

## IN MEMORIAM



**1947-2008**

**Doctor, Professor  
Peter Petrovich Ivanischuk**

Peter Petrovich Ivanischuk, the head of the Department of Biology and Ecology of the Ivanovo State Medical Academy, professor, doctor of science, passed away suddenly on January 20, 2008. Unexpectedly, we lost an outstanding researcher and teacher, whose life path was bright and straight.

Peter Petrovich was born in the Ukraine in the family of farmers in 1947. In 1964 he finished a school and in 1970 graduated the pediatric department of the Ivanovo State Medical Institute. During his student years he was an active member of the science club in the biological department and then all his professional work was connected with this department.

Peter Petrovich started his journey into science from studying the fauna, biology, and ecology of tabanids (Diptera: Tabanidae) of Ivanovo Province. He discovered 23 species of horse-flies, among which 9 were new for the regional fauna, and describe one subspecies of

horse-flies from the genus *Haematopota* Meigen, 1803 which was new for science. He prepared the regional keys for preimaginal stages of horse-flies, found the specific features of the distribution of larvae in different biotopes, and described their ecology. He also showed for a number of horse-flies species the possibility of adaptation to anthropogenic landscapes and their possible circulation as pathogens of zoonanthroponozous diseases. In 1973, Peter Petrovich successfully defended his Ph.D. thesis with a title "Some issues in morphology, ecology, and phenology of the preimaginal phases of the development of horse-flies".

The subsequent entomological work of P.P. Ivanischuk was dedicated to karyological study of horse-flies. While writing his Dr. Sci.thesis Peter Petrovich collected vast material not only in the territory of the Middle Russia but in different regions of the USSR, including the Ukraine, Transcaucasia, Middle

East, and Far East of Russia. This scientific research had innovatory nature and led to a number of discoveries in the field of entomology. P.P. Ivanischuk was the first who developed a method for obtaining the metaphase plates from the regeneration cells of fore-stomach epithelium of horse-fly imago and to implement it in practice of studying insect karyotypes; he was granted a patent for his invention. He perfected the methods of temporary and permanent preparation of chromosomes. Peter Petrovich described for the first time karyotypes of 50 species and 40 subspecies of horse-flies, discovered high heterogeneity of chromosome numbers in species of this family, and analyzed the variability of karyotypes within and between populations. Based on the karyological criterion, he singled out two subspecies and described one species of *Tabanidae* new to science. P.P. Ivanischuk established the correlation between the size of the cell nucleus and the total length of metaphase chromosomes and introduced the concept of nuclear-chromosome index. Using as an example chromosome numbers of different groups of animals, Peter Petrovich discovered the tendencies in variability of chromosome numbers as a result of adaptive radiation of species, and proved the hypothesis about cyclic character of the process of karyotypical differentiation with alternation in periods of stabilization and destabilization of chromosome numbers.

In 1986 P.P. Ivanischuk successfully defended his Dr. Sci. thesis with a title "Comparative karyology, morphology, and ecology of horse-flies in the fauna of the USSR". In 1988 he received a title of Professor and became a head of the biological department of the Ivanovo State Medical Academy.

Since 1990, Peter Petrovich elaborated new scientific direction "Study of regeneration and transplantation of tissues and organs of mammals". His students and he were able

to obtain new, interesting, and significant for medical practice results in this area.

In total, P.P. Ivanischuk published over 165 scientific and training works. Altogether, he has 26 patents for inventions and licenses for useful models. One Dr. Sci. dissertation and 4 Ph.D. dissertations were successfully defended under the supervising of Peter Petrovich.

P.P. Ivanischuk was an excellent lecturer, a brilliant teacher and supervisor. He had immense prestige with his colleagues and was loved and respected by his students. Being the head of the biological department during 20 years, he has established a united, initiative, and creative collective.

This year, Peter Petrovich was, as usual, full of strength, energy and new plans. This was a cruel and absolutely unexpected blow to everybody. Instantaneous heart failure... We feel deep sorrow about this irreplaceable loss.

We will always remember Peter Petrovich, he will live in our hearts!

*N.A. Kulikova, on behalf of the department of biology and ecology of Ivanovo State Medical Academy.*

### **List of the main publications of P.P. Ivanischuk**

**Ivanischuk P.P. 1977a.** The description of five horse-fly species karyotypes, (pp. 14-21) // Khelevin N.V. (Ed.). *Insects – carriers of contagious diseases*. Ivanovo. 102 p. (In Russian).

**Ivanischuk P.P. 1977b.** The karyotypes of some horse-fly species of the genus *Tabanus* // *Tsitologiya*. 11: 1266-1271. (In Russian).

**Ivanischuk P.P. 1978a.** The comparative description of some horse-fly species karyotypes of the genus *Hybomitra* (Diptera, *Tabanidae*) // *Zool. Zh.* 2: 222-227. (In Russian).

- Ivanischuk P.P. 1978b.** The application of the Wroclaw taxonomy method for the determination of the degree of genealogical closeness of the genus *Tabanus* (Diptera, Tabanidae) species based on the karyotypes analysis data // *Genetika*. 7: 1195-1200. (In Russian).
- Ivanischuk P.P. 1979a.** The karyotypes of four horse-fly species of the genus *Haematopota* (Diptera, Tabanidae), (pp. 96-99) // Chubareva L.A. (Ed.). *Karyosystematics of Invertebrates*. Leningrad. 130 p. (In Russian).
- Ivanischuk P.P. 1979b.** The karyotaxonomy of horse-flies (Diptera, Tabanidae), (pp. 26-28) // Narchuk E.P. (Ed.). *Ecological and morphological foundations of Diptera systematics (Insecta)*. Leningrad. 122 p. (In Russian).
- Ivanischuk P.P., Lobanov A.M. 1980.** The description of karyotypes of some fly species, (pp. 70-78) // Lobanov A.M. (Ed.). *Diptera – carriers of contagious diseases*. Ivanovo. 97 p. (In Russian).
- Ivanischuk P.P. 1983a.** The karyotypes of five species of horse-flies // *Tsitologiya*. 4: 483-487. (In Russian).
- Ivanischuk P.P. 1983b.** The karyotype differences of some horse-fly subspecies (Tabanidae, Diptera), (pp. 53-55) // Skarlato O.A. (Ed.). *Diptera (Insecta), their systematics, geographic distribution and ecology*. Leningrad. 156 p. (In Russian).
- Ivanischuk P.P. 1984a.** The correlation between the nucleus size and the total length of the metaphase chromosomes set in oogonia of some animal species // *Tsitologiya*. 11: 1310-1313. (In Russian).
- Ivanischuk P.P. 1984b.** On the importance of the karyotype in the diagnostics of the subspecies *Tabanus autumnalis* (Tabanidae) // *Parasitologiya*. 6: 464-468. (In Russian).
- Ivanischuk P.P. 1984c.** The association between the number of chromosomes in the karyotype and the size of populations and the sizes of natural horse-fly habitats, (pp. 6-23) // Lobanov A.M. (Ed.). *Diptera (Insecta)*. Moscow. 112 p. (In Russian).
- Ivanischuk P.P. 1984d.** The karyological basis for the division of the order of dipterans into suborders, (p. 192) // Topchiy G.L. (Ed.). *Proc. IX Congress VEO, part 1. Kiev, October 1984*. Kiev. 296 p. (In Russian).
- Ivanischuk P.P. 1984e.** The comparative morphokaryotypical analysis of horse-flies, (pp. 45-60) // Lobanov A.M. (Ed.). *The questions of Diptera evolution and phylogeny*. Moscow. 126 p. (In Russian).
- Ivanischuk P.P. 1985a.** The use of the number index of chromosome homologous arms to analyze the congeneric relationships of species // *Genetika*. 1: 168-171. (In Russian).
- Ivanischuk P.P. 1985b.** The karyotypes of the horse-flies *Hybomitra erberi* and *Hybomitra peculiaris* (Diptera, Tabanidae) // *Vestnik Zool.* 4: 73-75. (In Russian).
- Ivanischuk P.P. 1985c.** The chromosome sets of four horse-fly species (Diptera, Tabanidae) // *Bull. Moskovskogo Obshchest. Ispytatelei Prirody*. 4: 50-53. (In Russian).
- Ivanischuk P.P. 1985d.** The method of preparing of the metaphase chromosomes of dipterous insects preparations. *Certificate of copyright on the invention No. 1210255*. (USSR). (In Russian).
- Ivanischuk P.P. 1985e.** Karyosystematics of horse-flies (Diptera, Tabanidae), (42-45) // Skarlato O.A. Kothekar V.S. (Eds). *Systematics of Diptera (Insecta). Ecological and morphological principles*. New Delhi. 1985 p.
- Ivanischuk P.P. 1986a.** The chromosome sets of five horse-fly species of the Caucasus // *Tsitologiya*. 1: 123-127. (In Russian).
- Ivanischuk P.P. 1986b.** The new species of horse-flies *T. dolini* sp. n. // *Parasitologiya*. 4: 310-312. (In Russian).
- Ivanischuk P.P. 1987.** The recurrence of the karyotype transformation of horse-flies and other dipterans in the course of evolution, (pp. 119-123) // Skarlato O.A. (Ed.). *Diptera and their importance for animal husbandry and agriculture*. Leningrad. 160 p. (In Russian).
- Ivanischuk P.P., Soboleva R.G. 1987.** The description of horse-fly karyotypes (Diptera, Tabanidae) of the South of the Primorskij region, (pp. 110-118) // Ler P.A., Storozheva N.A. (Eds). *The new data on Insect systematics of the Far East*. Vladivostok. 144 p. (In Russian).
- Ivanischuk P.P. 1988a.** The number of chromosomes and the ecology-geographical spreading of horse-flies, (pp. 5-9) // Lobanov A.M. (Ed.). *The Diptera morphology, systematics and ecology*. Ivanovo. 96 p. (In Russian).
- Ivanischuk P.P., Maganova D.V. 1988.** The karyotypes of five genuine fly species (Muscidae), (pp. 47-52) // Lobanov A.M. (Ed.). *The Diptera morphology, systematics and ecology*. Ivanovo. 96 p. (In Russian).
- Ivanischuk P.P. 1988b.** The sex chromosomes of

horse-flies. *The manuscript is deposited in VINITI 03.11.88, No. 7875-B88.* 11 p. (In Russian).

**Ivanischuk P.P. 1989a.** The karyotypes of the horse-fly *Hybomitra arpadi* // *Tsitologiya*. 31: 111-113 p. (In Russian).

**Ivanischuk P.P. 1989b.** The morphometric characteristic of the USSR fauna horse-fly karyotypes. *The manuscript is deposited in VINITI 17.11.89, No. 6933-B89.* 44 p. (In Russian).

**Ivanischuk P.P. 1990.** The electrophoresis research of the horse-flies larva haemolymph. *The manuscript is deposited in VINITI 13.12.90, № 6263-B90.* 5 p. (In Russian).

**Ivanischuk P.P. 1991.** The methods of preparing of horse-fly chromosomes preparations, (pp. 37-48) // Lobanov A.M. (Ed.). *The Diptera (Insecta) morphology and ecology*. Ivanovo. 86 p. (In Russian).

**Ivanischuk P.P. 1993.** The morphology of spermatogenesis of *Tabanus autumnalis* L. (Diptera, Tabanidae), (pp. 88-91) // Skarlato O.A. (Ed.). *Karyosystematics of Invertebrates, II*. St. Petersburg. 128 p. (In Russian).

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