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C H I R O N O M U S

MITTEILUNGEN AUS DER CHIRONOMIDENKUNDE
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5TH INTERNATIONAL SYMPOSIUM ON CHIRONOMIDAE
ABISKO, SWEDISH LAPLAND
AUGUST 7-9, 1973

Everyone who came to the Fifth International Symposium on Chironomidae in Abisko had a long journey behind him. This was true also for the host, Prof. Lars Brundin, and his wife and co-workers.

Abisko is in Lapland, near the 68th degree of latitude and not far from the Norwegian and Finnish borders, about 1000 km north from Stockholm. It is only a railway station on the Kiruna-Narvik ore line, and cannot at present be reached by road. However, the settlement has achieved a reputation through the Natural Sciences Research Station established there by the Royal Swedish Academy of Science, and through the tourist hotel which is popular among hikers and winter sportsmen. Both station and hotel lie in the northern birch forest region not far from Torne Träsk, the largest lake in Lapland. There is easy access from here to the mountainous natural landscape of Lapland, which rapidly puts nature-lovers under its spell. Linné and Zetterstedt have already described it in these terms. When Sven Ekman led his excursions in the Abisko region at the turn of the century, he had to become accustomed to co-existence with brown bears, which were then very numerous. The first entry in the station visitors' book from the foundation year (1927) is that of a student, Lars Brundin by name, who had travelled to the north to collect beetles. The rich chironomid fauna of the cold lakes and countless springs and streams was first investigated a decade later by Prof. August Thienemann. Between 1936 and 1939 Thienemann visited Abisko four times in different seasons in order to observe the course of a complete vegetation cycle in what he so often described as the most magnificent natural landscape of Europe. In the later years of his life Lapland was still a compendium of ecology to him.

The symposium took place in the Natural Sciences Research Station, which has recently been extensively enlarged. Most of the 45 participants from 15 nations were accommodated in the rooms of the old and new buildings, which had all been reserved for the symposium. Only a few of us had to stay in the tourist hotel, 2 km away. Lunch and supper were taken together at the station. The two cooks brought specially by Brundin from Stockholm took excellent care of our bodily needs. Among other things, they served us with reindeer grill and fried Charr (Salmo salvelinus L.), the delicate fish of the north Scandinavian lakes. For dessert there were plentiful supplies of Rubus chamaemorus, the delicious berries which at that time were ripening on the mossy meadows of Lapland. When not attending sessions one could easily walk in the immediate surroundings, or participate in stimulating discussions in large or small groups in the station, especially in the comfortable library. Our host took extensive precautionary measures to ensure that our throats were never parched during the long evenings, which at that latitude and season passed into morning without night.

The symposium lasted three days (7th-9th August) during which time 31 papers were read and discussed. The conference room (which doubled as the dining room) was exactly large enough and all places were always occupied. We are shure the sessions aroused so much interest not because of the lack of other entertainment in the isolation of Abisko, but rather because of the high scientific standard and of course, the speakers themselves. As is clear from the summaries, the papers covered a broad spectrum of chironomid research and did not dominate one particular aspect. The fact that symposia have become an integral part of chironomid research is shown by the fact that three invitations have already been received for the 1976 symposium: from Prof. W. Beck in Tallahassee, Florida, USA, Prof. C.F. Humphries in Dublin, Ireland, and Dr. Lellak to Prague in Czekoslovakia. The delegates voted to accept the invitation of Lellak to Czechoslovakia More information will be given nearer the time by the organizers and by "Chironomus".

After the symposium there were three days which were pleasantly occupied with short excursions around Abisko, led by Prof. Brundin and his co-workers. On the first day (10th September) we went by train to the station "Riksgränsen", and from there walked to Lake Katterjaure (altitude 776 m) near the Swedish-Norwegian border. This was a good opportunity to get to know the northern montane flora and also to collect adults and pupal exuvia of cold stenothermic chironomid species from the streams and lakes. On the second day we climbed Njulja (1170 m) which towers up north west of Abisko. The hike took us through magnificent blooming montane meadows to Kårsovaggejokk, then back to Abisko along its valley. The sauna which followed enabled our weary legs to recover and provided welcome relief from the gnat bites.

The third day was taken up with a visit to the classical chironomid biotopes very near the station. Those who wanted could collect plenty of chironomids from the "Boreochlus Spring", the Abiskojokk, the ponds around the railway line and from Torne Träsk. It did not even require great good luck to capture podonomins.

We extend sincere thanks on behalf of all who attended the symposium to Prof. Brundin, his wife Dagny, the station administration, Mr. Odarp and all other helpers whose efforts ensured the smooth and successful running of the symposium.

THE ABSTRACTS

Beck, W.M., Jr., A/M University, Tallahassee, Florida, U.S.A.

Recent studies on the Blackwater River, Florida

A study of the chironomid fauna of the Blackwater River and its tributaries has radically changed our concept of the Chironomidae of Florida. Just why this is so is discussed.

Berczik, A., University of Budapest, Hungary

Sukzessionen in der Chironomidenfauna ungarischer Reisfelder

Die jährlich sechs Monate lang trockenliegenden Reisfelder werden nach der Überflutung von Chironomidenlarven (und anderen Wassertieren) besiedelt. Die Sukzession wird von den einzelnen Biotopen der Reisfelder von der Entwicklung der Bestände der verschiedenen höheren Wasserpflanzen (incl. des Reises) und der Entwicklungsperiode der Chironomidenarten bestimmt. Die relativ hohen Temperaturunterschiede in den einzelnen Biotopen führen zu Divergenzen in der Schlüpfperiodik. Die besprochenen Ergebnisse erweitern unsere Kenntnisse über die Anpassungsfähigkeit der Chironomiden.

Bretschko, G., IBP-Labor, Innsbruck, Austria

The chironomid fauna of the high mountain lake. (Vorderer Finstertaler See, Tyrol, Austria, 2240 m asl.)

The zoobenthos of VFS is since 1968 under close observation (IBP-Project). Six chironomid species are of quantitative importance. L. coracina, M. contracta and H. marcidus perform all larval moultings before January and emerge with icebreak (June/July). P. austriacus and H. grimshawi develop very slowly until March/April and emerge about one month after the icebreak. P. forcipatus behaves probably close to group one. L. coracina executes heavy larval migrations concentrating between 10 and 15 meters. About 90 % of larvae emerge, fish predation excluded. Most of the five other species with very low abundance are emerging in September/October.

Charles, W.N., The Nature Conservancy, Edinburgh, Scotland

Production of Chironomidae within a section of the profundal zone of Loch Leven, Scotland during 1970-71

Production of larval Chironomidae was measured through one year within a section of the profundal zone of Loch Leven. The accuracy and efficiency of methods used in this study are described, detailed estimates of production through the year are given for four species of larvae and the annual larval production estimated for all Chironomidae within the area.

Coffman, W., University of Pittsburg, Pennsylvania, U.S.A.

Seasonal differences in the diel emergence of a lotic chironomid community.

Diel patterns of chironomid emergence from a small woodland stream, Linesville Creek, Crawford county, Pennsylvania were determined at semi-monthly to monthly intervals from April to October, 1972. The detection and quantification of the emergence patterns were facilitated by the collection of floating pupal exuviae from a know area of stream (721 sq.m). Maximal daily emergence in the spring and in midfall occurred during the the mid-late afternoon, whereas the summer-early fall patterns generally demonstrated two maxima: afternoon (largely "Corynoneurinae") and late evening (largely Chironominae). Emergence sqm^{-1} day^{-1} varied from 1335 in late July to 4 in mid-October.

Credland, P.F., University of London, London, England

The neuro-endocrine system of Chironomus riparius - an introduction.

The morphology and anatomy of the supra- and suboesophageal ganglia and the retrocerebral complex of the fourth-instar larva of Chironomus riparius Meigen is described. Various parts of the neuro-endocrine system, particulary the neurosecretory cells of the pars intercerebralis, have been investigated ultrastructurally. The possibility of making physiological examinations of the system is discussed.

Curry, L.L., Central Michigan University, Mt. Pleasant, Michigan, U.S.A.

The midge fauna (Diptera:Chironomidae) of the U.S. and British Virgin Islands; the genera Goeldichironomus and Siolimyia.

A discussion of morphology and distribution of Goeldichironomus and Siolimyia in the Virgin Islands.

Czeczuga, B., Medical Academy, Bialystock, Poland

The carotenoid content in larvae of Chironomus annularius Meig. in various seasons of the year.

The author examined the distribution of particular carotenoids in the Chironomus annularius larvae. The examinations were carried out by means of columnar and thin-layer chromatography with different solvents. Carotenoids were identified by means of maximum absorption of the fractions of epiphase and hypophase and also Rf values of particular spots of thin-layer chromatography/ co-chromatography was used for some carotenoids as well/. Such carotenoids as β-carotene, cryptoxanthin, isozeaxanthin, lutein, zeaxanthin and astaxanthin were found in the exami-

ned material. The dominant carotenoids/ in autumn and winter/ were: lutein, β-carotene, isozeaxanthin and canthaxanthin. The results are discussed in the light of other studies on carotenoids in other species of aquatic animals and as provitamin of the vitamin A, and in the biology of the Chironomidae larvae.

Dejoux, C., La Teste, France (formerly: La Recherche Scientifique et Technique Outre-Mer, Centre de Fort-Lamy, Tchad)

Contribution a la connaissance des Chironomides de l'Afrique de l'Quest.

Complementary lists of chironomid species from High-Volta, Senegal and Mali are followed by a first list of the Chironomidae of Ivory-Coast. Species distribution in West Africa indicates that the fauna of the Sahelian and sub-Equatorial Region has great affinity with that of the Soundanese Region. The hypothesis of a very large distribution of the Nilotic fauna all over the Ethiopian Region is submitted. There also may be two distinct high-forest faunas, one in Guinea and the other in the Congo Basin. Since the biogeography of the Chironomidae of Africa is poorly known, a system is proposed to bring together faunistical and ecological data about these insects. It should permit us to analyse the factors responsible for the distribution of the species more exactly.

Downes, J.A., Canada Department of Agriculture, Ottawa, Canada

The sugar meal of adult Chironomidae.

The adults of many Chironomidae (22 genera: Tanypodinae, Orthocladiinae and Chironominae) have been found in Ontario feeding on honeydew on the leaves of bushes. The honeydew spots, scattered by aphids on higher branches, were widely dispersed and usually dry. The midges wander over the surface on the leaves ("questing") and scan the surface with contact receptors on the front legs and palpi. When honeydew is located the labella are applied and opened, and saliva's released between labella and leaf surface until sugary material is dissolved. This relatively complex feeding process is shared by many small Nematocera and is probably a basic feature of Diptera.

Fittkau,E.J., Max-Planck-Institut für Limnologie, Plön, Germany

Ichthyocladius n.gen., eine neotropische Gattung der Orthocladiinae (Chironomidae, Diptera) deren Larven epizoisch auf Welsen (Astroblepidae und Loricariidae) leben.

Larve, Puppe und Imago (teilweise) einer Chironomide werden beschrieben, die auf welsartigen Fischen der Familien Astroblepidae und Loricariidae in Südamerika leben. Die Larven können sich mit ihren modifizierten Nachschiebern auf der Haut der Fische festheften. Vor der Verpuppung spinnen sie an Dornen und Fortsätzen der Flossen und Kiemen einen rundlichen Haftgrund, der zu einem Puppengehäuse gefaltet und ausgebaut wird. Über die Ernährungsweise lassen sich keine genauen Angaben machen. Ichthyocladius ist die bisher einzige Chironomide, die epizoisch auf einem Wirbeltier lebt. Ichthyocladius neotropicus ist weit im tropischen Südamerika östlich der Anden verbreitet; eine weitere Art kommt in den westandinen Gewässern Ekuadors vor.

Grossbach,U., Max-Planck-Institut für Biologie, Tübingen, Germany

Synthesis of specific proteins in the salivary glands of Camptochironomus.

The salivary glands of Camptochironomus produce and secrete high amounts

of structural proteins. Incubation of the glands in vitro in the presence of ^{14}C-amino acids, separation of proteins by electrophoresis and subsequent measurements of radioactivity show that the secreted proteins are synthesized de novo at a high rate in the gland cells. From the incorporation levels in the differen proteins it is evident that a very large fraction of the total protein synthesis in the cells is devoted to secretory proteins. The gland can therefore be used as a model system for quantitative studies of differetation.-

Hashimoto, H., Shizuoka University, Shizuoka City, Japan

A new species of a Clunionine chironomid from North Amerika.

Clunio californiensis n.sp. was discovered by the author on the rocky shore near Los Angeles, California, North America, Dec. 1971. This species is not related to other known species in the unique structure of the hind tarsi, of which third segment has no trace of incison on its caudal edge and also a distinctly oblong form of the median plate of hypopygium. The female of this species is distinguished from other females in the feature of the spermathecae, which are markedly tapered caudad and somewhat depressed laterally. The adults of this midge do not perform the mating trip, i.e., the copulation takes place in the resting position.

Hruska, V., Academy of Czechoslovakia, Praha, Czechoslovakia

Chironomid larvae settling on artificial substrates and submerged rocks in Slapy reservoir.

Abundance and composition of the fauna settling on the surface and inside of slots in doubled artificial substrates (AS) and of the fauna of submerged rocks in the Slapy reservoir (1961-62) is given. Size differences in chironomid larvae settling on the upper side and inside of slots were found, with larvae of lesser size prevailing on the upper side of AS and greater larvae inside of slots. Decrease in abundance and change of leading forms among the larvae was observed in 1961. This was probably caused by decreased biomass of phytoplankton (blue-green algae).

Jancović, M., Institute for Biological Research, Beograd, Yugoslavia

Feeding and food assimilation in larvae of Prodiamesa olivacea.

Feeding of Prodiamesa olivacea on Sphaerotilus was studied in connection with the fact that large larval populations of the species were found in the α-mesosaprobic zone of Mettma/Schwarzwald/ within fresh or partly decomposed threads of Sphaerotilus. In the experiments, under the conditions of constant population density and abundant food supply, the effects of both the environmental temperature and the age of the experimental animals on the rate of food consumation and assimilation were observed.
It was established that there is a definite trophic relation between Prodiamesa olivacea and Sphaerotilus. High temperature stimulates the metabolic processes, but only up to a certain limit, whereas they are slowed down in older larval instars.

Kawecka, Barbara and A. Kownacki. Polish Academy of Sciences, Kraków, Poland

Food conditions of Chironomidae larvae in the river Raba.

The paper is part of a wider study of the river Raba, Chironomidae are the largest group of the bottom fauna. In order to determine nutrient relations, investigations of the algae communities, of the taxa of Chironomidae in

seasonal changes and of the age structure of the dominant species (Thienemannimyia geijskesi, Eukiefferiella bavarica, Micropsectra sp. I) were carried out at the particular stations during the annual cycle. Then full contents of the alimentary canal of the chironomid larvae were examined. Most common in the alimentary canal were diatoms (genus Achnanthes, Gomphonema intricatum var. pumilum. Diatoma hiemale), decomposed organic matter, and mineral particles.

Kownacki, A. and Marta Kownacka, Polish Academy of Sciences, Kraków, Poland

Relation of Chironomidae from Tatra and the Caucasus Mts.

In order to compare the Chironomidae of Tatra and the Caucasus Mts the tribe Diamesini were taken into consideration since their larvae and pupae are the typical inhabitants of the high mountain waterbodies. Among the fifty species of Diamesini known from Europe /including Caucasus/, sixteen species occur in the Caucasus Mts. and sixteen in the Tatra Mts. Four species /Diamesa caucasuca, D. tskhomelidzei, D. sakartvella, D. kasimovi/, unknown from other parts of the world, were found in Caucasus. All species found in Tatra also occur in other European mountains. Eight species are common to the Tatra and Caucasus Mts.

Laville, H., Labor, d'Hydrobiologie, Paul Sabatier University, Toulouse, France

Phénologie et cycles biologiques des Chironomides de la zone littorale (0-7 m) de lac de Port-Bielh (2285) dans les Pyrénées.

Les récoltes d'imagos dans 23 pièges à émergences précisent la phénologie de 19 espèces de Chironomides. Deux types d'émergences s'individualisent: - une période de vol courte (2-3 semaines) à un seul pic: on l'observe chez 8 espèces de Chironominae, les unes précoces, les autres estivales et chez un Tanypodinae automnal. Ce comportement rappelle celui des espèces de la zone littoriprofonde (7-19 m); - une période de vol prolongée (2-3 mois) soit continue avec un pic d'émergence (chez 6 espèces dont 4 Tanypodinae) soit discontinue avec deux pics d'émergences interrompues pendant un à deux mois (chez 4 espèces dont trois Orthocladiinae). Le cycle biologique de 7 espèces est présenté. 5 ont un cycle annuel. Procladius sp2, forme eurybathe, effectue son cycle en un ou deux ans suivant la profondeur. Macropelopia goetghebueri met vraisemblablement deux années pour terminer le sien. Les larves issues de pontes précoces hivernent au stade IV; celles issues de pontes tardives passent l'hiver aux stades II ou III. Lorsque l'espèce présente deux pics d'émergences, la population hivernale comprend à la fois des larves jeunes (issues des pontes de l'automne) et des larves agées (issues des pontes du printemps).

Lindeberg, B., University of Helsinki, Helsinki, Finland

Parthenogenetic and normal populations of Abiskomyia virgo Edw. (Diptera, Chironomidae)

Abiskomyia virgo was originally found in the area of Abisko, Swedish Lapland, and was thought to reproduce parthenogenetically. In Finnish Lapland, the author found a population composed of females only. Later, however, another population was detected in which males were present in approximately equal numbers to females. A description of the male is given. Attention was paid to the behaviour of the adults. Neither of the sexes to leave the surface of the water; thus the species belongs to the small group of pelagic swarmers.

McLachlan, A.J., University of Newcastle upon Tyne, England

Colonisation of a temperate man made lake by chironomids.

An unusual situation associated with the filling of an artificial lake system in N.E. England has shed light on the course of colonisation by chironomid communities. In particular, the effect of flooding the lake basin in summer or winter, with and without, access to a permanent stream fauna has been examined. There are indications that initial differences in species composition associated with each of these situations may persist.

Mulla, M.S., University of California, Riverside, California, U.S.A.

Chironomids breeding in warm-water residential-recreational lakes; measures for control.

Chironomids breeding intensively in eutrophic residential-recreational lakes create a severe nuisance problem in and around dwellings, marinas, restaurants and other commercial facilities adjacent to these lakes. Due to subtropical climate these insects prevail in large numbers from February to November. Measures to control these insects in the aquatic habitat are routinely applied to some of these lakes. Present integrated methods of choice for the management of chironomid populations consist of biological and chemical control measures. Current research toward the development of these methodologies applicable to lakes in California will be discussed.

Murray, D.A., University College Dublin, Ireland

Chironomid investigations in the Republic of Ireland.

Nagell, B., Provincial Government of Göteborg and Bohus, Göteborg, Sweden

Respiration curves of water-living insect larvae and their use as information on the oxygen requirements from the ecological viewpoint.

There are some general principles for the form of the respiration curves of water-living insect larvae. Due to different motor activity and various degrees of stimulation from different sources the respiratory values will vary between a curve connecting very high values referring to a very strong stimulation down to the values of standard metabolism referring to motionless animals. Between those levels there can be drawn a mean-value curve. The form of this curve can be used from the ecological viewpoint, but with several limitations which will be discussed in the paper.

Oliver, D.R., Canada Department of Agriculture, Ottawa, Canada

Mating and egg-maturation in Pseudodiamesa arctica (Malloch).

Pseudodiamesa arctica inhabits oligotrophic lakes in the arctic region of the Nearctic. Upon emergence both sexes congregate on surfaces with high albedo such as ice. Mating usually occurs on these surfaces, however, under favorable conditions mating occurs in swarms. Two ovarian cycles are completed.

Paasivirta, L., Biological Station, Lammi, Finland

Preliminary report on the ecology of the profundal chironomids in the lake Pääjärvi, South Finland.

The study concerns the species composition and larval ecology of Chironomidae in the lake Pääjärvi, South Finland (61.1°N and 25.1°E). The lake is dysoligotrophic (colour 60Pt/mg/l and tot. P 0.012 mg/l), surface area 13.6 km^2, mean dept 14 m, max. depth 87 m, summer temperature stratification well formed, good oxygen conditions in hypolimnion.
This paper is a preliminary report of the profundal chironomids in the lake. So far about 30 larval species have been determined from the core samples (sieves with mesh sizes 0.4 and 0.1 mm). For each species the dry ash-free weight has been weighted by electronic micro balance. Production of the four most important species has been calculated according to the Allen curve method. Relations of chironomid larvae to other profundal organisms are studies by food analyses and rearing experiments. The study is a part of a wider programme concerning the ecosystem of the lake Pääjärvi and is supported by the Finnish Academy.

Pinder, L.C., Freshwater Biological Association, East Stoke, Wareham, England

The chironomid fauna of a small stream in southern England.

The Tadnoll Brook is a small stream rising from springs on the edge of chalkland in southern England but flowing for most of its 8 km length through acid heathland associated with tertiary sand and gravel deposits. The chironomid fauna of a short reach of this stream, about 6.5 km from the source, is described and an account is given of the ecology and life-cycles of some of the principal species. Over sixty species of Chironomidae have so far been recorded from the stream, several of which have not previously been found in the British Isles.

Reiss, F., Max-Planck-Institut für Limnologie, Plön, Germany

Die Chironomidenfauna tropischer Lagunen in den Savannen des Território de Roraima, Nordbrasilien.

Die tropische Feuchtsavanne Roraima's besitzt außer astatischen Lagunen, die keine nennenswerte aquatische Fauna und Flora aufweisen, zwei Typen perennierender Lagunen, deren Entstehung und Hydrographie diskutiert werden. Die flach schüsselförmigen Depressionslagunen werden überwiegend von Regenwasser gespeist und gehören damit zu den elektrolytärmsten, grösseren stehenden Gewässern, die man kennt. Ihre aquatische Fauna und Flora ist dennoch unerwartet gut entwickelt. In der Makrobenthosfauna dominieren Chironomidenlarven. Die vegetationsfreien Sandflächen im Zentrum der Lagunen werden ausschließlich von zwei Tanytarsus-Arten in einer Abundanz von 2400 Ind./m^2 besiedelt. Die Altwasserlagunen mit ihrem kastenförmigen Becken stehen zur Regenzeit mit den Flüssen in Verbindung. Ihr Wasser ist etwas elektrolytenreicher. In der Uferregion dominieren ebenfalls die Chironomidenlarven. Eine Untersuchung der Fauna in den schlammigen Tiefensedimenten steht noch aus.

Rosenberg, D.M., Freshwater Institute, Winnipeg, Manitoba, Canada

The use of Chironomidae as indicators of macroinvertebrate community diversity in a study of pesticide pollution.

The effect of a one part per billion dieldrin application on community diversity of macroinvertebrates in a pond in central Alberta, Canada, was studied using an index derived from information theory. An attempt was made to use immature Chironomidae, the most diverse taxon of macroinvertebrates, as indicators of total community diversity. However, analysis of the data showed that this could not be done.

Seather, O.A., Freshwater Institute, Winnipeg, Manitoba, Canada

Morphology and terminology of female genitalia in Chironomidae (Diptera).

Elements of abdominal segments VIII-IX with the post-genital plate probably representing segment XI forms the chironomid female genitalia. Gonosternite VIII caudally bears the single-triple lobe-like gonapophyses VIII forming the walls of the vagina. Gonapophyses IX forms a notum orally, bears the labia caudally and is attached to the coxosternapodemes ("apodemes of sternite IX") laterally. Gonocoxites IX ("laterosternites") are reduced to well-developed, sometimes forming a gonotergite with tergite IX, connected by an intergonocoxal, connective and bears a gonostylus in Telmatogetoninae only. Tergite IX is reduced, divided or simple and well-developed. There is 0-3 seminal capsules.

Spence, J.A., McGill University, Montreal, Quebec, Canada

Studies on feeding in the genus Chironomus.

New techniques for the analysis of filter feeding behaviour in chironomid larvae are described. The cyclical nature of the behavioural components in this process are discussed. The influence of some environmental variables as temperature, light, particle concentration and particle size on the cycle in Chironomus tentans are also discussed.

Steffan, A.W., Biologische Bundesanstalt für Land- und Forstwirtschaft, Berlin, Germany

Die Lebensgemeinschaft der Gletscherbach-Zuckmücken als Extrembiozönose (Diptera, Chironomidae).

Basierend auf Untersuchungen in Lappland, in den Alpen, in Alaska und im nordamerikanischen Felsengebirge werden die Biotope und Biozönosen der Gletscherbach-Zuckmücken beschrieben. Es wird aufgezeigt, dass es sich hier um typische Extrembiozönosen handelt, die weitgehend durch die Wirkungsweise eines ökologischen Einzelfaktors gestaltet und stabilisiert werden. Sie stimmen in allen ihren Charakteristika mit den entsprechenden ökologischen Grundregeln überein. Zu den bisher bekannten kann noch ein weiteres biozönotisches Prinzip aufgezeigt werden: "Je variabler die Bedingungen einer Lebensstätte sind, um so vielfältiger und inniger sind die biozönotischen Beziehungen zwischen den der betreffenden Biozönose angehörenden Arten. Je einseitiger die Bedingungen einer Lebensstätte sind, um so weniger sind die der betreffenden Biozönose angehörenden Arten aufeinander angewiesen oder durch Nahrungsketten miteinander verflochten."

Tölp, Öilme, Zoological and Botanical Institute, Tartu, Estonia

Notes on two interesting chironomids in Lake Vörtsjärv, Estonia.

Benthic research has been carried on in Lake Vörtsjärv (Estonia) for many years. Vörtsjärv is a lowland lake with a max. depth of 6 m. Periodically collected material contained beside other larval forms also Corynocera ambigua and Stempellina sp. ("estonica") which occurred in samples only at early spring (March, April) and late autumn at depths of 0.8-2.5 m. At the same time these larvae were present also in the fishfood. Probably Stempellina sp. is a cold-stenothermal form like Corynocera, but till now it has not been possible to identify it.

The Proceedings of the Symposium will be published this year as a special issue of Entomologisk Tidskrift, Stockholm.

SHOULD CHROMOSOME MAPS OF CHIRONOMIDAE BE STANDARDISED IN FORM AND SUBJECT TO A RULE OF PRIORITY?

by Jon Martin

Many chironomid species have now been studied cytologically and chromosome maps of a number have been published. It is becoming clear that there are two points which should be decided upon by those working in this field:

1. Should chromosome maps be produced to follow a standardised pattern with regards to numbering of chromosomes or naming of arms, and the way in which bands are designated?

2. Should there be a principle of precedence with regards to maps of a species, such that the first map produced shall be the standard map of that species?

The first question is perhaps of lesser importance and we may never reach agreement on how a standard map should be drawn. There are pros and cons for the various used. There is only one point on which I hold strong views: I believe that each band in the complement should have a distinct designation which is not shared by any other band. This is most simply achieved by having the major band divisions of the map run in sequence through all chromosomes, rather than beginning again at the left end of each chromosome or arm. This system makes it much simpler to cope with translocations or pericentric inversions. An example of this type of map would be that of Chironomus oppositus (Martin 1969).

The second question I consider much more important. There already exist multiple maps for at least Chironomus thummi (= riparius) and Glyptotendipes barbipes. There appears at present to be nothing to stop each worker ignoring any existing map and publishing one to suit himself. This can only lead to confusion and does not appear to occur with any other insect group with polytene chromosomes. I have to ask where would genetics be today if every person who worked on Drosophila melanogaster had produced a different map? I feel that it is imperative that the principle of 1 map to 1 species must be adhered to. Thus the first map published would become the only standard reference for that species. I can foresee certain circumstances where publication of later maps could be acceptable:

a) A revision for greater accuracy or to include further bands. This may involve renumbering of some bands in the complement but should not involve a complete change in the numbering system.

b) A revision to bring the maps into line with some existing standard. For example, if the above proposal that all maps should have a standard format should be accepted, then the existing maps would need revision to conform to that standard. A more likely cause for change would be to bring the maps into conformity with a single basic map of the genus. Thus for example, I would hope that at some time in the future all species of the genus Chironomus can be referred to a single basic map as the cytological relationships between them are established.

I hope we can reach rapid agreement on this second question and establish clearly that any instance of duplicate mapping which does comply with the above criteria should not be acceptable for publication.

Reference: Martin, J. Aust. J. Zool. 17: 473-486 (1969).

Dr. Jon Martin
Genetics Department
University of Melbourne
Australia

LIST OF TYPE SPECIMENS IN J.W. ZETTERSTEDTS COLL. INSECTA LAPPONICA

Box: Insecta Lapponica 21 (f.d. skåp 19. Läda 19)

Chironomus nemoralis Zett. 1850: 3498 - 3499.	Syntypes: 1 ♂. 1 ♀.
C. lugubris Zett. 1850: 3490 - 3491.	Syntype: 1 ♂.
C. capucinus Zett. 1850: 3499 - 3500.	Syntype: 1 ♂.
C. alpicola Zett. 1850: 3500 - 3501.	Syntype: 1 ♂.
C. fascipennis Zett. Ins. Lapp. p. 813.	Only name label. See coll.Dipt. Scand.
C. straminipes Zett. Ins. Lapp. p. 810.	------- " --------
C. lucidus Zett. Ins. Lapp. p. 810.	Syntype: 1 ♂.
C. rosenschöldi Zett. Ins. Lapp. p. 811.	Syntype: 1 ♂.
C. pubitarsis Zett. Ins. Lapp. p. 811.	See coll. Dipt. Scand.
C. pullus Zett. Ins. Lapp. p. 811.	Only name label. See coll.Dipt. Scand.
C. sociellus Zett. Ins. Lapp. p. 811.	------- " --------
C. frigidus Zett. Ins. Lapp. p. 812.	------- " --------
C. tenellus Zett. Ins. Lapp. p. 812.	------- " --------
C. sordidellus Zett. Ins. Lapp. p. 814.	------- " --------
C. bicolor Zett. Ins. Lapp. p. 813.	Syntype: 1 ♀.
C. annulipes Meig. (Zett. in Ins. Lapp. p. 813).	1 ♂ = obnixus (Walk) det. M. Hirvenoja.
C. ephippium Zett. Ins. Lapp. p. 814.	Syntype: 1 ♀.
C. pilitarsis Zett. 1850: 3565 - 3566.	Syntype: 1 ♂.
C. arcticus Zett. ??	1 ♂. 1 ♀.
C. assimilis Zett. Ins. Lapp. p. 815.	Only name label. See coll. Dipt. Scand.

ANNOUNCEMENT

The papers of the Abisko Symposium will appear in print at the end of October, 1974, under the title: CHIRONOMIDAE, Proceedings, 5th International Symposium, Abisko, Swedish Lapland 1973.- Entomologisk Tidskrift 95, 1974, Proceedings. 232 p. Price 80 Swedish kronor.

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C. dubius Zett. Ins. Lapp. p. 815.	------- " --------
C. longitarsis Zett. Ins. Lapp. p. 816.	------- " --------
C. hilarellus Zett. Ins. Lapp. p. 816.	------- " --------
C. flavellus Zett. Ins. Lapp. p. 816.	------- " --------
C. incomptus Zett. Ins. Lapp. p. 816.	------- " --------
C. immundus Zett. Ins. Lapp. p.816	------- " --------
Tanypus turpis (Zett.) Ins. Lapp. p. 811. (sub Chironomus).	------- " --------
T. lacteipennis Zett. Ins. Lapp. p. 817.	------- " --------
T. morio Zett. Ins. Lapp. p. 817.	------- " --------
T. nudipes Zett. 1850: 3602 - 3603.	Syntypes: 1 ♂. 1 ♀.
T. barbitarsis Zett. 1850: 3607 - 3608.	Syntypes: 2 ♀♀.
T. signatus Zett. 1850: 3608 - 3609.	Syntypes: 4 ♀♀.
T. sordidus Zett. Ins. Lapp. p. 818.	Syntypes: 1 ♂. 1 ♀.
T. maculipennis Zett. Ins. Lapp. p. 818.	Only name label. See coll.Dipt. Scand.
T. unifascipennis Zett. Ins. Lapp. p. 818.	------- " --------
T. trifascipennis Zett. Ins. Lapp. p. 819.	------- " --------
Ceratopogon univittatus Zett. Ins. Lapp. p. 820.	------- " --------
C. nigritulus Zett. Ins. Lapp. p. 820.	------- " --------
C. lacteipennis Zett. Ins. Lapp. p. 820.	------- " --------
C. humeralis Zett. Ins. Lapp. p. 820.	------- " --------
C. sordidellus Zett. Ins. Lapp. p. 820 - 821.	------- " --------
C. villosus Zett. 1850: 3645.	Syntype: 1 ♂.
C. validinervis Zett. 1850: 3645 - 3646.	1 specimen borrowed by B. West-Pedersen. Probably syntype.
C. coracinus Zett. 1850: 3646 - 3647.	Syntype: 1 ♂.
C. pusio Zett. 1850: 3647 - 3648.	Syntype: 1 ♀.
C. flavo-scutellatus Zett. 1850: 3648.	Syntype: 1 ♀.
C. vexans Staeg.	1 ♀ marked Staeg.
C. minutissimus Zett. 1855: 4860 - 4861.	1 specimen borrowed by J. Boorman. According to our journals an holotype.
C. pictipennis Staeg.	1 specimen marked Staeg.

Box 52

Ceratopogon lugubris Zett. 1855: 4863 - 4864.	Syntypes: 2 ♀♀.
C. griseolus Zett. 1855: 4865 - 4866.	Syntypes: 2 ♀♀.
C. binotatus Staeg.	3 specimen marked Staeg.
C. posticalis Zett. 1850: 3658 - 3659.	Syntype: 1 ♀.
C. leucogaster Zett. 1850: 3659 - 3660.	Syntype: 1 ♀.
C. ephippium Zett. 1855: 4873 - 4874.	Syntype: 1 ♀.
C. tarsatus Zett. 4874 - 4875.	Syntype: 1 ♀.

LIST OF TYPE SPECIMENS AND SPECIMENS OF TAXONOMIC INTEREST IN J.W. ZETTERSTEDTS COLL. DIPTERA SCANDINAVIAE.

Box 48

Chironomus lugubris Zett. 1850: 3490 - 3491.	Syntypes: 4 ♂♂. 2 ♀♀.
C. ferrugineo-vittatus Zett. 1850: 3492 - 3493.	Syntypes: 2 ♂♂. 2 ♀♀.

Box 49

Chironomus rosenschöldi Zett. Ins. Lapp. p. 811.	Syntypes: 5 ♂♂. 1 ♀.
C. nemoralis Zett. 1850: 3498 - 3499.	Syntypes: 2 ♂♂. 3 ♀♀.
C. capucinus Zett. 1850: 3499 - 3500.	Syntypes: 2 ♂♂.
C. alpicola Zett. 1850: 3500 - 3501.	Lectotype: 1 ♂ designed by M. Hirvenoja 1963.
C. fascipennis Zett. Ins. Lapp. p. 813.	Syntype: 1 ♂.
C. straminipes Zett. Ins. Lapp. p. 810.	Syntypes: 1 ♂. 1 ♀.
C. coracinus Zett. 1850: 3508 - 3509.	Syntype: 1 ♂.
C. lucidus Zett. Ins. Lapp. p. 810.	Syntypes: 1 ♂. 1 ♀.
C. niveipes Zett. 1850: 3513 - 3514.	Syntypes: 2 ♂♂. 1 ♀.
C. pubitarsis Zett. Ins. Lapp. p. 811.	Syntypes: 3 ♂♂. 1 ♀.
C. pullus Zett. Ins. Lapp. p. 811.	Syntype: 1 ♂. By Brundin determined to Pol. prolixitarsis Lundstr.
C. sociellus Zett. Ins. Lapp. p. 811.	Syntypes: 5 ♂♂. 1 ♀.
C. frigidus Zett. Ins. Lapp. p. 812.	Syntypes: 1 ♂. 1 ♀.
C. tenellulus Zett. Ins. Lapp. p. 812.	Syntype: 1 ♂.
C. brunnipes Zett. 1850: 3518 - 3519.	Syntypes: 2 ♂♂. 1 ♀.
C. melancholicus Zett. 1855: 4840 - 4841.	Syntype: 1 ♂.
C. variabilis Staeg.	2 ♀♀ marked Staeg.
C. n. sp.	1 ♀: Borrowed by Staeger and returned to Zetterstedt.
C. gracillimus Zett. 1855: 4841 - 4842.	Syntype: 1 ♀.
C. sordidellus Zett. Ins. Lapp. p. 814.	Syntype: 1 ♂.
C. minutus Zett. 1850: 3522.	Syntypes: 2 ♂♂. 2 ♀♀.
C. atomarius Zett. 1850: 3522 - 3523.	Syntypes: 3 ♂♂.
C. perniger Zett. 1850: 3523 - 3524.	Holotype: 1 ♂ designed by M. Hirvenoja 1966.
C. viridis Fries.	1 ♂ marked Fries.
C. brevitibialis Zett. 1850: 3537 - 3538.	Syntypes: 6 ♂♂. 3 ♀♀.
C. longipes Staeg.	2 ♀♀ marked Staeg.
C. testaceus Staeg.	1 ♂ marked Staeg. (?).
C. fraterculus Zett. 1850: 3543 - 3544.	Missing.
C. bicolor Zett. Ins. Lapp. p. 813.	Syntype: 1 ♀.
C. bipunctellus Zett. 1850: 3545 - 3546.	Syntypes: 2 ♂♂. 2 ♀♀.
C. varians Staeg.	1 ♂ marked Staeg.
C. calceolatus Zett. 18??.	1 ♂ marked Staeg. 1 ♀ marked Staeg.
C. hilarellus Zett. Ins. Lapp. p. 816.	Syntypes: 1 ♂. 1 ♀.
C. pumilis Zett. 18??.	1 ♂. 1 ♀.
C. (name impossible to read)	1 ♂. 1 ♀.
C. infastulus (?) Zett. 18??.	2 ♂♂.
C. exiguus Zett. 18??.	2 ♀♀.

Box 50

Chironomus incisuratus Zett. 1850: 3552 - 3553.(?). (intersectus Staeg.)	Missing.
C. ephippium Zett. Ins. Lapp. p. 814.	Lectotype: 1 ♀ designed by M. Hirvenoja 19 ??. 1 ♂ present (and preparated by M.H.) but not from type locality.
Chironomus obscurimanus Zett. 1850: 3564 - 3565.	Holotyp: 1 ♂ designed by M. Hirvenoja 1964.
C. pilitarsis Zett. 1850: 3565 - 3566.	Lectotype: 1 ♂ designed by M. Hirvenoja 1963.
C. pictipes Zett. 1850: 3569 - 3570.	Syntype: 1 ♀.
C. assimilis Zett. Ins. Lapp. p. 815.	Syntypes: 1 ♂. 1 ♀.
C. lucens Zett. 1850: 3574 - 3575.	Missing.
C. latus Staeg.	1 ♀ marked Staeg.
C. dubius Zett. Ins. Lapp. p. 815.	Syntypes: 1 ♂. 1 ♀.
C. longitarsis Zett. Ins. Lapp. p. 816.	Syntype: 1 ♀.

C. hilarellus Zett. Ins. Lapp. p. 816.	Syntype: 1 ♂. See also box 49.
C. flavellus Zett. Ins. Lapp. p. 816.	Syntype: 1 ♀.
C. incomptus Zett. Ins. Lapp. p. 816.	Syntype: 1 ♀.
C. laetipes Zett. 1850: 3587 - 3588.	Syntype: 1 ♂.
C. altipes Zett. 1850: 3588 - 3589.	Syntypes: 2 ♂♂. 3 ♀♀.
C. immundus Zett. Ins. Lapp. p. 816.	Syntype: 1 ♀.
C. atratulus Zett. 1850: 3590 - 3591.	Syntypes: 2 ♂♂.
Tanypus plumipes Fries.	1 ♂ marked Typ.
T. turpis Zett. Ins. Lapp. p. 811.	Syntypes: 1 ♂. 1 ♀.
T. consobrinus Zett. 1850: 3599.	Syntypes: 2 ♀♀ + probably 3 ♂♂ and 2 ♀♀ in "Kompletteringslada I".
T. crassinervis Zett. Ins. Lapp. p. 817.	Lectotype: 1 ♂ designed by Roback 1966 (Procladius).
T. lacteipennis Zett. Ins. Lapp. p. 817.	Syntypes: 1 ♂. 1 ♀.
T. morio Zett. Ins. Lapp. p. 817.	Syntype: 1 ♂.

Box 51

Tanypus nudipes Zett. 1850: 3602 - 3603.	Syntypes: 2 ♂♂. 4 ♀♀.
T. pubitarsis Zett. 1850: 3603 - 3604.	Syntypes: 2 ♂♂. 1 ♀.
T. lugubris Zett. 1850: 3604.	Syntypes: 2 ♂♂. 1 ♀.
T. barbitarsis Zett. 1850: 3607 - 3608.	Syntypes: 3 ♂♂. 5 ♀♀.
T. signatus Zett. 1850: 3608 - 3609.	Syntypes: 3 ♂♂. 4 ♀♀.
T. pallicornis Zett. 18??	2 ♀♀.
T. sordidus Zett. Ins. Lapp. p. 818.	Syntypes: 1 ♂. 1 ♀.
T. maculipennis Zett. Ins. Lapp. p. 818.	Syntype: 1 ♀.
T. unifascipennis Zett. Ins. Lapp. p. 818.	Syntype: 1 ♀.
T. trifascipennis Zett. Ins. Lapp. p. 819.	Holotype: 1 ♂ designed by S. Roback 1966 (Apsectrotanypus).
T. carneus Fabr.	1 ♂ marked Typ.
T. melanops Meig.	Among T. melanops 1 ♂ marked T. bicolor Fries and Typ.
T. crassipes Zett. Ins. Lapp. p. 819.	Missing.
Ceratopogon univittatus Zett. Ins. Lapp. p. 820.	Only pin with name label.
C. nigritulus Zett. Ins. Lapp. p. 820 (sub C. hortulanus and C. brunnipes)	Syntypes: 3 ♂♂ (?). 3 ♀♀ (?).
C. lacteipennis Zett. Ins. Lapp. p. 820.	Syntypes: 3 ♂♂. 2 ♀♀.
C. humeralis Zett. Ins. Lapp. p. 820.	Holotype: 1 ♀ designed probably by M. Hirvenoja. He borrowed the specimen in 1969 but did not mark the holotype-label with his name.
C. sordidellus Zett. Ins. Lapp. p. 820 - 821.	Syntype: 1 ♀.
C. tessellatus Zett. 1850: 3642.	Syntype: 1 ♀.
C. vittiger Zett. 1850: 3642 - 3643.	Syntypes: 1 ♂. 1 ♀.
C. fuscipes Zett. 1850: 3644.	Syntypes: 1 ♂. + ? 1 ♂. 1 ♀ (?).
C. dorsalis Zett. 1850: 3644 - 3645.	Syntypes: 1 ♂. 2 ♀♀ (?).

The following species has so far been impossible to find (they are probably stored in some other collection):

Chironomus anthracinus Zett. 1860: 6499 - 6500.
Chironomus dahlbomi Roth n.sp. 1860: 6501.
Chironomus halteratus Zett. 1855: 4842 - 4843.

Lars Säwedal, October 1973.

LISTE DER CHIRONOMIDEN-TYPEN AM NATURHISTORISCHEN MUSEUM IN WIEN

von R. Lichtenberg

In der folgenden Zusammenstellung werden sämtliche mit Typenschildern versehene Chironomiden der Diptera-Sammlung des Wiener Naturhistorischen Museums angeführt. Die Frage, ob es sich bei allen hier angeführten Exemplaren um echte Typen handelt, soll bei einer für die nächste Zeit geplanten Revision geklärt werden.

Das Verzeichnis enthält auch Angaben über Fundorte und Herkunft der Exemplare. Bis auf einige wenige Ausnahmen handelt es sich bei den im Wiener Museum vorhandenen Typen um genadelte Tiere. Dies ist auch der Grund, warum vornehmlich ältere Exemplare bedauerlicherweise oft Beschädigungen aufweisen.

Die Diptera-Sammlung des Wiener Museums enthält Typen von Becker, Edwards, Egger, Goetghebuer, Kieffer, Marcuzzi, Meigen, Schiner, Walley, Wiedemann und v.d.Wulp.

Eine Einsicht in die Sammlung ist nach Vereinbarung jederzeit möglich.

Art	Fundort	Herkunft	Anmerkung
Clunio Haliday			
- adriaticus Schin., 2 ♂♂	Tergst.	Alte Sammlung	
Corynoneura Winn.			
- lemnae Schin., 1 ♂, 1 ♀	Austria	Alte Sammlung	
Chironomus Meig.			
- winthemi Gtgh., 1 ♂	nicht angegeben	Coll. Winth.	Hypopyg präpariert
- cingulatus Meig. 3 ♂♂,1 ♀	nicht angegeben	Coll. Winth.	
- glaucurus Wied., 1 ♂	Pensylvanien Say	Coll. Wiedem.	
- ontario Walley, 1 ♀	I. Golf S.W. Que. 14.8.1924, F.P. Ide		Paratype
- imperator Walley, 1 ♂, 1 ♀	Pt. Pelee, Ont. 3.6.1925, G.S. Walley		Paratypen
- tainanus Kieff., 3 ♂♂	Tainan, Formosa H. Sauter 1909		
Cryptochironomus Kieff.			
- crassiforceps Gtgh., 1 ♂, 1 ♀	Pietschmann, Transcaspien		Hypopyg präpariert
- psittacinus Meig., 1 ♂	nicht angegeben	Coll. Winth.	
- miki Gtgh.	nicht angegeben	Mik	Hypopyg präpariert
- virescens Meig., 1?, 1 ♂	nicht angegeben	Coll. Winth.	1?-Torso
- britteni Edw., 1 ♂	Skirurth,Cheshire, VI.1927, H. Britten	Tausch aus Brit. Mus.	Paratype

Art	Fundort	Herkunft	Anmerkung
Parachironomus Lenz			
- subalpinus Gtgh., 2 ♀♀	Austr. sup.,	Schiner 1869	Holotype von LEHMANN präpariert; Paratype
Glyptotendipes Kieff.			
- obscuripes Meig., 2 ♀♀, 1 ♂	nicht angegeben	Coll. Winth.	(Synonym zu glaucus Meig.)
Endochironomus Kieff.			
- dispar Meig., 3 ♂♂, 3 ♀♀	nicht angegeben	Coll. Winth.	
Polypedilum Kieff.			
- lenis Beck., 4 ♂♂, 1 ♀, 1?	La Palma, Simony 1889		1?-Torso
- variegatum Gtgh., 1 ♂, 1?	Alban. Exped. Kula Ljums 18.-28.V.'18		1?-Torso
- pruinosum Gtgh., 2♂♂, 1 ♀	Bursa, 14.4.26 Schmidt		
- pelostolum Kieff., 1 ♀	Tainan, Formosa H. Sauter, II.09		
Phaenopsectra Kieff.			
- punctipes Wied., 3 ♂♂	Kiel	Coll. Wiedem.	
Micropsectra Kieff.			
- gmundensis Egg., 3 ♂♂	Austr. sup., Gmunden, Schiner	Schiner 1869	
- praecox Meig., 1 ♂	Kiel	Coll. Wiedem.	(Synonym zu -gmundensis Egg.) Hypopyg präpariert
- zernyi Marcuzzi, 1 ♂	Zentral-Algerien, Dj. Sonalba b. Djélfa 14.10.1929 Zerny		Hypopyg präpariert
- miki Marcuzzi, 1 ♂	Illyria, Görz Mik, 20.4.1864		Hypopyg präpariert
- andalusiaca Marcuzzi, 1 ♂	Andalusia, Algeciras 26.-30.4.1925 Zerny		Hypopyg präpariert
Tanytarsus v.d. Wulp			
- formosanus Kieff., 1 ♂	Tainan, Formosa H. Sauter, 1908		
- horni Gtgh., 3 ♂♂	Basra, 13.-15. IV.1926, Schmidt		2 Paratypen; 1 Type von REISS präpariert
Metriocnemus v.d.Wulp			
- algerinus Marcuzzi, 1 ♂	Zentral-Algerien Hassi-Babah 11.-20.X.'29 Zerny		Hypopyg präpariert
Telmatogeton Schin.			
- sanctipauli, 3 ♂♂, 7 ♀♀, 2?	St. Paul	Alte Samml.	2?-Torso
- trochanteratus Edw., 1 ♂	Auncud 17.-19.12. 1926, S. Chile Chiloe I, F.& M. Edwards	Tausch aus Brit. Mus.	Paratype

Art	Fundort	Herkunft	Anmerkung
Eukiefferiella Thienem.			
- hospita Edw., 1 ♂	Shelford Cambs 1.7.1915	Tausch aus Brit. Mus.	präpariert Paratype
Limnophyes Eat.			
- algerina Marcuzzi, 1 ♂	Zentral-Alger. Dj. Sonalba, b. Djélfa 14.10.1929 Zerny		Kopf und Hypopyg präpariert
Orthocladius v.d.Wulp			
- tripilatus Edw., 1?	Cardington, Bedford, 28.6.1915 F.W. Edwards	Tausch aus Brit. Mus.	Paratype, Torso
- algerinus Marcuzzi, 1 ♂	Zentral-Alger. Guelt-es-Stel 14.10.1929 Zerny		
Smittia Holmgr.			
- algerina Marcuzzi, 1 ♂	Zentral-Alger. Zahrez Gharbi 17.10.1929 Zerny		Beine und Hypopyg präpariert
Trichocladius Kieff.			
- chalybeatus Edw., 1 ♂	Sidmouth S. Devon, 17.-21. 8. 1926, F.W. Edwards	Tausch aus Brit. Mus.	Paratype
Protanypus Kieff.			
- forcipatus Egger, 1 ♂	Gmunden	Alte Samml. Schiner 1869	
Procladius Skuse			
- formosanus Kieff., 1 ♂	Tainan, Formosa, H. Sauter, II.09		
Podonomus Phil.			
- nigrinus Edw., 1 ♂	Argentina Terr. Rio Negro, Bariloche, 5.XI.1926 F. & M. Edwards	Tausch aus Brit. Mus.	Paratype
Ablabesmyia Joh.			
- guttipennis v.d. Wulp 1?, 1 ♂	Holland	Alte Samml.	1? stark beschädigt
- phatta Egger, 1 ♀, 3 ♂♂	Gmunden	Alte Samml.	
1 ♀, 3 ♂♂	Austria		
- melanops Wied., 1 ♀, 1 ♂	Kiel	Coll. Wiedem.	
7 ♂♂, 2 ♀♀, 1?	nicht angegeben	Coll. Winth.	1?-Torso
- binotata Wied., 1 ♂, 2 ♀♀, 1?	Kiel	Coll. Wiedem.	1?-Torso
5 ♂♂, 1 ♀	nicht angegeben	Coll. Winth.	
- griseipennis v.d.Wulp 1 ♂	nicht angegeben		von Gtgh.als A. cingulatus Walk. nachdet.

Art	Fundort	Herkunft	Anmerkung
Ablabesmyia rufa Meig. 1?	Seeland	Coll. Wiedem.	1?-Torso
- pilicaudatus Walley, 1 ♂	Hull Que., 26.VI.1920 Miss Cramp		Paratype
- cornuicaudatus Walley, 1 ♂, 1 ♀	II.VIII.1924 Ottawa Ont. (♂) G.S. Walley 31.VII.1924, Ottawa Ont. (♀),C.H. Curran		Paratypen
- garretti Walley, 1 ♂	Oliver B.C. 16.4.1923 G.B. Garrett		Paratype
- peleei Walley, 3 ♂♂, 1 ♀	15.VII.1925 Pt. Pelee, Ont. G.S. Walley (2 ♂♂) 26.VII.1925 Pt. Pelee, Ont. G.S. Walley,(1 ♂, 1 ♀)		Paratypen
- prudens Walley, 1 ♂	H.A. Robertson Delta Man 3.7.1928		Paratype
- mallochi Walley, 1♂ 1 ♀	Aylmer, Que. 7.9.1924, C.H. Curran, Ottawa Ont. 4.7.1923,C.H.Curran		Paratypen

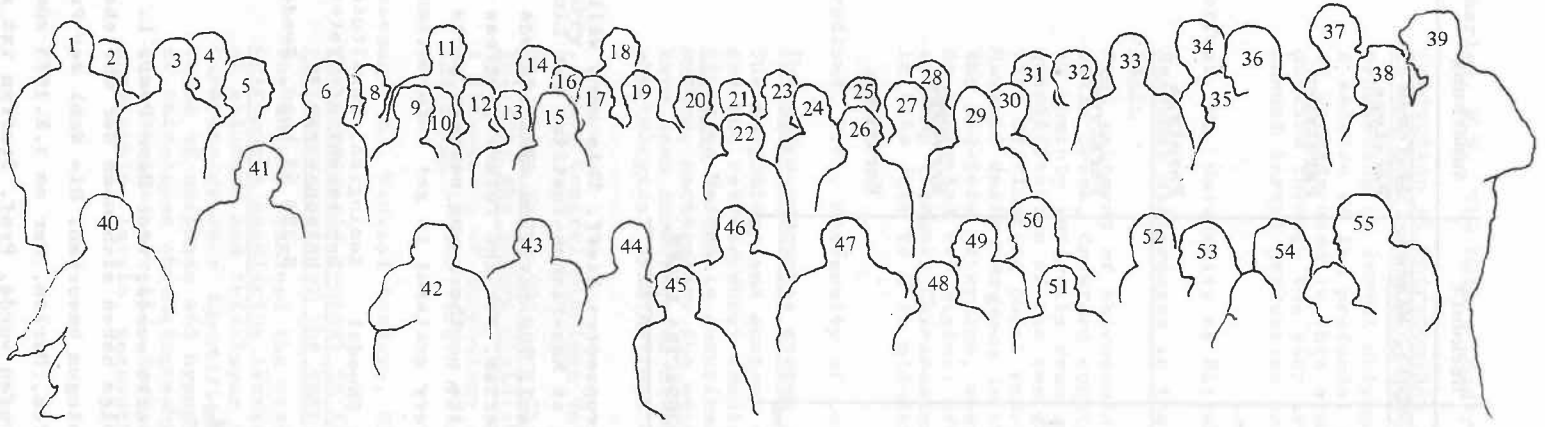
REVISION OF THE GENUS MICROPSECTRA KIEFF.

I have started a revision of the genus Micropsectra Kieff. This work will in the first place be based on the large material at Max-Planck-Institut für Limnologie in Plön, which has been placed at my disposal. The revision will include the palaearctic and later possibly the nearctic species. For the future progress of my work I need more material, especially from the northern and eastern parts of the palaearctic region. Therefore I would be very grateful to get information about the existence of such material.

Lars Säwedal
Zoological Institute
Department of Systematics
Helgonavägen 3
S-223 62 Lund, Sweden

NACHRICHTEN

Wie schon im "Chironomus" (12/13:106) mitgeteilt wurde, trat Herr Prof. L. Brundin am 1.VI.1973 in den Ruhestand. Um seine Nachfolge haben sich nach der üblichen öffentlichen Ausschreibung verschiedene Entomologen beworben. Die Wahl der Prüfungskommission fiel auf Herrn Prof. Dr. A.W. Steffan, Berlin, der am 1.X.1973 zum neuen Leiter der Entomologischen Abteilung berufen wurde. Prof. Steffan ist z.Zt. noch Leiter des Institutes für Zoologie in der Biologischen Bundesanstalt für Land- und Forstwirtschaft in Berlin-Dahlem.



1. Landahl, C.C., Sweden
2. Dejoux, C., France
3. Säwedal, L., Sweden
4. Nagell, B., Sweden
5. Humphries, C.F., Eire
6. Steffan, A.W., West Germany
7. Grossbach, U., West Germany
8. Berczik, A., Hungary
9. Jancović, M., Yugoslavia
10. Bretschko, G., Austria
11. Oliver, D.R., Canada
12. Preinreich, H., Austria
13. Laville, H., France
14. Mrs. Rosenberg, USA
15. Tait Bowman, C.M., England
16. Aagaard, K., Norway
17. Pinder, L.C.V., Great Britain
18. Rosenberg, D., USA
19. McLachlan, A.J., Great Britain
20. Beck, Jr., W.M., USA
21. Charles, W.N., Great Britain
22. Mrs. Murray, Eire
23. Rosin, S., Switzerland
24. Curry, LaVerne L., USA
25. Mrs. Rosin, Switzerland
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