Collecting onion, garlic and wild species of *Allium* in central Asia, USSR

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Most of the 600 species of *Allium* are distributed in Afghanistan, Turkey, Iran and central Asia; Turkmen SSR, Uzbek SSR, Tadzhik SSR, Kirgiz SSR and Kazakh SSR; and Mongolia, the Tien-Shan Mountains and the Himalayas. Vavilov and Bukinich (1929), on the basis of ecotypes and wild forms, confirmed that Afghanistan and adjacent countries are the genetic centre of origin of the cultivated forms of onion and garlic.

The aim of the expedition, 1-25 July 1988 was to collect cultivated forms of onion and garlic and wild species of *Allium* in Uzbek SSR, Tadzhik SSR, Kirgiz SSR and Kazakh SSR.

Local cultivars of onion and garlic were mainly collected in markets. Wild species were collected in natural environments in the Tien-Shan, Pamir and Darwaz mountains, the river valleys of Pskem, Syrdaria, Susamyr, Amudaria, Naryn, Aksu and the steppes of south Kazakhstan.

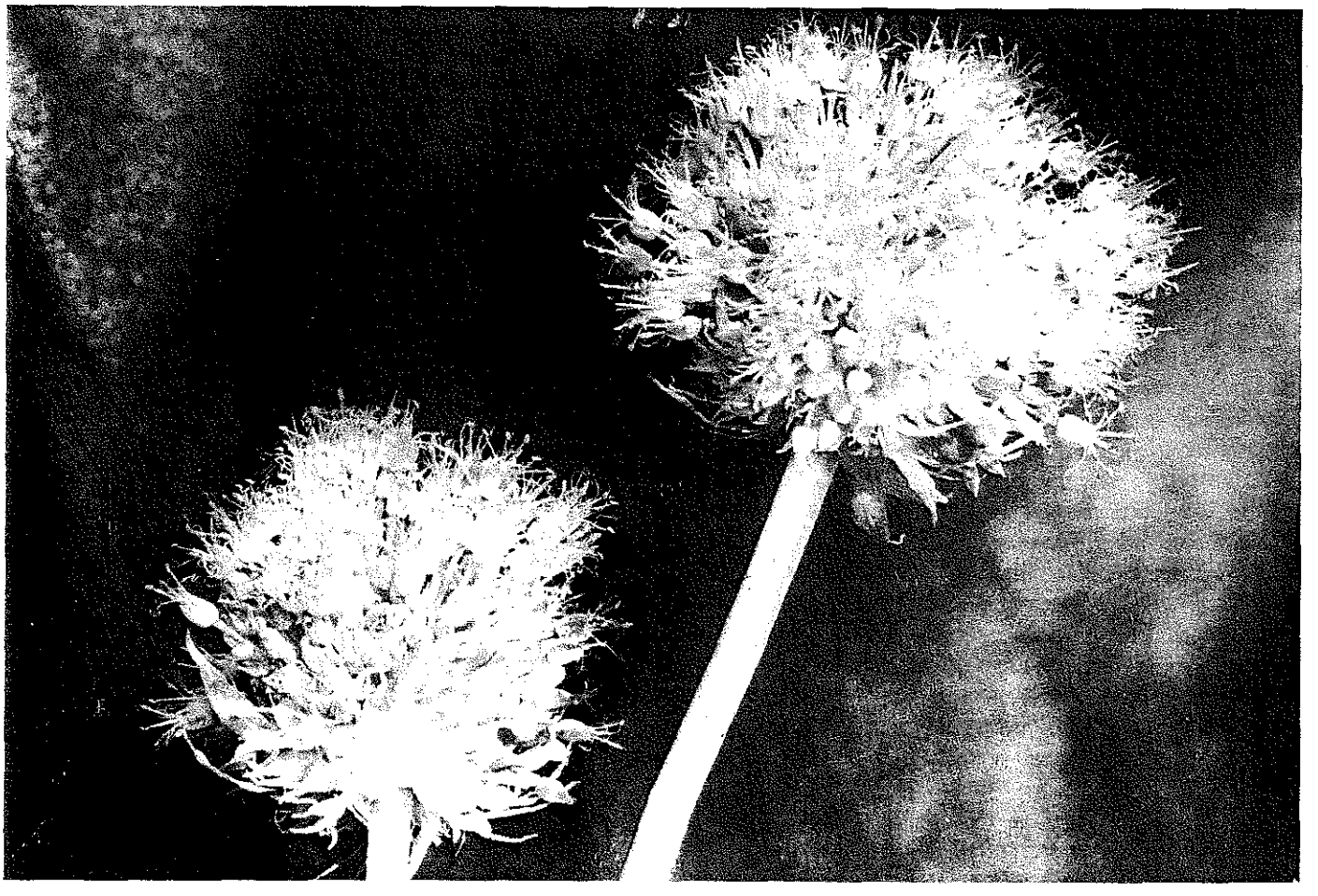

Fig. 1. Inflorescences of garlic with fertile pollen, Dushanbe, Tadzhik SSR

Great diversity in local cultivars of onion and garlic was found. In total 162 accessions were collected during the expedition (Table 1).

22 accessions of local varieties of long- and short-day types of *Allium cepa* were collected, as follows; six accessions with red dry skin, four accessions with white dry skin, 12 accessions with yellow dry skin.

Three types of garlic (*Allium sativum*) differentiated by morphological and agronomical characters such as earliness,

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Table 1. Samples collected in July 1988, central Asia

Name	No. accessions	Name	No. accessions
Allium cepa L.	22	*A. drobovi* Vved.	5
A. sativum L.	32	*A. sewercowii* Rgl.	1
A. christophii Trautv.	2	*A. zerawszanii*	1
A. longicuspus Rgl.	4	*A. dzusaj*	1
A. verticillatum Rgl.	1	*A. galanthum* Kar. et Kir.	1
A. aroides M. Pop. et Vved.	1	*A. suvorovii* Rgl.	1
A. caeruleum Pall.	4	*A. oreophilum* C.A. Mey	1
A. karataviense Rgl.	1	*A.* sp.	27
A. stipitatum Rgl.	2	*Dacus carota*	2
A. pskemense B. Fedtsch.	2	*Cucumis sativus*	4
A. preamixtum Guss	1	*Prunus persica*	1
A. hymenorrhizum Ldb.	1	*Iris* sp.	2
A. schoenoprasum L.	1	*Tulipa* sp.	7
A. barszczewskii Lipsky	1	*Astragalus schrenkianus*	2
A. ceasium Schrenk.	4	*A. exinus*	2
A. aflatunense B. Fedtsch.	2	*A. inagualifolius*	1
A. altissimum Rgl.	1	*Aegilops* sp.	2
A. atropurpureum Waldst. et Kit	1	*Hordeum bulbosum*	1
A. fistulosum L.	1	Others	6

shape, size, colour of head and cloves are grown in the Asia Soviet Republic. 32 local populations of garlic were collected and four accessions of garlic with fertile pollen were found (Fig. 1). Wild garlic can also be divided into three morphologically different groups. Most of the local varieties were developed from this wild garlic.

69 accessions were collected of the wild species *A. pskemense, A. altis, A. oschaninii, A. vavilovii, A. altaicum, A. giganteum, A. odorum, A. stipitatum, A. aflatumense* and *A. longicuspus.* All are similar to *A. cepa* and are used as food.

A. longicuspus is a very interesting species, collected in the mountain regions of Tien-Shan, because it is free of viruses as confirmed by serological study.

Reference

Vavilov, N.I. and Bukinich, D.D. 1929. Zemeledelcheskii Afganistan. Tr. po. prikl. botanike, genetike i selekcii VIR. T.Z. 156-158.