

## Professor Vira V. Protopopova: the 75 Anniversary

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Professor Vira V. Protopopova celebrates her 75<sup>th</sup> anniversary. She is well known in Ukraine and far beyond as a famous Ukrainian botanist who made a great contribution to botanical science, especially to studies of plants invasions, alien species, taxonomy of orchids (Orchidaceae), composites (Asteraceae), ferns (Polypodiophyta) and fern allies (Lycopodiophyta and Equisetophyta) and many other families of plants. Professor V. Protopopova is also a recipient of the M. G. Kholodny Award of the National Academy of Sciences of Ukraine, Honorary Member of the Ukrainian Botanical Society and Head Researcher at the M. G. Kholodny Institute of Botany, National Academy of Sciences of Ukraine.

Vira V. Protopopova was born on 2 March 1933 in Kharkiv (Khar'kov). In 1952 she entered Taras Shevchenko Kiev State University and specialized in botany. Already during her student years, Vira Protopopova participated in first scientific research projects, which resulted in her first publications. In 1958, she graduated from the university and received her Biologist Diploma. In 1956-1958 Vira Protopopova worked at the O.V. Fomin Botanical Garden of Taras Shevchenko University. Since 1958, Vira is on the staff of the Department of Systematics and Floristics of Vascular Plants of the M. G. Kholodny Institute of Botany, Academy of Sciences of the Ukrainian SSR, first as a research assistant (1958-1961), then as a postgraduate student (1961-1964), junior researcher (1964-1974), senior researcher (1974-1992), and head scientific researcher (1992-until now).

V. Protopopova participated in many botanical expeditions and excursions to almost all regions of Ukraine, especially Polissya (northern forest zone), Podillya

(Podolian Highland), the Carpathian, the Black Sea area, Donbass and other regions of the Ukrainian Southeast and Crimea. She also explored the flora of Moldova, the Caucasus, Russian areas of the Kuban River, Meschera, Mordovia, etc. (Fig. 1). Materials and observations accumulated during the fieldwork were later the base for further thorough floristic and taxonomic investigations and publications of Vira Protopopova.

In 1966, under supervision of Professor Mykhaylo I. Kotov, Vira Protopopova prepared and successfully



Fig. 1. Vira Victorivna Protopopova

defended her PhD thesis (Candidate of Biological Sciences). It was the first comprehensive study of alien (adventive) plant species in Ukraine, mainly plants occurring in the steppe and forest-steppe physiographic zones. Materials of that study were published in the book *Alien Plants of the Forest-Steppe and Steppe of Ukraine* (Protopopova 1973). Later, in 1989, she brilliantly defended her Dr. Sci. dissertation (Doctor of Biological Sciences). Main results of her doctoral research were also generalized in her new book, *The Synanthropic Flora of Ukraine and Pathways of its Development* (Protopopova 1991).

In such brief article it is impossible even to enumerate the main scientific results obtained by Vira Protopopova in the course of her lifelong research. However, some aspects of her scientific achievements should be mentioned here. A more detailed biographical sketch of Vira Protopopova, her complete bibliography and selected photographs comprise the anniversary book, recently published in Ukrainian by the M. G. Kholodny Institute of Botany, NAS of Ukraine, which is freely available online (<http://www.botany.kiev.ua/doc/protopopova.pdf>).

Vira Protopopova was a true pioneer in exploring the synanthropic flora of Ukraine, revealing its general and regional features and distribution of main groups of synanthropic plants. She put forward and proved the hypothesis of the species diversity threshold in synanthropic floras, and worked out an index for assessment of ecological conditions in different regions. Professor V. Protopopova also analyzed the 150-year history of adventization (spreading of alien species) of the Ukrainian flora, estimated influencing factors and revealed the main causes behind dynamic changes of the alien plants ranges in Ukraine. All these generalizations served as a basis for practically important scientific forecasts of synanthropization of regional floras depending on environmental changes. In addition, Vira Protopopova identified the general directions and modes of synanthropization and adventization of the Ukrainian flora, further developed and expanded an ecological and floristic classification of alien plants based on pre-existing categorization systems. An original hypothesis on the recent origin of some local endemic species from archaeophytes was proposed, which opened new prospects in studies of local endemism in anthropogenically transformed areas. Professor V. Protopopova assumed that microevolutionary changes of alien plants within their secondary ranges in many cases occurred through hybridization and allopolyploidization, with subsequent differentiation of sympatric and marginal races.

In 1997 Vira Protopopova received the M. G. Kholodny Award, the highest scientific recognition in plant science from the National Academy of Sciences of Ukraine. Two monographs and numerous original articles comprised a series under the generalized title

*Theoretical and applied aspects of natural differentiation and synanthropization of the spontaneous flora of Ukraine* which won the Kholodny Award.

Professor V. Protopopova published numerous detailed critical taxonomic treatments of many taxa of both native and non-native plants of the Ukrainian flora and the flora of Eastern Europe. Among her favorite taxonomic groups are ferns (Polypodiophyta) and fern allies (Lycopodiophyta, Equisetophyta), orchids (Orchidaceae), some amaranths and chenopods (Amaranthaceae and Chenopodiaceae), Oxalidaceae and some groups of Asteraceae (among others *Bidens*, *Galinsoga*, *Helianthus*, *Xanthium*). In her articles and flora treatments she revealed and expanded the species composition of various plant families, reported new plant records for the European part of Eastern Europe, Ukraine, the Caucasus and other regions, developed precise identification keys for various species and genera of the Ukrainian flora, discussed chorological and ecological peculiarities of species, and covered many other aspects and issues of floristic and taxonomic botany. The obtained scientific results were included in many manuals and floras published in Ukrainian and Russian (Didukh *et al.* 2000; Protopopova 1965, 1970, 1976, 1977, 1979, 1980, 1981, 1986, 1987, 1994, 1996, 2002).

Professor V. Protopopova authored and co-authored of more than 200 publications in many scientific journals in Ukraine, Russia, Slovak Republic and USA and proceedings of international conferences on alien plants, synanthropic floras, and systematics of orchids (among others, in Germany, Estonia, Hungary, Russia, Slovak Republic, and Italy). Not surprising, Vira has many friends both in Ukraine and abroad, especially in Russia and other countries of the former USSR, as well as in Poland, Hungary, Czech Republic, Slovak Republic, USA and many other parts of the world.

During her teaching career Professor V. Protopopova supervised three dissertations of her postgraduate students, Drs. Iryna A. Tymchenko (degree awarded in 1996), Tatyana V. Vasylyeva-Nemertsalova (1996), and Iryna V. Kovtun (2004).

Vira Protopopova eagerly shares her profound knowledge of the plant world not only with professional botanists but also with many other people interested in plants and environmental sciences. She was always active in popularization of botanical knowledge. Together with her colleagues she prepared and published many interesting, substantial, richly illustrated and even poetic popular books about plants (Morozjuk & Protopopova 1979, 1986, 2007; Panova & Protopopova 1983, 1987; Protopopova 1989; Zaverukha *et al.* 1983). These and her other popular books are still used at schools and universities in Ukraine; they are rich sources of information for both professionals and amateurs interested in the green world around us.

For many years Professor V. Protopopova was a member of the Botanical Division of the National Commission on the Red Data Book of Ukraine, member of the editorial board of the *Ukrainian Botanical Journal (Ukrayins'kyi Botanichnyi Zhurnal)*, member of the Qualification Council of Dr. Sci. degree at the M. G. Kholodny Institute of Botany, Head of the Section of History of Science of the Ukrainian Botanical Society, and now she is a member of the Qualification Council awarding Dr. Sci. degree at the M. M. Gryshko National Botanical Garden of the National Academy of Sciences of Ukraine.

Colleagues also know Vira Protopopova as a charming and gentle woman with an open and generous soul and the heart full of love for people.

Botanists, colleagues, and friends congratulate Vira Protopopova with her 75<sup>th</sup> Anniversary and wish her many happy and healthy years, new achievements and publications. Dear Teacher and Friend, please accept our best wishes!

Mnogaya i blagya lita! Ad multos annos!!!

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