

COLLECTION OF PISUM GERmplasm IN TURKEY IN 1985 AND 1989

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Expeditions in collaboration with Turkish scientists were undertaken in 1985 and 1989 to collect wild and indigenous forms of food legumes in Turkey. Major production areas for food legumes were explored in 1985 and mostly cultivated landraces of lentil and chickpea were collected. A major part of the 1985 trip was concentrated in the southeastern production area along the Euphrates River. That area is now in the process of being flooded upon completion of a series of dams on the river. As a result, production areas and villages are in the process of being relocated. Because of these changes, it was considered of primary importance that the landraces and wild species of that area be collected and preserved. The major objective of the 1989 trip was to collect wild species of Pisum, Lens, and Cicer.

While the 1985 trip to southeastern Turkey concentrated on collection of landraces, the 1989 trip concentrated on collection of wild species of Lens, Cicer and Pisum in mostly uncropped, dry and rocky habitats and adjacent small cultivated fields. The combined route taken by the collection team in 1985 and 1989 is shown in Fig. 1. The major part of the 1989 trip was centered in the provinces of Diyarbakir, Mardin and Siirt in the southeastern part of the country.

Both the 1985 and 1989 seasons were extremely dry in Turkey, a situation that made it difficult to find and collect wild species. Germination of seeds of wild species was reduced and the size of the wild plants was quite small. Also, heavy grazing by sheep and goats added to the difficulties in finding wild material. Collection of the cultivated landraces was not affected by the dry conditions. Nearly all of the Pisum collections made were P. sativum ssp elatus in 1985, while most of the collections made in 1989 were P. sativum ssp humile (Table 1).

The wild pea collections were made mostly in fields that were planted to either lentil or chickpea. In those fields, wild pea was a weedy contaminant and they were generally mature and often had dehisced their seeds. Other areas where wild pea was found included the rocky borders of cultivated fields and rocky, noncropped areas. The noncropped areas were generally overgrazed, but often wild material could be found in niches where grazing by animals was difficult, e.g. areas with numerous large rocks and under brushy perennials.

The material is currently being increased and will be added to the National Plant Germplasm Systems Pisum collection maintained at the Regional Plant Introduction Station at Geneva, New York. We plan to evaluate the material for possible use as parents in the dry pea breeding program. According to N.F. Weeden (personal communication), additional accessions from Turkey have consistently yielded previously unavailable isozyme polymorphisms indicating that additional genetic variation can still be found there. We plan to survey the material for previously unavailable isozyme polymorphisms, and to evaluate the material for resistance to disease prevalent in our area including root rot, wilt, powdery mildew and certain viruses. Small samples of the material collected will be available on request after seed increase.

Table 1. Accessions of wild and cultivated *Pisum* collected in Turkey in 1985 and 1989

Field collection number	Species	Wild/Cult.	Elevation	Province where collected
1985:				
290685-01	<i>P. sativum</i> ssp. <i>elatius</i>	wild	430 m	Denizli
270685-0105	<i>P. sativum</i> ssp. <i>elatius</i>	wild	790 m	Mersin
010785-01	<i>P. sativum</i> ssp. <i>humile</i>	wild	800 m	Gaziantep
240785-13	<i>P. sativum</i> ssp. <i>elatius</i>	wild	930 m	Denizli
230785-07	<i>P. sativum</i> ssp. <i>elatius</i>	wild	1100 m	Afyon
190785-0105	<i>P. sativum</i> ssp. <i>elatius</i>	wild	750 m	Tokat
Qf0785-03	<i>P. sativum</i> ssp. <i>humile</i>	wild	1250 m	Diyarbakir
050785-0109	<i>P. sativum</i> ssp. <i>elatius</i>	wild	380 m	İlidiyaman
190785-02	<i>P. sativum</i> ssp. <i>arvense</i>	cult.	900 m	Tokat
040785-0302	<i>P. sativum</i> ssp. <i>arvense</i>	cult.	540 m	Urfa
1989:				
010689-0201	<i>P. sativum</i> ssp. <i>elatius</i>	wild	1270 m	Elazığ
050689-0302	<i>P. sativum</i> ssp. <i>humile</i>	wild	1050 m	Mardin
060689-0107	<i>P. sativum</i> ssp. <i>humile</i>	wild	1060 m	Mardin
070689-0202	<i>P. sativum</i> ssp. <i>humile</i>	wild	770 m	Mardin
080689-0403	<i>P. sativum</i> ssp. <i>humile</i>	wild	1050 m	Mardin
110689-0105	<i>P. sativum</i> ssp. <i>humile</i>	wild	1100 m	Siirt
110689-0302	<i>P. sativum</i> ssp. <i>humile</i>	wild	1040 m	Siirt
120689-0202	<i>P. sativum</i> ssp. <i>humile</i>	wild	630 m	Siirt
140689-0102	<i>P. sativum</i> ssp. <i>humile</i>	wild	920 m	Diyarbakir

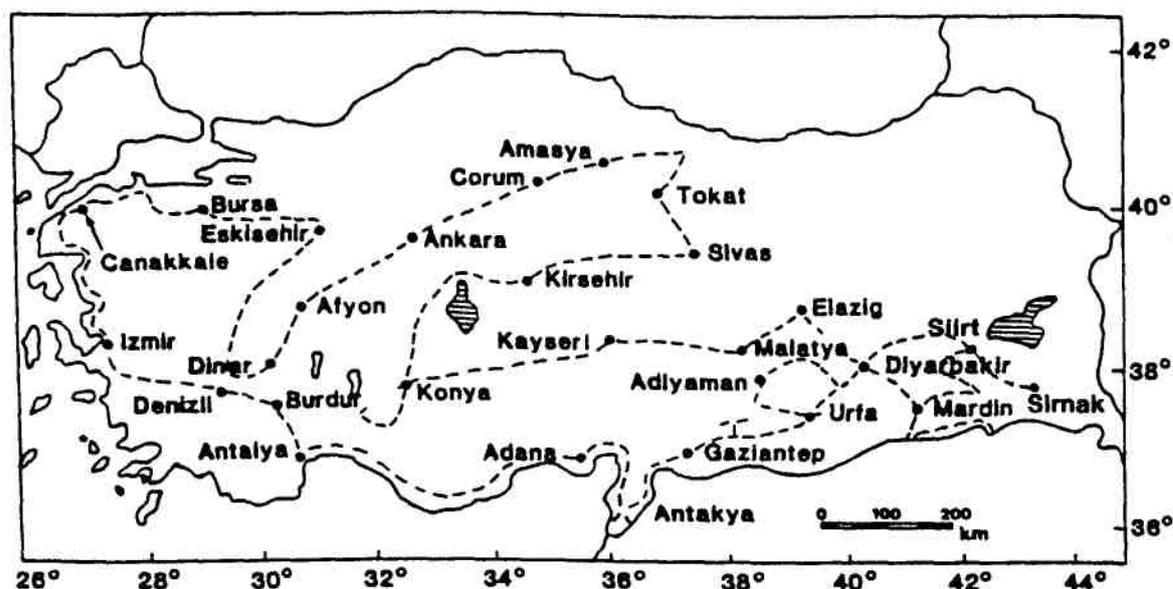


Fig. 1. Route taken by the collection team in Turkey (1985 and 1989 routes combined).