieved some fame recently when he was interviewed and photographed for an article in the Sunday Times highlighting the problems of short term contracts to the future of British Science. **Adam Hart:** Adam H has been working on conflict in totipotent societies and some modeling projects with **Tom Wenseleers**, as well as developing a project on ant vision with **Duncan Jackson**. He has a monthly radio slot on BBC Three-Counties, where social insects are frequently a hot topic. **Duncan Jackson:** Duncan shares his time between LASI and the Department of Computer Sciences. He has been studying the chemical ecology of trail formation in pharaoh's ants. **Adam Tofilski**: Adam T has been busy since his arrival from Poland. He is currently studying foraging in wood ants with **Elva Robinson**, policing in wasps with **Tom Wenseleers**, trail formation in pharaoh's ants with **Duncan Jackson** and, on his own, sand-pile building by ants. **Tom Wenseleers:** Tom continues to be kept busy with his work on caste fate in stingless bees, policing in social wasps and various conflict modeling studies. He and Francis also organized a seminar on conflict in social systems at the recent ESEB meeting in Leeds, which was very successful. **Adam Hart**

Institute of Zoology… **Zjef Pereboom** has now left the Institute, his grant from the Leverhulme Trust having ended. However, Zjef will be returning briefly in the autumn to finish off his project on differential gene expression in the caste determination of bumble bees. Zjef's expertise has been a great asset to the group in London and he will be badly missed. Over the summer, Zjef and **Carlos Lopez Vaamonde** joined Mark Brown to collect samples of the island 'race' of the bumble bee *Bombus muscorum*, *B. m. smithianus*, from various islands off Ireland and Great Britain. This was as part of a conservation genetics collaboration on *B. m. smithianus* between **Mark Brown** (at Trinity College Dublin) and **Andrew Bourke** (at the Institute of Zoology). Carlos and **Will Koning** have also been busy over the summer rearing *B. terrestris* colonies in order to quantify the frequency of worker-produced males. Among the students, **Tom Charman** and **Simon Rees** have each been conducting their first field seasons on the conservation genetics and ecology of, respectively, the bumble bee *B. distinguendus* and the ant *Formica candida*. Tom was based on the Isle of Coll in the Inner Hebrides and Simon at Corsgoch Llanllwch in South Wales. Finally, many congratulations to **Roselle Chapman** on the birth of her son Eliot in March. Following maternity leave, Roselle resumes writing up her Ph.D. thesis on urban bumble bees in the autumn. **Andrew Bourke**

Travel Impressions

Bees on the Isle of Man... Francis Ratnieks was invited to give a talk to the Isle of Man beekeepers on 28 June. For those of you who do not know, the IoM is an island circa 40km x 15km in the Irish Sea between England, Scotalnd, Wales and Ireland. From the top of the mountain in the middle you can see all four neighbouring countries. It is British but not part of the UK. It is semi-independent with its own government, the world's oldest, and tax system. The island has a rich history, including influences from many invaders including the Vikings. Many of the place names are Norse, such as the highest mountain "Snaefell", and many are Gaelic. They have their own language, Manx, which is a form of Gaelic like Irish. Everyone speaks English but Manx is being taught in the schools and there are several hundred people who can speak it fluently. The talk was also attended by the IoM's Minister of Agriculture, Mr. John Rimington, who volunteered to show Francis around the Parliament and the whole island next time he was over. Francis's request to borrow the Minister's helicopter for the weekend was turned down, as the Minister does not have one. Francis was also interviewed on the local radio station, and will probably go back over in March next year to give some talks about social insects during National Science Week, which is something that the IoM people did not know about but seemed interested in after hearing about it. The IoM is unusual from a bee perspective as it is one of the few areas that *Varroa*, a parasitic mite of honey bees, has not yet been introduced. There is also a breed of sheep with 4 horns and cats without tails.

Conference Attendance

For those of us who did not attend ***Insect Sociobiology of the Northern Neotropics*****,** THE FIFTH BIENNIAL MEETING OF THE BOLIVARIAN SECTION OF THE IUSSI, 11 – 15 July 2003, University of the West Indies, Trinidad and Tobago, here is a piece on the local habitat and biota by the host, **Dr. Christopher Starr**.

The land areas of Trinidad and Tobago are about 4800 km^2 and 300 km^2, respectively. The topography is only moderately rugged, with maximum elevations of almost 1000 m in Trinidad and somewhat over 600 m in Tobago. For land-oriented field biologists, the areas of greatest general interest are the Northern Range of
Trinidad (very near the meeting venue) and Central Range of Tobago. Each has substantial tracts of intact forest.

The climate is moist tropical, with annual rainfall varying with locality between about 600 and 2600 mm and a moderately pronounced seasonality. During the meeting period, one should expect some rain on most days but also substantial clear periods on most days.

In contrast to the Lesser and Greater Antilles to the north, these are continental islands. They have been narrowly separated from the South American mainland only since the last glacial period. As such, the biota is harmonic with that of northern South America.

Among the groups for which we have reasonably thorough species inventories are groups of land vertebrates, freshwater fishes, palms and some other families of plants, butterflies, social wasps (37 species), stingless bees (9 species) and termites (57 known species). The land arthropod fauna comprises an estimated 2-4% of that of the world.

The most conspicuous of the independent-founding social wasps are the closely related *Polistes lanio* and *P. versicolor*. In addition, you are certain to encounter *Mischocyttarus alfkeni*. Wasps corresponding to the description of *M. alfkeni* build two quite different kinds of nests and probably represent separate species. The conference logo comprises these two supposed ethospecies and their nests. The commonest swarm-founding social wasps are *Angiopolybia pallens* in forest and *Polybia occidentalis* in more open areas. Others that you are certain to see if you spend any time in the countryside include *Metapolybia cingulata*, *Polybia rejecta* (associated with colonies of *Azteca* sp.) and *Synoeca surinama*.

Among the stingless bees, the most conspicuous species is *Partamona nigrior*, whose nests are abundant on the University of the West Indies campus. *Trigona amalthea* and *T. nigra* are readily found foraging at flowers, although their nests are not as easy to find.

The largest ant in Trinidad & Tobago is evidently *Pachycondyla crassinoda*, often seen foraging solitarily on the forest floor. Among the other common ponerines is *Odontomachus baur*i, known locally as "tactac". The most commonly seen army ant is *Eciton burchelli*. Although we make no guarantee, there is a

reasonable chance of encountering a raiding column during the all-day field trip in the Northern Range. One of the most conspicuous species on campus is *Cephalotes atratus*. Massive nests of the leafcutter ant *Atta cephalotes* are unavoidable throughout the Northern Range. *Azteca* spp. Are readily found, both nesting inside cecropia trees and with hanging carton nests. The most conspicuous *Camponotus* sp. is the widespread *C. atripes*, which shows the characteristic pugnacity of its genus.

Three species of higher termites build conspicuous arboreal nests: *Microcerotermes arboreus*, *Nasutitermes costalis* and *N. ephratae*. A curious feature of *M. arboreus* is the round holes that are often seen penetrating its mud-and-carton nests, produced by the anthoporid bee *Centris derasa*, which appears to nest exclusively in *Microcerotermes* nests. Of the two *Nasutitermes* spp., the termites themselves are almost indistinguishable, but the outer surface of the nest sets them apart at a glance.

Outside of these four main groups of social insects, two others are noteworthy. First, some sphecid wasps of Trinidad & Tobago are not entirely solitary and perhaps even eusocial. These include *Microstigmus theridii*, which nests exclusively under leaves of *Coccoloba latifolia*. In addition, at least three closely-related *Trypoxylon* spp. show nest-sharing among adult females: *T. fabricator*, *T. maidli* and *T. manni*.

Two social spiders are also known from Trinidad & Tobago, the famous *Anelosimus eximia* and the less known *A. rupununi* (Theridiidae). There is a reasonable chance of encountering a colony of the former if one spends some time in the Northern Range forest. The latter, much smaller species is found in more open situations, such as orchards, and encountering it is much more a matter of chance. As far as we are aware, the Old World invasive *Cyrtophora citricola* (Araneidae) has not yet reached these islands.

Books and Journals

Bumble bees… Emma Bailey, the marketing representative for Oxford University Press Biology books would like to inform us about the following book on bumble bees published on 12 June 2003 - ***Bumblebees: Behaviour and Ecology*** by Dave Goulson, Senior Lecturer, Division of Biodiversity and Ecology, School of Biological Sciences, University of Southampton. Dave Goulson looks at why many bumblebee populations are dwindling and why it is that we still do not know a great deal about bumblebees. He also discusses the wider implications of bumblebee studies for ecology and evolution. Price: £27.50 Paperback, £55.00 Hardback. For more details, please visit **http://www.oup.co.uk/isbn/0-19-852607-5/**. Please note that Emma Bailey would like to offer the book at a **preferential 20% discount** (£22.00 Paperback and £44.00 Hardback) to IUSSI members. If you are interested, please do not hesitate to contact Emma Bailey (**emma.bailey@oup.com**). If you order directly, please quote the code EBAU00. The offer is only available through the UK office.

Job Vacancies

A postdoc and a PhD position in conservation and population genetics

'Conservation genetics of Irish bees - a whole island perspective', funded by the HEA North South Programme for Collaborative Research Strand 1, is a collaboration between Dr Mark Brown (University of Dublin Trinity College, http://www.tcd.ie/Zoology/text/brown.htm) and Dr Robert Paxton (Queen's University Belfast, http://www.qub.ac.uk/bb/). We are looking for:

1) a post-doctoral researcher, to be based in Dublin. You must have skills and experience in population and/or conservation genetics, especially with respect to the use of microsatellite analysis. It would be helpful if you had experience in insect field work and/or the application of GIS techniques to species distribution data. Duration: 3 years, on the equivalent of the UK post-doctoral pay scale RA1A (circa Euro 30,000 p.a., depending on age and experience). No nationality restrictions.

2) a PhD student, to be based in Belfast. Experience in molecular genetic techniques, and an interest in insects, conservation and field biology would be helpful. Duration: 3 year, with a PhD stipend (circa GBP 10,500 p.a.); no nationality restrictions, though non-EU nationals will need to pay overseas postgraduate fees.

The successful applicants will (i) conduct basic fieldwork to determine baseline data on the distribution and abundance of solitary, semi- and eusocial bee species, (ii) develop and apply microsatellite markers to determine the population and conservation genetic status of these species, and (iii) develop a GIS-based database for the Irish bee fauna. Training can be provided in all of these areas if necessary, depending

upon the applicant. Public outreach and integration between the two collaborating labs are important parts of the programme.

While there is no final date for applications, we seek to employ applicants for the 2003-2004 academic year (start 6 October 2003, though some flexibility about starting dates exists).

For further information, please contact either Dr Mark Brown (mabrown@tcd.ie) or D. Rob Paxton (**r.paxton@qub.ac.uk**).

"INSECTS" Postdoctoral Fellowship, University of Copenhagen

Following the near certain granting of an individual fellowship to Sylvia Cremer, Koos Boomsma's group at the University of Copenhagen is seeking an INSECTS postdoc for a one-year fellowship to start in Autumn 2003 and no later than 1 January 2004.

The Copenhagen group currently has active research programs examining population genetics of invasive ants, coevolution of fungus-growing ants and termites and their symbiotic fungi, the evolution of multiple-mating, worker policing in attine ants, the evolution of social parasites of ants, and the evolution of chemical and social defences against parasites. Model organisms used include fungus-growing ants (Attini), fungus-growing termites (Macrotermitinae), invasive and parasitic Lasius ants, pharoah's ants, bumblebees and lycaenid butterflies. The group is also very active in collaborations with other INSECTS partners.

We are seeking a postdoc who will fit in with the general interests of the group, but who will conduct independent research. The successful candidate will also be affiliated with the Centre for Social Evolution and Symbiosis in Copenhagen.

More information about the research carried out in the group can be found at the following sites:

Koos Boomsma's personal home page: **http://www.zi.ku.dk/personal/jjboomsma/mainpage.htm;**

Centre for Social Evolution and Symbiosis: **http://www.zi.ku.dk/cses/**; Research on ant symbioses at Copenhagen: **http://www.zi.ku.dk/personal/drnash/atta/default.htm**. Candidates who are interested in the position, and who meet the eligibility requirements (available from the INSECTS web site: **http://www.zi.ku.dk/eunet**), are encouraged to contact Koos Boomsma (**JJBoomsma@zi.ku.dk**) as soon as possible.