

Proceedings of the

**FOURTH EUROPEAN WORKSHOP
OF INVERTEBRATE ECOPHYSIOLOGY**

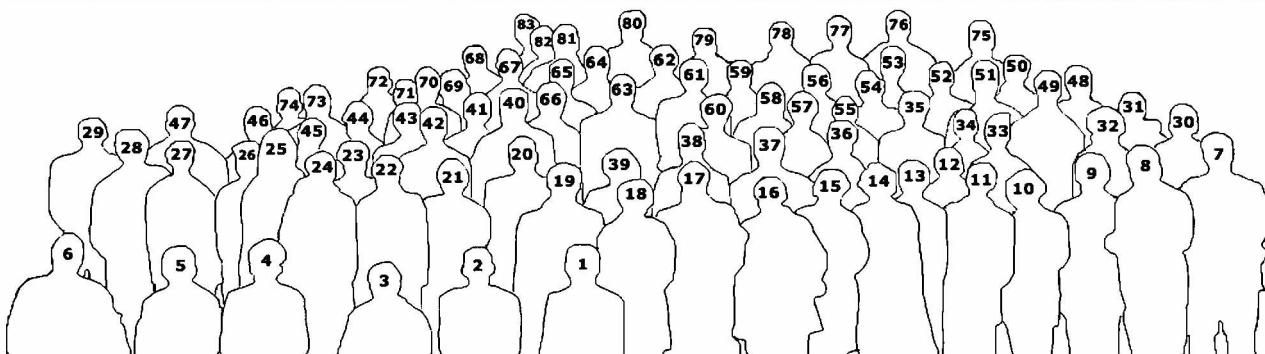
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Legend to Photo

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Professor Alexander S. Danilevsky

Alexander Sergeevich Danilevsky was born on 4th March 1911 in the Ukraine (near Mirgorod, Poltava prov.). His ancestors on the maternal side include the giants of Russian literature, Alexander Pushkin and Nikolai Gogol'. His grand-mother, Maria Bykova, was a grand-daughter of A.S. Pushkin, while his grand-father, Nikolai Bykov, was a nephew of N.V. Gogol'. His mother Sophia was a teacher, and his father Sergei an agronomist.

The young Sasha became interested in entomology while at school in Poltava. After graduating in Leningrad, he entered the Institute of Applied Zoology and Phytopathology (1930–1933), where he specialized on Lepidoptera, under the supervision of Prof. N.J. Kuznetsov, the then expert on insect systematics and physiology at the Zoological Institute of the Academy of Science.

Successful research on the food specialization of insects at the Institute of Plant Protection (the subject of his first publication in "Entomologicheskoye Obozreniye", 1935), was terminated when, as a result of political repressions after the murder of Sergei Kirov, Danilevsky was exiled to Kazakhstan in 1934.

In 1936 Danilevsky began studying the ecology of the silkworm *Philosamia cynthia*, and its acclimatization for his PhD at the Department of Entomology of the Leningrad University, under the supervision of Prof. B.N. Schwanvich. There he came to appreciate the ecological significance of diapause as an adaptation to seasonal changes, and met an undergraduate student, Galina Shel'deshova, who became his wife, and life and work companion. During the war (1941–1945) Galina and their son Sergei (born on June 22) lived at Poltava, while Alexander Danilevsky served in the medical corp of the Soviet Army. While in the army

Danilevsky completed his PhD and defended it during the German blockade of Leningrad (April 5, 1943).

In November 1945, Danilevsky returned to the Department of Entomology of the Leningrad University, first as an Assistant, and from December 1946 as an Associate Professor. In the difficult period after the war he began studying the role of day-length in the control of insect diapause, together with Kira Geyspits, Ekaterina Glinyanaya and Nikolai Goryshin. This research was carried out at the new Laboratory of Entomology at the Biological Research Institute (in suburbs of Leningrad near Staryi (Old) Peterhof) and published in 1948–1949 in "Doklady Akademii Nauk". Similar experiments were carried out later at the University field station ("The Forest on the Vorskla River") in the Belgorod province. Use of insects from the south of the country (from Belgorod, and especially from Sukhumi) revealed the importance of geography in the photoperiodic responses of insects.

Danilevsky's great contribution to the knowledge of insect photoperiodism and diapause is his monograph, "Photoperiodism and seasonal development of insects" (1961), which presented an in depth analysis of the adaptive role, regularities, mechanisms and genetics of photoperiodic control of the seasonal development of insects. This was a very novel ecological concept at that time. This book was completed when Danilevsky became the Head of the Department (1958) thanks to the substantial help of his wife, Galina Shel'deshova, and other colleagues. It was awarded the First University Prize and stimulated intense research into the ecological and physiological aspects of seasonal photoperiodism in insects, mites and ticks, conducted by a group of younger scientists: Inessa Kuznetsova, Elena Vinogradova, Valentin Belozеров, Vera Maslennikova, Viktor Tyshchenko, Galina Tyshchenko, Tatiana Kind, Vladilen Kipyatkov, Aida Saulich, Tatiana Volkovich. PhD students from Armenia, Azerbaijan, China, Poland and Egypt contributed to this research. The main results of which were published in "Photoperiodic Adaptations in Insects and Acari" edited by Danilevsky for the 13th International Congress of Entomology (Moscow, 1968).

At that time Alexander Danilevsky was elected Dean of the Biological Faculty, which involved a great deal of administration. This caused his unexpected and premature death after a heart attack on June 27, 1969, just as he was planning to give up the administration and return to research. On the day of his death he showed the Laboratory and the famous Peterhof fountains to the prominent insect physiologist Gottfried Fraenkel.

More than a half-century after the study of insect photoperiodism was initiated by A.S. Danilevsky, the strong seedling has developed into an international tree of ecophysiology of invertebrates, of which the small branch represented by the distinguished Danilevsky's scientific school is vigorous and vital.

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Fourth European Workshop on Invertebrate Ecophysiology

Continuing the sequence of the three previous very successful meetings held in Paimpont, France (1992), České Budějovice, Czech Republic (1995) and Birmingham, UK (1998) the IVth European Workshop on Invertebrate Ecophysiology took place from 9 to 14th September 2001, at *St. Petersburg State University* – the oldest University in Russia. This meeting was dedicated to the memory of the late Prof. Alexander S. Danilevsky (1911–1969), the former head of the Department of Entomology, Leningrad (St. Petersburg) University, and held on the occasion of the 90th anniversary of his birth and the 40 years that have elapsed since the publication of his famous book *Photoperiodism and Seasonal Development of Insects*, first printed in Russian in 1961.

The workshop was held in *The University Conference Centre*, which is situated next to the main building of the University, in the historical centre of St. Petersburg near the river Neva. In spite of its European designation the workshop was attended by many specialists from outside Europe. In addition to 16 European countries the participants came from three other continents and 6 other countries, including Canada, Iran, Japan, New Zealand, South Africa and the USA. The biggest contingent of non-European scientists was from Japan. Exactly 100 participants, 50 from Russia and the Ukraine and 50 from outside the former USSR took part in the workshop. There were 16 invited lectures, 38 offered talks and 55 poster presentations, which were arranged in six sessions: *Diapause and life cycle strategies*, *Intra- and interpopulation variation in ecophysiological traits*, *Effects of temperature and thermoregulation*, *Overwintering and cold hardiness*, *Water relations and respiration*, *Impacts and responses to climate change*.

The workshop was attended by three generations of scientists: The age difference between the eldest and youngest participants was a bit more than 50 years. The great attendance of specialists, eminent scientists and young beginners, which came from all over the world to St. Petersburg University, is an acknowledgement of the contribution to the ecophysiology of invertebrates that was made here by Alexander Danilevsky, his pupils and colleagues. It indicates that the scientific school created by Prof. Danilevsky was and still is, an important and developing part of the world ecophysiology. The considerable number of very young participants indicates that the future prospects for ecological physiology are good. Our Science is in good health!

Prof. Vladilen E. Kipyatkov
Chairman of the Workshop Organising Committee