

BRAUERIA (Lunz am See, Austria) 27:5-7 (2000)

### Dr. Iya Mikhailovna Levanidova 85 years

March 1, 1999 was a special day for the Laboratory of Freshwater Hydrobiology. As always we celebrated the begin of spring and it was the 85<sup>th</sup> spring of Iya Mikhailovna Levanidova's life! There was a lot of sun and many flowers, kind words and friendly greetings from everywhere; we are grateful for everything.

Limnological Institute of the Russian Academy of Sciences in Irkutsk) to work on her thesis. Here she started her scientific study of caddisflies. Why caddisflies? Just because nobody had yet studied them in Lake Baikal. The first paper "Biology and systematics of caddisfly larvae of Lake Baikal" was published in 1941. She finished her dissertation on Trichoptera of Lake Baikal in 1945. Lake Baikal and its surroundings made a tremendous impression on IL and she still remains under the spell of its beauty and majesty. In 1941, IL married Vladimir Yakovlevich Levanidov who became later a well-known ichthyologist and hydrobiologist; he was one of



Now I would like to say a few words about the heroine of this spring day. Iya Mikhailovna Levanidova (IL) was born in Kiev on March 1, 1914. Her father, Mikhail Alexandrovich Cheltzov-Bebutov, was at that time a young lawyer. Her mother, Olga Bronislavovna, brought up the daughter. At the beginning of the Civil War the father joined the army, the mother caught a cold and died soon from pulmonary tuberculosis. At the age of four years, IL was taken by her grandmother and moved to the Caucasus. They went to Tbilisi (former Tiflis) in a cattle truck and the deepest impression of the child at that time was of a big goods chest on which she slept and often fell off because of its convex cover. Many years later IL met her father again; he had a son from a second marriage. Later on, IL's brother, Alexander Mikhailovich Cheltzov-Bebutov, became an ornithologist, and Professor of the State University in Moscow.

As a young girl, she was attracted to animals, small and not so small. The house was full of four-legged, tailed, winged and crawling ones, all of which scared her grandmother. In 1931 IL finished school in Tbilisi and moved to Moscow to enter the State University. It was not necessary to pass entrance exams at that time; it was enough to be a child of workers or peasants. IL's nobiliary origin did not allow her to become a student of the University. She got a job as a laboratory assistant in the Department of Biological and Analytical Chemistry, headed by the Academy Member Gulevich, in the First Medical Institute in Moscow.

Two years later, she moved to the Ural Region to enter the Faculty of Biology in Perm University where Professor A.O. Tauson gave lectures on Hydrobiology. After finishing the University, IL continued her education as a post-graduate student under the leadership of Professor G.Yu. Vereshchagin, the well-known limnologist. In 1939 she, and other colleagues, moved to Lake Baikal to do field research at the Limnological Station of the Academy of Sciences in Listvinichnoe Village (the station became the

founders of hydrobiological investigations in the Far East. Since then both their lives have been devoted to the Far East, its great rivers and mountain streams, ichthyology and hydroentomology. The Levanidovs lived and worked in Khabarovsk and Kamchatka. In 1972 they moved to Vladivostok on the invitation of Professor N.N. Vorontzov, the director of the Institute of Biology and Soil Sciences, to found the Laboratory of Freshwater Hydrobiology. The lab was headed by Professor V.Ya. Levanidov until his death in 1981.

The research of the Institute has been concerned mainly with salmon streams, problems of natural spawning and pond-fish culture. Material was gathered at permanent and temporary stations and also in expeditions to waters of various type and size from lakes and salmon streams to the largest river, the Amur, servicing the migrational path of the salmon smolts to the sea. Research on the biology of young salmon is inseparably linked with study of the biota of salmon streams, its benthos, and the food of the young salmon. The taxonomic composition of Far East freshwater benthos, especially its basic component, amphibiotic insects, differs greatly from the European type, and is extremely diverse. In the early 50s it was poorly known. The lack of information about bottom invertebrates at that time was a serious drawback to study of the structure and productivity of the river ecosystems of the region. IL was one of the pioneers in the study of aquatic insects of the area. She also studied at that time Ephemeroptera, Plecoptera, and Chironomidae, but her work was mainly on Trichoptera. In 1981 she obtained her Ph.Sc. thesis devoted to amphibiotic insects of the mountainous regions of the USSR Far East. It was a splendid piece of research.

Many expeditions have been devoted to collecting river fauna from rivers on the southern border of the Russian Far East to the Chukotski Peninsula and Wrangel Island, Sakhalin Island and the Kurils. These studies were the result mainly of her inspiration.

From 1981 until 1990, IL was head of the laboratory. The group of her younger colleagues and friends studied longitudinal zonation and distribution of macrozoobenthos in mountain streams, structure of water invertebrate communities, biological productivity of Far Eastern watercourses, taxonomy and systematics of aquatic insects. Iya Mikhailovna has two sons; both work in the Far Eastern University in Vladivostok. One of them teaches physics, the other Japanese language. She has also three grand-children and two great-grand-children. She remains a charming lady with a great sense of humour and self-irony. IL is now retired but remains a scientific consultant of the laboratory. Her enthusiasm and experience have encouraged us to go ahead. We hope to go on meeting Iya Mikhailovna Levanidova every spring in good health.

Tatyana Arefina

## Publications of I.M. Levanidova

(Titles in brackets are the English translations)

- Arefina T.I., Levanidova I.M. (1997). Fam. Glossosomatidae, Stenopsychidae, Arctopsychidae, Psychomyiidae, Brachycentridae, Calamoceratidae. - pp. 34-41, 51-52, 53-54, 78-82, 90-93, 152-154 in: P.A. Lehr (ed.): [Key to the insects of Russian Far East. Vol. V. Trichoptera and Lepidoptera. Pt.1.], Vladivostok, Dalnauka (in Russian).
- Arefina T.I., Ivanov V.D., Levanidova I.M. (1996). Six new species and three new records of caddisflies (Trichoptera) from the Far East of Russia, with remarks on the *Hyalopsyche sachalinica* Martynov. - Far East. Entomol. 34: 1-12.
- Bebutova [Levanidova] I.M. (1941). [Biology and systematics of caddisflies larvae in the lake Baikal]. - Bull. AN USSR, 1: 82-104 (in Russian).
- Botosaneanu L., Levanidova I.M. (1987). The remarkable genus *Palaeagapetus* Ulmer, 1912 (Hydroptilidae). - Proc. 5th Int. Symp. Trichoptera, Lyon, France, 21-26 July 1986. P. 184-188.
- Botosaneanu L., Levanidova I.M. (1988). Trichoptera Hydroptilidae (Insecta) from Soviet Union Far-Eastern territories. - Bull. Zool. Mus., 11(21): 169-176.
- Ito T., Levanidova I.M., Lukyanchenko T.I., Vshivkova T.S. (1992). Lepidostomatid caddisflies (Trichoptera) of the Russian Far East, with description of female and larva of *Goerodes sinuatus* (Mart.). - Jpn. J. Entomol., 60(3): 593-607.
- Ivanov V.D., Levanidova I.M. (1993). A new species of Apataniidae from the Russian Far East. - Braueria, 20: 15-16.
- Lepneva S.G., Levanidova I.M. (1953). [Larvae of *Stenopsyche bergeri* (Trichoptera, Stenopsychidae) of the Amur river basin]. - Trudy Zool. Inst. AN USSR, 13: 326-336 (in Russian).
- Levanidov V.Ya., Levanidova I.M. (1951). [Feeding of juvenile *Oncorhynchus keta* in fresh waters]. - Izv. TINRO, Vladivostok, 35: 41-46 (in Russian).
- Levanidov V.Ya., Levanidova I.M. (1957). [Feeding of smolts of *Oncorhynchus keta* and *O. gorbusha* in tributaries of the Amur river]. - Izv. TINRO, Vladivostok, 45: 3-16 (in Russian).
- Levanidov V.Ya., Levanidova I.M. (1962). [Tyoploye lake fish hatchery and its biological productivity]. - Izv. TINRO, Vladivostok, 48: 3-66 (in Russian).
- Levanidov V.Ya., Levanidova I.M. (1962). [The migration of bottom invertebrates in the channels of Far Eastern rivers]. - Izv. TINRO, Vladivostok, 48: 1178-189 (in Russian).
- Levanidov V.Ya., Levanidova I.M. (1976). [First result of study of the fauna of freshwater invertebrates of the Chukotka Peninsula]. - pp. 3-14 in: V.Ya. Levanidov (ed.): [Freshwater Fauna of Chukotka Peninsula], Vladivostok (in Russian).
- Levanidov V.Ya., Levanidova I.M. (1979). [Drift of water insects in the Amur river]. - pp. 3-26 in: V.Ya. Levanidov (ed.): [Systematics and ecology of fishes of continental watercourses of the Far East], Vladivostok (in Russian).
- Levanidov V.Ya., Levanidova I.M. (1981). [Drift of water insects larvae in the large pre-mountain river Khor (Ussuri river basin)]. - pp. 22-37 in: V.Ya. Levanidov (ed.): [Water invertebrates of salmon rivers ecosystems of the Far East], Vladivostok (in Russian).
- Levanidov V.Ya., Levanidova I.M., Nikolaeva E.T. (1978). [Bottom communities in rivers of Koryakskoye Nagorie, Penzhina river and rivers of north-western Kamchatka]. - pp. 3-26 in: [Systematics and biology of water invertebrates in the North-eastern Asia], Vladivostok (in Russian).
- Levanidov V.Ya., Levanidova I.M., Nikolaeva E.T. (1978). [Annual dynamics of zoobenthos of the Kirpichnaya river (Kamchatka Peninsula)]. - pp. 27-36 in: [Systematics and biology of water invertebrates in the North-eastern Asia], Vladivostok (in Russian).
- Levanidova I.M. (1947). [On the knowledge of Trichoptera of the lake Kosogol (Mongolia)]. - Doklady AN USSR, 40(6): 56-563 (in Russian).
- Levanidova I.M. (1948). [On the reasons of unmixability of the faunas of the lake Baikal and Palearctic]. - [Trudy of the limnological station on the lake Baikal of the Academy of Sciences of the USSR], 12: 57-81 (in Russian).
- Levanidova I.M. (1950). [A case of parthenogenesis of Trichoptera]. - Izv. TINRO, Vladivostok, 32: 164.
- Levanidova I.M. (1951). [Larvae of Calamoceratidae from the Far East of the USSR]. - Entomol. Obozr. 34(3-4): 529-537 (in Russian).
- Levanidova I.M. (1959). [Biological productivity of salmon fish hatcheries of the Tyoploye lake]. - Proc. of the VI Meeting of biological problems of internal waters, Moscow, 10-19 June 1957. P. 14-23 (in Russian).
- Levanidova I.M. (1960). [*Apatania zonella* Zett. (Trichoptera, Limnephilidae) from Khabarovsk Territory]. - Entomol. Obozr., 39(2): 418-423 (in Russian).
- Levanidova I.M. (1961). [Contribution to the knowledge of larvae of the genus *Apsilochorema* Ulm. in the USSR (Hydrobiosinae, Rhyacophilidae, Trichoptera)]. - Tr. Inst. Zool. Parasit. Akad. E.N. Pavlovskogo Tadzhik SSR, 20: 211-215 (in Russian).
- Levanidova I.M. (1962). [Contribution to the study of caddisfly larvae (Trichoptera) of Siberia and the Far East]. - Izv. TINRO, Vladivostok, 48: 190-194 (in Russian).
- Levanidova I.M. (1964). [On the knowledge of the caddisflies (Trichoptera) of the lake Baikal]. - Ent. Obozr. 43: 677-679 (in Russian).
- Levanidova I.M. (1964). [Food of salmon fish juvenile of the Amur river basin and perspectives of its study]. - pp. 153-174 in: [Salmon Fish Hatcheries on the Far East], Vladivostok (in Russian).
- Levanidova I.M. (1964). [Zoogeography of hydrofauna of the southern Far East]. - Izv. TINRO, Vladivostok, 55: 175-195 (in Russian).
- Levanidova I.M. (1967). [Data on the fauna of caddisflies (Trichoptera) from Siberia and the Far East]. - Ent. Obozr. 46(4): 793-798 (in Russian).
- Levanidova I.M. (1968). [Benthos of the Amur river tributaries]. - Izv. TINRO, Vladivostok 64: 181-189 (in Russian).
- Levanidova I.M. (1969). [Biology of *Hydatophylax nigrovittatus* (McL.) (Trichoptera, Limnephilidae) in Far Eastern watercourses]. - Hydrobiol. J., Kiev 5: 64-67 (in Russian).
- Levanidova I.M. (1970). [Ecology and zoogeography of stoneflies, mayflies and caddisflies of Kamchatka peninsula rivers]. - Izv. TINRO, Vladivostok, 73: 100-114 (in Russian).
- Levanidova I.M. (1970). [Stoneflies (Plecoptera) of Kamchatka]. - Izv. TINRO Vladivostok, 78: 203-224 (in Russian).
- Levanidova I.M. (1972). [Mayflies (Ephemeroptera) of Kamchatka]. - Izv. TINRO, Vladivostok, 82: 93-115 (in Russian).
- Levanidova I.M. (1975). [Caddisflies (Trichoptera) of Kamchatka (ecological and faunistic survey)]. - Izv. TINRO, Vladivostok, 97: 83-114 (in Russian).
- Levanidova I.M. (1976). [Ephemeroptera and Trichoptera of Chukotka Peninsula]. - pp. 38-56 in: V.Ya. Levanidov (ed.): [Freshwater Fauna of Chukotka Peninsula], Vladivostok (in Russian).
- Levanidova I.M. (1977). [New species of Rhyacophila (Trichoptera, Rhyacophilidae) of southern Primorye]. - pp. 64-71 in: V.Ya. Levanidov, I.M. Levanidova and E.A. Makarchenko (eds): [Freshwater Fauna of "Kedrovaya Pad" Reserve], Vladivostok (in Russian).
- Levanidova I.M. (1978). [Caddisflies (Trichoptera) and mayflies (Ephemeroptera) of the upper part of the Ussuri river basin]. - pp. 140-159 in: [Study of biocenosis at the Upper Ussuri Station], Vladivostok (in Russian).
- Levanidova I.M. (1979). [Contribution to the study of the genus *Apatania* Kol. (Insecta, Trichoptera) on the Russian Far East. *Apatania insularis* sp. n. from Kunashir Island]. - pp. 70-77 in: V.Ya. Levanidov (ed.): [Systematics and ecology of fishes of continental watercourses of the Far East], Vladivostok (in Russian).
- Levanidova I.M. (1979). [*Glossosoma (Anagapetus) schmidi* sp. n. - a new caddisfly species and subgenus for Eurasia (Trichoptera, Glossosomatidae)]. - Trudy All-Russian Entomol. Soc., 6: 92-95 (in Russian).
- Levanidova I.M. (1979). [A new species of the genus *Apatania* (Insecta, Trichoptera) from the North-East of the USSR]. - Zool. J., 58(2): 273-275 (in Russian).
- Levanidova I.M. (1980). [Ecological and zoogeographical analysis of the genus Rhyacophila (Trichoptera: Rhyacophilidae) of the Far East of the USSR]. - pp. 60-74 in: V.Ya. Levanidov, I.M. Levanidova, I.A. Chereshev, E.A. Makarchenko (eds): [Freshwater Fauna of the Far East], Vladivostok (in Russian).

- Levanidova I.M. (1982). [Amphibiotic insects of mountainous regions of the Far East of the USSR]. - Leningrad, Nauka: 1-214 (in Russian).
- Levanidova I.M. (1986). [Caddisflies (Trichoptera) of the Far East of the USSR. Part I. Families Rhyacophilidae and Hydrobiosidae]. - [Annotated catalogue of Trichoptera and Ephemeroptera of the Far East of the USSR], Vladivostok: 3-14 (in Russian).
- Levanidova I.M. (1989). [Caddisflies (Trichoptera) of the Far East of the USSR. Part II. Families Glossosomatidae and Hydroptilidae]. - [Annotated catalogue of Trichoptera, Ephemeroptera and Megaloptera of the Far East of the USSR and adjacent territories], Vladivostok: 3-11 (in Russian).
- Levanidova I.M., Arefina T.I. (1997). Fam. Hydrobiosidae, Apataniidae. - pp. 33-34, 130-140 in: P.A. Lehr (ed.): [Key to the insects of Russian Far East. Vol. V. Trichoptera and Lepidoptera. Pt.1.], Vladivostok, Dalnauka (in Russian).
- Levanidova I.M., Arefina T.I., Kuhara N. (1995). East Palaearctic Allomyia (Trichoptera: Apataniidae). - Aquatic Insects, 17(4): 193-204.
- Levanidova I.M., Kokhmenko L.V. (1970). [Quantitative characteristics of benthos of Kamchatka peninsula rivers]. - Izv. TINRO, Vladivostok 73: 88-99 (in Russian).
- Levanidova I.M., Levanidov V.Ya. (1965). [Diurnal migrations of benthic insect larvae in the river stream. 1. Migrations of Ephemeroptera larvae in the Khor river]. - Zool. J., 44(3): 373-385 (in Russian).
- Levanidova I.M., Levanidov V.Ya. (1972). [The bottom fauna of the lake Azabachje]. - Izv. TINRO, Vladivostok, 82: 51-92 (in Russian).
- Levanidova I.M., Levanidov V.Ya., Makarchenko E.A. (1977). [Fauna of bottom invertebrates of "Kedrovaya Pad" Reserve]. - pp. 3-43 in: V.Ya. Levanidov, I.M. Levanidova and E.A. Makarchenko (eds): [Freshwater Fauna of "Kedrovaya Pad" Reserve], Vladivostok (in Russian).
- Levanidova I.M., Lukyanchenko T.I., Teslenko V.A., Makarchenko M.A., Semchenko A.Yu. (1989). [Ecological studies of salmon streams of the Soviet Far East]. - pp. 74-111 in: I.M. Levanidova and E.A. Makarchenko (eds): [Systematics and ecology of river organisms], Vladivostok (in Russian).
- Levanidova I.M., Nikolaeva E.T. (1968). [Drift of invertebrates in rivers of Kamchatka peninsula]. - Izv. TINRO, Vladivostok 64: 291-299 (in Russian).
- Levanidova I.M., Rubanenkova L.S. (1965). [On the methods of studying life cycles of amphibiotic insects]. - Zool. J., 44: 34-45 (in Russian).
- Levanidova I.M., Schmid F. (1977). Three new Rhyacophila from Siberia and the far-eastern USSR (Trichoptera, Rhyacophilidae). - Natur. can. 104: 501-505.
- Levanidova I.M., Schmid F. (1981). Considerations on Archithremma ulachensis Martynov (Trichoptera, Limnephilidae). - Aquatic Insects, 3(2): 65-73.
- Levanidova I.M., Teslenko V.A., Lukyanchenko T.I. (1988). Research on the ecosystems of salmon rivers of the Far East: longitudinal zonation and distribution of macrozoobenthos. - Vladivostok. P. 1-53.
- Levanidova I.M., Teslenko V.A., Lukyanchenko T.I., Makarchenko M.A., Semchenko A.Yu. (1989). [Structure of benthic invertebrates communities as a basis of biomonitoring of Sikhote-Alin mountain rivers]. - pp. 69-73 in: I.M. Levanidova and E.A. Makarchenko (eds): [Systematics and ecology of river organisms], Vladivostok (in Russian).
- Levanidova I.M., Vshivkova T.S. (1984). The Terrestrial Pupa of Archithremma ulachensis Mart. (Trichoptera, Limnephilidae); Description and Considerations. - Aquatic Insects, 6(2): 65-69.
- Levanidova I.M., Vshivkova T.S., Arefina T.I., Zasyapkina I.A. (1995). A tabular check-list of caddisflies (Insecta: Trichoptera) of the Russian Far East. - Far East. Entomol. 16: 1-19.
- Levanidova I.M., Zhiltzova L.A. (1976). [Stoneflies (Plecoptera) from Chukotka Peninsula]. - pp. 15-37 in: V.Ya. Levanidov (ed.): [Freshwater Fauna of Chukotka Peninsula], Vladivostok (in Russian).
- Levanidova I.M., Zhiltzova L.A. (1979). An annotated List of the Stoneflies (Plecoptera) of the Soviet Far East. - Int. Rev. ges. Hydrobiol. 64: 551-576.
- Makarchenko E.A., Levanidova I.M., Zhiltzova L.A. (1980). [Preliminary data on the water fauna of the Wrangel Island]. - pp. 3-12 in: V.Ya. Levanidov, I.M. Levanidova, I.A. Chereshev, E.A. Makarchenko (eds): [Freshwater Fauna of the Far East], Vladivostok (in Russian).
- Mey W., Levanidova I.M. (1989). Revision der Gattung Apataniina Mosely, 1936 (Trichoptera, Limnephilidae). I. - Tijdschr. Entomol., 96: 105-167.
- Nimmo A., Arefina T.I., Levanidova I.M. (1997). Fam. Limnephilidae. - pp. 93-126 in: P.A. Lehr (ed.): [Key to the insects of Russian Far East. Vol. V. Trichoptera and Lepidoptera. Pt.1.], Vladivostok, Dalnauka (in Russian).
- Schmid F., Arefina T.I., Levanidova I.M. (1993). Contribution to the knowledge of the Rhyacophila (Trichoptera) of the sibirica group. - Bull. Inst. R. Sci. Nat. Belg., Ent. 63: 161-172.
- Schmid F., Levanidova I.M. (1986). Quelques Trichopteres de l'extreme-orient sovietique. - Can. Ent. 118: 1165-1172.
- Tianova T.M., Levanidova I.M. (1989). Description of a New Mayfly Species (Ephemeroptera) from the Soviet Far East. - Aquatic Insects, 11(4): 241-245.
- Zhiltzova L. A., Levanidova I. M. (1970). [A new for the fauna of the USSR subfamily of Plecoptera (Insecta)]. - Ent. Obozr., 49: 377-381 (in Russian).
- Zhiltzova L. A., Levanidova I. M. (1978). [New species of stoneflies (Plecoptera) from the Far East]. - Trudy Zool. Inst. 61: 3-29 (in Russian).
- Zhiltzova L. A., Levanidova I. M. (1984). [Annotated catalogue of the stoneflies (Plecoptera) of the Far East]. - pp. 18-45 in: I.M. Levanidova, E.A. Makarchenko, A. Yu. Semchenko (eds): [Biology of the Fresh Waters of the Far East], Vladivostok (in Russian).
- Zhiltzova L. A., Zappekina-Dulkeit Yu. I., Levanidova I. M. (1975). [Palaearctic species of the genus Isocapnia Banks (Plecoptera, Capniidae)]. - Ent. Obozr., 54: 565-576 (in Russian).
- Zwick P., Levanidova I. M., Zhiltzova L. A. (1971). [On the fauna of Plecoptera from the Soviet Far East]. - Ent. Obozr., 50: 849-869 (in Russian).



## Book Review

**Els macroinvertebrats dels rius catalans. Guia ilustrada.** By Ma.Angels Puig. 1<sup>st</sup> edition. 1999. Generalitat de Catalunya, Departament de Medi Ambient, Barcelona. 251 pp. ISBN 84 393 4828 2. - Further information from the author at [puig@ceab.csic.es](mailto:puig@ceab.csic.es).

A very nice example of what can be done to provide a guide to a specialised fauna of a restricted area. In this instance, the riverine macroinvertebrates of Catalonia, Spain.

Essentially a laboratory manual for schools, colleges, and universities, the keys are pictorial, with verbal statements minimised, and yes/no (or si/no) options only. The si/no choices are 'arrowed' to point to suitable illustrations of each option. The illustrations (throughout the text) are colour photos, usually with the character in question identified by pointers (rather as in the Peterson Field Guides to birds). The keys guide one, first, to class, the order, finally family. They are colour-coded, by broad arrows at the upper left hand page edge, for each class and order; and the parts of the text treating in detail with each order are identically colour-coded along the entire page edge, making it easy to check text after identifying a specimen. The coding is only visible if the pages are fanned back.

The keys and text illustrations are found only in the Catalan portion of the book, but the text is fully repeated in Castilian and English. Each refers to the illustrations in the Catalan section. Here, colour coding (darks and light grey) is used simply to distinguish the Castilian and English texts respectively.

Specimens are keyed only to family. However, the textual treatment of each order, family by family, frequently mentions genera, sometimes species, their ecology/biology, and habitats occupied.

The book, 23 x 17 cm wide, is paper-bound in signatures, printed on high quality glossy paper. I assume that the logo statement that it is 'paper ecologia' means recycled paper.

For non-Spanish users a knowledge of French, and regular invertebrate terminology, will largely overcome any difficulties with the Catalan keys. A small glossary of English equivalents for purely Catalan words would help, however. Generally the key illustrations are quite satisfactory, but a few are not well focussed.

While, in many instances, it may be possible to key specimens to genus, the keys are limited to the taxonomic level currently accepted in water quality studies. Aquatic adults could, of course, be taken to species, but not so with immatures of many groups. If users wish to attempt more precise identification, they may proceed to other specialised literature, of which a two page bibliography is provided at the end of the Catalan section.

Andrew P. Nimmo