



Selysia

A NEWSLETTER OF ODONATOLOGY

Vol. 11, No. 1

Gainesville, Florida

March 1, 1982

SIXTH INTERNATIONAL SYMPOSIUM
OF ODONATOLOGY

by

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The Bündner Natur-Museum in Chur, Switzerland was the host of the Sixth biennial symposium of Odonatology, marking the Tenth Anniversary of S.I.O. The meetings were held August 17-21, 1981, and sponsored as usual by the Societas Internationalis Odonatologica (S.I.O.). The organizing committee was headed by H. Schiess, assisted by A. Bischof, J.P. Müller, and A. Walkmeister. Members of the committee of honour were F. Capra, R.M. Gambles, E.C.G. Pinhey, A. Portmann, and O.R. Strub. Twenty-seven countries were represented by the 109 registrants (Australia, Austria, Belgium, Brasil, Canada, Denmark, Finland, France, Germany, Great Britain, Hungary, India, Italy, Japan, Liechtenstein, Malaysia, Mexico, Netherlands, New Zealand, Nigeria, Pakistan, South Africa, Sudan, Sweden, Switzerland, United States and Venezuela.

In this short space it is impossible to relate all of the wonderful things that happened during the meetings. An unofficial gathering at the Hotel Chur Sunday evening, August 16, gave a chance for getting acquainted with many of those attending. The symposium was officially opened Monday morning, Aug. 17, by H.

Schiess. Twelve papers were scheduled for Monday, including 1) Conservation in Odonata: first steps toward a world strategy by N.W. Moore, 2) The significance of man made habitats for the conservation of Odonata in Switzerland by H. Wildermuth, 3) Man induced changes in the dragonfly fauna of the Jordan Valley by W. Schneider, 4) The effect of environmental stress on the population structure of *Urothemis signata* Selys larvae in a tropical pond by A.T. Hassan, 5) Endangered dragonflies in Western Switzerland by C. Dufour, 6) The rectum of larval dragonflies as jet-engine, respirator, and ion pump by H. Komnick, 7) Fine structure and tracer permeability of the cuticle and cell junctions of the rectal chloride epithelia of *Aeshna cyanea* larvae - a comparative freeze-fracture and thin-section study by J. Kukulies, 8) Effects of various external media on the haemolymph of larval *Aeshna cyanea* by H.-U. Herzog, 9) Lipid absorption in the midgut of larval *Aeshna cyanea* by H. Komnick, 10) Dragonflies in the Australian environment; taxonomy, ecology and conservation by J.A.L. Watson, 11) A review of the biology of the Petaluridae by W.J. Winstanley, 12) Indian odonatology - a review by T.R. Mitra. In the evening T. Sherk gave a slide presentation entitled "The colorful eyes of dragonflies" and E.C.G. Pinhey gave a slide talk entitled "Scenes and Odonata from museum safaris".

On Tuesday morning the S.I.O. Business Session was held, presided over by P.S.

SELYSIA

A Newsletter of Odonatology

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This newsletter is designed to disseminate facts and news about the activities of Odonatologists and Odonatology. It is not intended as a journal nor an organ for the publication of articles or technical papers. The name is based upon that of the "Father of Odonatology," Baron Edmond de Selys Longchamps. Founded in 1963 by Dr. B. Elwood Montgomery at Purdue University, SELYSIA is now issued semiannually, March 1 and September 1.

Corber, with a full agenda which had been distributed earlier. Reports were given by the various officers and National Representatives. Important alterations in the Constitution and By-laws were approved. A governing council was elected which met later to appoint some committees. The list of members of the council and committees is given at the end of this account. The impressive odonatological achievements of Dr. M.A. Lieftinck of Rhenen (who was unable to attend) were pointed out and he was unanimously elected as the first Honorary President of S.I.O. Prof. Dr. B. Kiauta was made a Member of Honour, a distinction which he certainly deserved. In the afternoon six field trips were scheduled to different localities, some going by bus and others by private cars. In the evening a public lecture on dragonflies was given at the museum by A. Krebs in Swiss-German. It was very

well attended and beautiful slides were appreciated by those who could not understand the language.

Further papers were scheduled for Wednesday including 1) Review of reproductive isolating mechanisms in Odonata by K.J. Tennessen, 2) Reproductive isolation in damselflies: Methods of coexistence among four species of *Enallagma* from the western United States by R.W. Garrison, 3) Reproductive strategies and mating success in two coenagrionid damselflies (*Enallagma hageni* and *Ischnura verticalis* or *Enallagma boreale*) by O.M. Finke, 4) Mating behaviour of *Platycypha caligata* by H.M. Robertson, 5) Biogeographical analysis of the Central Europe Odonate fauna by E. Schmidt, 6) The latest results of the recent research of the Odonata fauna of the Bakony Mountains by Maria Csiby, 7) Mapping of the distribution of Finnish dragonflies by P. Valtonen, 8) Intraspecific aggression, territorial behaviour and "temporal" behaviour in dragonflies by H. Kaiser, 9) An analytical study of territoriality of *Mnais pruinosa pruinosa* Selys by K. Higashi, 10) Some aspects of territoriality in *Orthetrum coerulescens* (Fabr.) by M.J. Parr, 11) On the biology of the dragonfly *Crocothemis erythraea* by M. El Amin El Rayah, 12) Dragonflies of the Sahara desert: a review of present knowledge by H.J. Dumont. In the evening three slide presentations were scheduled: The dragonflies and their biotopes in the Bakony Mountains by Maria Csiby, UK Odonata by D.A.L. Davies, and Some northern dragonflies by A. Sandhall.

On Thursday papers scheduled included 1) Sexual selection and the evolution of odonate reproductive behaviour by J.K. Waage, 2) Studies on neotropical Zygoptera: The reproductive behaviour of *Palaemnema desiderata* Selys by E. Gonzalez Soriano, 3) Behaviour and life span of adult *Calopteryx atrata* Selys and *C. virgo japonica* Selys by K. Miyakawa, 4) Prey density and survival in damselfly larvae: field and laboratory studies by D.J. Thompson, 5) On food preference of nymphs of *Ischnura senegalensis* by M. El Amin El Rayah, 6) Endocrinology of Odonata by D.B. Tembhare,

7) A decade of dragonfly neurobiology by P.J. Mill, 8) Neuroendocrine regulation of carbohydrate metabolites in the haemolymph of the dragonfly *Pantala flavescens* (Fabr.) by D.B. Tembhare, 9) Effect of body weight, temperature and ration on ventilation in the dragonfly nymph *Pantala flavescens* by S. Mathavan, 10) Influence of temperature on the embryonic development of *Enallagma vernale* Gloyd and *E. ebrium* (Hagen) by J.-G. Pilon, 11) Dragonfly vision by T. Sherk, 12) Ultrastructure of the compound eye of *Enallagma cyathigerum* by Jany Lavoie-Dornik, 13) Electrophysiology of the compound eyes of *Enallagma cyathigerum* by Jany Lavoie-Dornik. Workshops on European Invertebrate Survey of Odonata and Odonata species conservation in Europe were conducted in a parallel session by E. Schmidt.

Thursday night there was a most delightful symposium dinner highlighted by various toasts, with P.S. Corbet as the toastmaster. Bastiaan Kiauta showed interesting slides made at all previous international symposia. For entertainment a Swiss family sang folk songs beautifully for us with the typical yodelling.

Friday further papers were scheduled including 1) A review of the main achievements in odonate taxonomy and systematics from 1971 to 1980 inclusive by B. Kiauta, 2) The Metazygoptera, a new suborder and connecting link between Zygoptera and Anisozygoptera by H. Lohmann, 3) Current progress in taxonomic studies of American Odonata by M.J. Westfall, Jr., 4) The genus *Orthetrum* Newman in Pakistan by M. Yousuf, 5) Description of the larval stage of the desert dragonfly *Paragomphus sinaiticus* (Morton) (nymph and five preceding instars, with notes on the larval habitat, and a morphological comparison with 2 related species by K. Martens, 6) *Platycypha caligata* (Selys) and a new lacustrine morph by E.C.G. Pinhey, 7) Resting sites of adult damselflies (Zygoptera) by R.R. Askew, 8) The seasonality of temperate region Odonata by K.J. Deacon, 9) How Can dragonflies live above the Arctic Circle: - Some aspects on the influence of climate on dragonfly life-histories by U. Norling, 10) Seasonal change of distribution and movement pattern in *Lestes temporalis* by T. Ueda, 11) Life

history strategies in dragonflies and the colonization of North America by the genus *Argia* by G. Pritchard, 12) Variable environments, habitat selection and life-history traits in some pond breeding anisopteran odonates by T. Halverson, 13) Co-occurrence of Odonata in the Eastern United States by P.H. Crowley.

A few of the scheduled papers were not presented because registrants were not able to attend, including M. Yousuf and T. Halverson. A booklet of abstracts of papers was printed and can be purchased from Dr. Kiauta in Utrecht.

Friday night Philip Corbet conducted a seminar on various topics of interest that had been suggested. Those who attended were very enthusiastic about this and insisted that we have such seminars at future symposia also.

At this symposium there were many additional papers presented as posters, and many beautiful photographs were on display. Time was allotted during the program for studying the exhibits.

Saturday morning some of us went on a most fascinating post-symposium tour by bus to the beautiful Engadine Valley, referred to as the roof of Europe. Some interesting collecting of Odonata was experienced in the Lower Engadine where we spent the night in a hotel, continuing the trip Sunday morning. Even though the weather was cloudy the trip was much enjoyed and we returned Sunday evening to Chur by train. Some more hardy members continued by bus to the Upper Engadine and the next day hiked across glaciers, returning to Chur Monday evening. All of this was a most delightful experience never to be forgotten. For a few more days Margaret and I had the pleasure of staying with Bastiaan and Marianne Kiauta in their lovely Swiss home near Flums, and we were taken on additional collecting trips.

COMMITTEES OF S.I.O. AS ESTABLISHED

AT THE MEETING OF THE COUNCIL

AUGUST 19, 1981, CHUR

HONORARY PRESIDENT:

Dr. h.c. M.A. Lieftinck (Rhenen)

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Dr. J. Waage (Providence, RI)

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Prof. Dr. J.-G. Pilon (Montreal)

Mr. H. Schiess (Adetswil)

NATIONAL OFFICES:

Germany - Dr. R. Rudolph

India - Dr. B. Tyagi

Japan - Mr. K. Inoue

U.K. - Dr. P. Mill

U.S.A. - Prof. Dr. M. Westfall

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**SEVENTH INTERNATIONAL
SYMPOSIUM OF ODONATOLOGY****Advance Announcement**

The Seventh International Symposium of Odonatology will be held August 14-20, 1983 in Calgary, Alberta, Canada.

The city of Calgary (population 600,000) is one of the fastest growing

cities in North America as a result of its being the financial center of Canada's oil industry. It is a modern city, but retains some "Old West" traditions that culminate in July of each year in the "Greatest Outdoor Show on Earth" - the Calgary Stampede. This tradition will not be forgotten in our meeting!

The city is surrounded on all sides by vast stretches of open country where the principal activity is cattle-ranching. One hundred km to the west, the Rocky Mountains provide a magnificent backdrop as they rise 2500 m from the plains, and to the south and east the plains become flatter and drier, culminating in badlands terrain famous for its rich dinosaur fossil beds.

The Symposium will be held at the University of Calgary, a modern university set on a spacious campus in the northwest part of the city away from the hustle and bustle. Participants will be housed in the University Residences. Rates for room and breakfast are currently (August 1981) \$20 single and \$14.50 twin; some increase can be expected by 1983. Lunches and dinners may be taken on campus or in surrounding off-campus restaurants.

The weather in Calgary in August is good. Daily mean minimum and maximum temperatures are 8.2°C and 22.2°C, with record highs of 32-33°C. There are daily averages of 9 hours sunshine and 1.8 mm precipitation. At an altitude of 1050 m the humidity is low, but there is a 17% chance of thunder-shower activity.

Several major international airlines fly from points in the United States and Europe directly to Calgary, and connections are easily made from most points in the world via Vancouver or Toronto. Calgary is situated on the Trans-Canada Highway and is served by a trans-continental rail service.

As usual, an informal Symposium Dinner will be scheduled and all of the events that have become traditional will be included. The higher mountain areas are all National Parks in which collecting is prohibited,

although an attempt will be made to obtain some sort of limited permit. In any case, collecting is good in August along the eastern slopes outside of the National Parks as well as in the prairie ponds, and collecting trips will be organized. The dragonfly fauna of the region is well known, largely through the efforts of E.M. Walker who collected particularly intensively in the mountains (see Walker, E.M., 1953, 1958; Walker, E.M. & P.S. Corbet 1975, *The Odonata of Canada and Alaska*. University of Toronto Press).

Please send correspondence and inquiries to the Chairman of the Organizing Committee:

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INFORMAL NORTHEASTERN ODONATA MEETING

An informal meeting of northeastern Odonata workers will be held 1-2 July 1982 at the State University of New York in Binghamton, hosted by Prof. Dr. Thomas W. Donnelly. The purpose will be to discuss current research in Odonata and to experience some Upstate New York collecting at the height of the season. There will probably be a Pennsylvania field trip on the weekend following the meeting.

For those who want to camp, there is an excellent state Park (Chenango Valley State Park) nearby, as well as other smaller campgrounds. There will be some accommodation available on campus, as follows: Motel Style - single with kitchenette \$28 per day; single without kitchenette \$24 per day; double without kitchenette \$32 per day; double without kitchenette \$30 per day. University dorm style: single \$19 per day; double \$25 per day.

There will be collecting in several places of local interest, depending on

the weather and the "season", including the Susquehana River and several local ponds and bogs.

There will be no formal technical session, but it is planned to have informal presentations of work in progress at short evening sessions.

Everyone is welcome to attend even though you do not reside in northeastern states. If you can attend please contact T. Donnelly, Dept. of Geological Sciences, SUNY, Binghamton, NY 13901, tel: (office) 607-798-2323 (home) 607-722-4939.

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FRASERIA APPEARS

The first number of FRASERIA, the official newsletter of the Indian National Office of the International Odonatological Society appeared with four pages on December 1, 1981. Along with this came the announcement of the informal S.I.O. Meeting of Indian Odonatologists which was announced for January 4, 1982 in Mysore. It was to be held in conjunction with the 1982 Symposium of the Indian Science Congress Association. Dr. B.K. Tyagi is the national representative for S.I.O. in India. We wish this newsletter a long and successful life. It is named in honor of the late Lt. Col. Dr. F.C. Fraser, the 'Father of Indian Odonatology'.

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LIST OF S.I.O. MEMBERS

From Utrecht we have received a current list of members of the International Society of Odonatology with their latest known addresses. We realize that some titles need updating and some of the addresses have changed. At the end of the list are some omissions and additions since the stencils were typed. If you note any error please contact us here in Gainesville so we can make the changes in the next number of SELYSIA. New members will be included in each number. We hope this information will be useful to all of our readers. If you are not a member of this active group why not join now? Information will be sent gladly.

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DR. J.C. LIEN IN BOLIVIA

Dr. Jih Ching Lien, whose Taiwan address is given in the above list, is in Bolivia this year on a research mission. His address there is a/c Programa de Malaria, Casilla Postal No. 516, Cochabamba, Bolivia.

RARUS, RARIOR, RARISSIMUS

by

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Parents may be astonished at the proposition I am about to make, that contrary to what is generally agreed, the begetting of children is not a total material, financial and mental disaster. While I will not dispute the fact that madness is a genetically associated trait (i.e. you get it from your children), I will quote three short stories which suggest the possibility that God did have in mind some benefit which may accrue to parents. For this outcome to mature, the children have to be made aware, in the course of their upbringing, of certain objects in their environment, and to bring them home.

In the early hours of the morning on an icy, foggy late October night in 1968, my youngest son was returning from a 'Pop' event and picked up a dragonfly which was resting on the pavement ('sidewalk' for foreign readers). He put this in a paper triangle and presented it to me the following weekend. I felt the packet gently, trying to guess what may have survived so late into the Autumn ('Fall' for foreign readers), thinking of *Aeshna cyanea*, *A. juncea* or perhaps *A. mixta*. Imagine by astonishment to find *Hemianax ephippiger*, a male in perfect condition, a species previously recorded in Britain only three times over the last century! What induced this insect to fly from its nearest breeding ground in the E. Mediterranean, 1500 km away, to my home town, only to be grounded by the English Autumnal misery?

In the late Autumn of 1978 (April) the weather was hot because the location was Queensland. I was becoming apprehensive about actually finding, before my return to Europe, that quaint little Corduline, *Cordulephyia*, with its 'trapezoidal triangle' and zygoteran habit of resting with its wings folded over its back. On visiting a stream ('creek' for foreign readers) I made a quick survey of the

odonates over a half km stretch (trying not to trip over the snakes into the waterfalls while disentangling myself from the webs) and having found nothing special, returned to my starting point where my daughter was standing at the waterside. She advised a stealthy approach because a dragonfly was resting on her trouser-leg; we discussed how best to secure it and I accepted her suggestion to pick it up between my fingers, as its wings were folded over its back, stout little fellow though he was. This was successful; it was the little Corduline with the 'broken' costal side to its Dc, *Cordulephyia pygmaea*!

My eldest son recently returned from an ornithological spree in N. America. He mentioned that he had a dragonfly for me, and this weekend he remembered to bring it while visiting the old family home. The specimen had been secured with the fingers of his left hand while it rested on his right shoulder. From the description I envisaged ('envisioned' for foreign readers) one of the millions of *Leucorrhiniias* flying in N. Michigan at the end of May. However, any such similarity was limited to its size. It was a Corduline, as small as any I possess (which is the very rare *Williamsonia lintneri*), but this was the sister species *Williamsonia fletcheri*, surely one of N. America's rarest Anisoptera (larva still unknown etc. ...).

The moral seems to be to pay for the kids to go on an annual world tour and relax at home oneself to await what offerings turn up.

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DRAGONFLY ODOR NOT
 REPULSIVE TO MOSQUITOES

by

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 c/o M.J. Westfall
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When swarms of feeding Anisoptera

attack concentrations of mosquitoes, the prey sometimes seems to disappear faster than would be accounted for by predation alone. Possibly the mosquitoes can smell dragonflies and take cover, but two short series of tests I performed indicate that is not the case.

Through the courtesy of U.S. Dept. of Agriculture scientist Carl Schreck, I used an olfactometer containing yellow fever mosquitoes *Aedes aegypti*. The olfactometer draws a stream of air over each arm of a person down two separate tubes which lead into a single chamber containing 7 day old female mosquitoes. During a test, the mosquitoes choose one of the tubes and fly into a funnel trap contained in the tube as they seek the host. A test run lasts 3 minutes.

My first series of tests involved Anisoptera which had died during 3 days of refrigeration. I held several dragonflies of different species in one hand in the olfactometer experimental tube, with my empty hand as the control in the other tube. The dragonflies used were male *Anax junius*, m *Macromia taeniolata*, m & f *Celithemis amanda*, m *Erythrodiplax minuscula*, m & f *Erythemis simplicicollis*, m *Libellula incesta*, m *L. axilena*, m & f *Pachydiplax longipennis*, m & f *Perithemis tenera*, and m *Tramea carolina*.

A second series of tests used live males of *Macromia georgina*, *Miathyria marcella*, *Orthemis ferruginea*, *Pantala flavescens*, and *Calopteryx maculata*.

The numbers of *Aedes* trapped in the experimental and control tubes were only roughly counted and not statistically analyzed. However, no avoidance of the dragonfly odor by the mosquitoes was obvious in either series of tests. Possibly further tests using other species of biting Diptera and Odonata would be worthwhile, and I would like to communicate with anyone conducting such tests.

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GEORGE DOERKSEN DIES

Our friend and S.I.O. member, George Doerksen, was attacked and killed by a grizzly bear at Liard River Hotspring in northern British Columbia in August 1981. He was in his last season of travelling around in the province photographing dragonflies for a publication he, Robert Cannings, and Dennis Paulson were planning. More information later.

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CHARLES FRANCIS BYERS DIES

October 28, 1981 Prof.Dr. C. Francis Byers died after a long illness. He was a retired professor at the University of Florida who also taught at a number of other educational institutions.

Some of you will recall that he was an invited guest, along with his wife Jeanette, at the symposium dinner held in Gainesville in 1977 when the Fourth International Symposium of Odonatology was hosted here. Dr. Byers published the 327 page "A Contribution to the Knowledge of Florida Odonata" in 1930 which he autographed for many who bought them from the publisher's remainder which we found and bought. There are still a few of the signed copies still available here that we will send postpaid for \$6.00 to anyone requesting one. Also we have a number of his reprints that will be sent free. Let us know your needs.

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NORTH AMERICAN DRAGONFLY MANUAL AVAILABLE AT REDUCED PRICE

George and Alice Beatty have found some new copies of the reprint edition of "A Manual of the Dragonflies of North America(Anisoptera)" by James G. Needham and Minter J. Westfall, Jr. 1955 which can be purchased as long as the limited supply lasts for \$27.50. From the publishers the current price is \$50. These may be ordered from the BOALSBURG BOOK COMPANY, P.O. Box 212, Boalsburg, Pennsylvania 16827. Payment of \$27.50 is to be sent in U.S. funds with the order. Postage is included in the quoted price.