

## RESULTS OF THE CZECHOSLOVAK-IRANIAN ENTOMOLOGICAL EXPEDITIONS TO IRAN

### Introduction to the Third expedition 1977

LUDVÍK HOBERLANDT

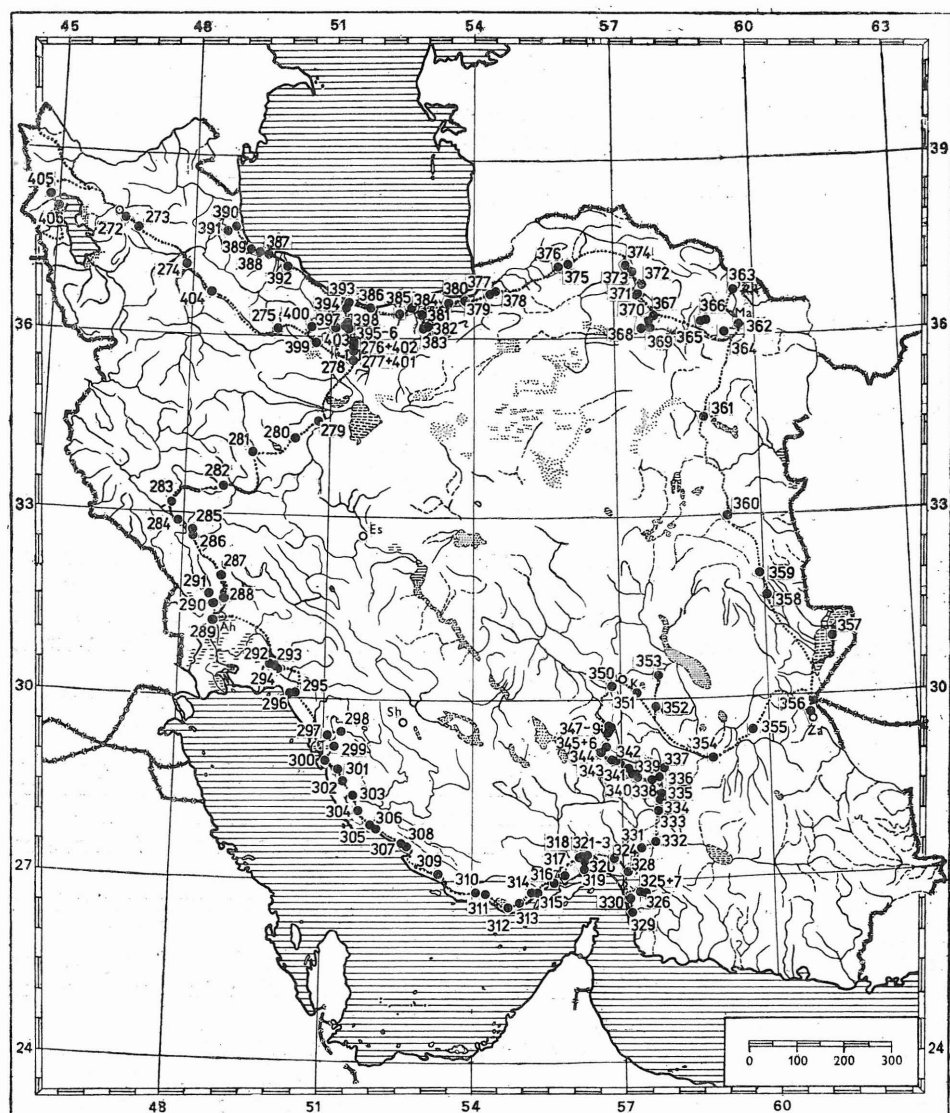
Department of Entomology, National Museum (Nat. Hist.), Praha

This is the third introductory paper, a summary of basic data concerning the Third Czechoslovak-Iranian Entomological Expedition to Iran (1977) of the Department of Entomology of the National Museum (Nat. Hist.) in Prague, which was undertaken in 1977 from March 26<sup>th</sup> to August 12<sup>th</sup>. The third expedition was realized under similar conditions to the First and Second ones, through the co-operation of a number of institutions and leading officers in Czechoslovakia as well as in Iran., first of all Dr. Adolf Čejchan and Dr. Radvan Horný, directors and Mr. Václav Pubal of the National Museum in Prague and Mrs. Cecilie Durdilová from the Ministry of Culture in Prague.

The understanding of Iranian institutions and personalities ensured that the Third expedition was realized, as with First and Second ones, fully and successfully. Gratitude is due to the Plant Pests and Diseases Research Institute in Teheran-Evin and especially to the ex-director Dr. Esfandiar Esfandiari and the acting directors Dr. Mohammad Safavi and Dr. Ghavameddine Scharif and to the Department of Ministry of Agriculture in Teheran.

All the mentioned institutions and personalities and very many others in both countries played a part in ensuring that the Third expedition was very successfully realized. For such co-operation by the realization of the Third expedition from the personalities and institutions mentioned, we wish express our great appreciation.

As the previous expeditions the Third one was carried with a special laboratory terrain car „Tatra 148“. Members of the Third Czechoslovak-Iranian Expedition to Iran in 1977 were Dr. Jiří Dlabola, Dr. Ludvík Hoberlandt, Dr. Josef Jelínek, Dr. Jan Ježek, Dr. Ivo Kovář — entomologists, Dr. Jiří Soják — botanist, Ing. Bohumil Pražan — zoologist, Mr. Otto Janka — documentator, all from the National Museum in Prague and the mechanic Mr. Karel Štich. The expedition, as the previous two, was led by Dr. L. Hoberlandt. In the territory of Iran the mission was accompanied by Dr. Mohammad Safavi, Ing. Abbas Hashemi, Ing. Ali Pazuki, Dr. Manzur Abai, Ing. Abdulkarim Mortazaviha and the mechanic Hussein Kahve, all from the Plant Pests and Diseases Research Institute in Teheran-Evin.



Map of Iran tracing the route of Third Czechoslovak-Iranian entomological expedition (1977) and the collecting localities are numbered 272—406.

During the third trip collections were made in 154 localities which are situated in 6 different geographically and floristically good characterized areas, of which two were not previously visited by the First and Second expeditions (in 1970 and 1973).

The two newly visited regions were Khuzestan and Khorassan, all other regions visited during the Third expedition covered, more or less, the previous areas (Region under influence of the Caspian Sea Basin, Region under influence of Persian Gulf Basin, Region of Daryacheh Namak and Hamonn Govkhani Basin, Region of Neyriz and Shiraz Basin, the Central Desert Basin, Sistan, Hormozgan and Baluchistan and South Zagros).

### **Khuzestan**

Khuzestan is situated on the south-western flanks of the Central Zagros — in the region of the lower Karun river as it flows in Persian Gulf lies the single largest expanse of true lowland within Iran. This area is defined by the N. E. — S. W. ridge of the Zagros, by the coast of the Persian Gulf and by the Irano-Iraqi frontier. This region is really in physical terms a segment of the great valley of Mesopotamia, a platform built up by the deposition of sediments eroded from the Zagros mountains. The lowland area which forms a large part of the Iranian province of Khuzestan, has considerable potential for agriculture development. Availability of irrigation in the regions adjacent to the foothills has allowed the spread of cultivation, especially of cereals and sugar (cane and beet). Most of the territory is marsh and swamp, diversified by occasional dune-like drier areas.

The predominant type of the vegetation is that of scattered trees and shrubs with a steppe-like ground cover which tapers out into desert-like formation from the hills towards the south-west. Floristically the vegetation of Khuzestan belongs to the Saharan-Arabian groups.

### **Khorassan**

Khorassan is characterized by the presence of mountain ranges that show much more symmetry and regularity than do those of Southern Sistan. Hence the entire mountain system of Khorassan consists of fold-structures that occur as successive ridges. In the East, towards the Soviet frontier, there are two main lines of ridges; the north-easternmost line, composed successively of Kopet Dagh, Gulul Dagh, Allabu Akber and Hezar Masjed ranges, represents a continuation of the Caucasus system, whilst the more southerly line made up by the Kuh-e Ali Dagh (Aladagh), Kuh-e Binalud and Pusth-e Kuh ridges, is more probably a continuation of the Alborz group of folds. The Northern part of the eastern rim has a structural pattern of distinct complexity — there is some supposition that the ultimate relationships of the various high ranges within Khorassan to the Pamirs, Hindu-kush and inner ranges of Afghanistan and the Himalayas.

Southwest of the Mashhad Basin the topographical pattern becomes rather complicated with a bunching of fold-structures. Between the uplands termed the highlands of Qai'n and Birjand lie regular plains and drainage basins. Between ridges and mountain massifs are expanses of

lower flatter land, sometimes occupied in their sumps by kavir or by monotonous gravel and sandy plains. The lowest levels of all, which lie eastward towards the Afghan border can be at no more than 600 m. above sea-level, but the average altitude is more of the order of 1220 to 1520 m. The lower parts are saline, bare and dusty for much of the year, or with a sharply seasonal and limited water flow that may suddenly grow into a devastating flash-flood.

The area lying between Kuh-e Binalud, Ku-e Surkh and Kopet Dagħ furnishes a good example of the sort of geographical contrasts that occur in eastern boundary districts of Iran with mountain ridges reaching upto altitudes of 3050 m.

In many of the lower-lying areas of Khorassan in the continued prevalence of salt swamp or loose sand dunes. Thorn scrub and other halophytic or xerophytic vegetal complexes dominate in most of the lower parts, but at least in some parts they give way at about 1200 m. altitude to a more luxuriant cover of grasses, deciduous trees such as mulberry, and even willow and poplar. Here the cultivation occurs in small areas, with crops of wheat, barley, fruit and opium. Terracing is possible in some localities and the prevalence of vines, figs and other Mediterranean fruits reminds one that this region still has affinities with the north as well as the south. Winters can be cold, and although days are hot during summer, night temperatures fall considerably. Strong winds are a difficulty, especially in the south of the region, where north-westerlies may persist for days at a time during summer.

This third introductory paper includes a map tracing the route in Iran of the expedition of 1977 and the geographical position of respective localities and a list of localities in correct spelling with short characteristic of them. The photographs of some characteristic localities are added.

The geographical names are used according to the „Gazetter“ No. 19, Iran, Official Standard Names by the United States Board on Geographic names prepared in the Office of Geography, Department of the Interior, Washington, D. C. — June 1956. The Iranian names have been adapted according to the Iranian map 1:1,000,000 (map system U. T. M), serie 1301 edited by National Geographical Organisation, Teheran 1970 (1348) and according to the special views of Dr. Mohammad Safavi, Ing. Abbas Hashemi and Ing. Ali Pazuki.

## References

- Hoberlandt L., 1974: Results of the Czechoslovak-Iranian entomological expedition to Iran. 1. Introduction. *Acta ent. Mus. Nat. Pragae*, Supp. 6:5—16, 2 maps, 20 photos.
- Hoberlandt L., 1981: Results of the Czechoslovak-Iranian entomological expeditions to Iran. Introduction to the Second expedition 1973. *Acta ent. Mus. Nat. Pragae* 40:5—32, 1 map, 42 photos.



**List of the localities**

**No. 272:** Basmenj, 19 km. S. E. of Tabriz (37 59 N, 46 29 E), 27. 3. 1977, East Azarbaidjan, N. W. Iran.

Ruderal border of ploughed fields; *Ceratocephals testiculata*.

**No. 273:** Haji-agma, 100 km. W. of Mianeh or 4 km. W. of Bostan-abad (37 50 N, 46 47 E), 27. 3. 1977, East Azarbaidjan, N. W. Iran.

Completely devastated landscape.

**No. 274:** 25 km. S. E. of Mianeh, 177 km. E. of Tabriz (37 17 N, 47 46 E), 27. 3. 1977, East Azarbaidjan, N. W. Iran.

Old bridge between Mianeh and Zanjan. Steppe slopes with grassy growth. Collected under stones. Similar to locality no. 120 (1973).

**No. 275:** 40 km. E. of Ghazvin (36 16 N, 50 00 E), 28. 3. 1977, Tehran province, N. Iran.

Ruderal with predominant growth of *Hulthemis persica* on the border of a ploughed field.

**No. 276:** Tehran-Evin (35 40 N, 51 23 E), 1700—2000 m., 2.—7. 4. 1977, N. Iran.

South slopes of Elburz Mountains on the north limit of the town. Mountain tragacanthic vegetation.

**No. 277:** Tehran-Evin (35 47 N, 51 22 E), 2.—7. 4. 1977, N. Iran.

Garden of the Plant Pests and Diseases Research Institute. Similar to locality no. 31 (1970) and 124 (1973).

**No. 278:** 40 km. S. of Tehran (35 38 N, 51 25 E), 7. 4. 1977, N. Iran.

Southern border of the city on the road Tehran — Ghom. Borders of fields of wheat. Collected by sweeping.

**No. 279:** 13 km. S. W. of Ghom (34 39 N, 50 54 E), on the road Ghom — Arak, 8. 4. 1977, Central province, C. Iran.

Secondary semidesert (steppe damaged by pasture) with grasses, *Aristida* sp., *Atraphaxis spinosa*, *Dendrostellera lesserti*.

**No. 280:** 19 km. N. E. of Istgah-e Meshk-abad (34 17 N, 50 18 E), 57 km. N. E. of Arak, 8. 4. 1977, Central province, W. Iran.

Collected on the border of fields and in burrow of *Meriones* sp.?

**No. 281:** 42 km. W. of Arak (34 04 N, 49 19 E) on the road Arak — Borujerd, 8. 4. 1977, Central province, W. Iran.

Stone slopes, high steppe with growth of *Euphorbia* sp.

**No. 282:** 5 km. W. of Zagheh (33 30 N, 48 42 E), or 40 km. E. of Khoram-abad 8. 4. 1977, Lorestan province, W. Iran.

Grassy pastures with relict growth of *Quercus brantii* and dispersed shrubs of *Crataegus azarolus*, *Acer cinerascens*, *Paliurus spinachristi*, *Daphne angustifolia* and *Lonicera nummulariaefolis*. Collected under stones and in dung.

- No. 283:** 10 km. W. of Babazaid between Malavi and Pol-e Dohtar (33 16 N, 47 42 E), 880 m., 9.—10. 4. 1977, Lorestan province, W. Iran. Photo 1.

Valley with grassy slopes, sparse forest of *Quercus brantii*. Bottom of the valley rather cultivated, upper region with water sources with *Phragmites australis*, *Carex* sp., *Juncus conglomeratus*, *Populus euphratica*, *Salix acmophylla*, *Verbascum* sp. and *Isatis latisiliqua*.

- No. 284:** Pol-e Tang, 60 km. N. W. of Andimeshk (32 51 N, 47 56 E) on the river Saimareh, 490 m., 10.—11. 4. 1977, Lorestan, S. W. Iran. Photo 2, 3.

Deep lateral valley with grassy terraces and with sparse growth of *Quercus brantii*. Wet slopes with growth of mosses, hepatics, ferns, *Campanula* sp. Dry localities with *Astragalus* sp. *Poemeria* sp. *Asplenium* sp. Collected by sweeping, under stones and low vegetation, mainly in scree areas. Collected by light.

- No. 285:** Bidruyeh, 36 km. N. N. W. of Andimeshk (32 45 N, 48 13 E), 440 m., 11. 4. 1977, Lorestan, S. W. Iran.

Grassy valley of a small river N. W. of Andimeshk. Collected from the vegetation.

- No. 286:** Hosseiniyeh, Bala Rud Valley (32 41 N, 48 16 E), 28 km. N. N. W. of Andimeshk, 360 m., 12.—13. 4. 1977, Lorestan, S. W. Iran. Photo 4.

Steppe plateau, partially cultivated; growth of *Stipagrostis*, *Astragalus* sp. Canyon of the river on the bottom with growth of *Nerium kotschy*, *Phragmites australis*. Wet slopes of the canyon with *Juncus lamprocarpus* and Marchantiales.

- No. 287:** Shushtar (32 03 N, 48 51 E), 13. 4. 1977, Khuzestan, S. W. Iran.

Muddy and sandy terraces of the river Karun in the town with growth of *Tamarix* sp. Collected on muddy banks and in water pools of the river and on the blooming vegetation of the bank.

- No. 288:** Mollassani, 45 km. N. W. of Ahwaz (31 35 N, 48 53 E) 90 m., 13.—14. 4. 1977, Khuzestan, S. W. Iran.

Plain semidesert with rich growth of spring ephemeral plants. Numerous species of Brassicaceae. Collected by sweeping and by light trap.

- No. 289:** Ahwaz (31 19 N, 48 41 E), 14.—15. 4. 1977, Khuzestan, S. W. Iran.

Weedy fields and fallowland on the border of the town, near the Institute of Plant protection. Collected from the vegetation.

- No. 290:** Albaji, 15 km. W. of Ahwaz (31 33 N, 48 38 E), 14.—15. 4. 1977. Khuzestan, S. W. Iran. Photo 5.

Sandy dunes fixed by artificial planting (Sand dunes fixation experimental station of Khuzestan) by *Haloxylon*, *Calligonum comosum*,

*Alhagi maurorum* and numerous herbs and grasses. Collected by sweeping the vegetation and by light trap.

**No. 291:** 40 km. N. of Ahwaz (31 41 N, 48 33 E) 70 m., 15.—16. 4. 1977, Khuzestan, S. W. Iran.

Limits of field and irrigation channels with growth of *Salix triandra* and *Populus euphratica*. Collected from the vegetation.

**No. 292:** 34 km. S. E. of Omidiyeh on the road Omidiyeh and Bandar-e Genaveh, near the bridge of the river Rud-e Zohreh (30 33 N, 49 55 E) 50 m., 16.—17. 4. 1977, Khuzestan, S. W. Iran.

Clayish terraces on the bank of the river Zohreh with large growth of *Tamarix* sp., *Centaurea calcitrapa* and *Capparis spinosa*. Collected on the bank of river and by sweeping the vegetation.

**No. 293:** Longir (about 3 km. N. W. of Longir), 48 km. E. of Omidiyeh on the road Omidiyeh — Bandar Genaveh (30 27 N, 50 00 E), 100 m., 17. 4. 1977, Khuzestan, S. W. Iran.

Semidesert with growth of *Stiparostis plumosa*, *Zygophyllum euryptherum*, *Halophyllum tuberculatum*, *Salvia orientalis* and many species of Dacucaceae. Collected from the vegetation.

**No. 294:** Darbahare, 10 km. N. W. of Cham-e Zeydun (30 21 N, 50 10 E) on the road Omidiyeh — Bandar Genaveh 150 m., 17. 4. 1977 Khuzestan, S. W. Iran.

Wet salty valley with stream. Growth of *Tamarix* sp. *Juncus conglomeratus* and *Halocnemum strobilaceum*, *Salsola tetrandra*, *Aeluropus repens*. Collected from vegetation.

**No. 295:** Siahmakan (30 04 N, 50 11 E) 200 m., about 70 km. N. of Bandar Genaveh 17.—18. 4. 1977, Khuzestan, S. W. Iran.

Semidesert with growth of *Stipagrostis plumosa* and *Salvia aegyptiaca*. Collected from vegetation and by light trap.

**No. 296:** 5 km. W. of Siahmakan Elil (30 04 N, 50 16 E), on the road Omidiyeh — Bandar Genaveh, 18. 4. 1977, Khuzestan, S. W. Iran.

Valley of a slightly salty stream. Collected from the vegetation, among the gravel on banks of the stream and in the mud.

**No. 297:** Shabankareh, 20 km. N. W. of Borazjan (29 23 N, 51 02 E), on the road between Bandar Genaveh — Borazjan, 70 m., 18. 4. 1977, Fars, S. W. Iran.

Clayish semi-desert with predominant growth of *Salvia aegyptiaca*. Collected from vegetation.

**No. 298:** 10 km. N. of Dalaki (29 32 N, 51 24 E), 30 km. N. N. E. of Borazjan on the road between Borazjan — Shiraz, 18.—19. 4. 1977, Fars, S. Iran.

Deep valley of Hableh River (Hableh Rud), in mountains then rather wide and stony, banks overgrown with *Tamarix* sp. Collected from the vegetation.

**No. 299:** Borazjan (29 16 N, 51 12 E), 19. 4. 1977, Fars, S. Iran.

Semidesert with salty gutters, undergrowth of *Peganum harmala*, *Salvia aegyptiaca* and *Halocnemum strobilaceum*. Collected from the vegetation.

**No. 300:** 20 km. N. of Bushehr (28 50 N, 51 02 E), 19. 4. 1977, on the road Borazjan — Bushehr, Fars, S. Iran.

Plain coastal saltland, characterized by hot saline vegetation; *Trigonella* sp., *Halocnemum strobilaceum* *Centaureum* sp., and *Alhagi maurorum*.

**No. 301:** Baghak, 15 km. W. of Ahram (28 52 N, 51 10 E), 60 m., 19.—20. 4. 1977, Fars, S. Iran.

Saltland on border of fields with grove of date palms. Collected by light trap.

**No. 302:** Khormuj (28 39 N, 51 23 E), 20. 4. 1977, Fars, S. Iran.

Occasionally collected on carrion and under stones in a watered garden.

**No. 303:** Mond River (Rud-e Mond), 35 km. S. E. of Khormuj (28 25 N, 51 35 E), on the road Bushehr — Khormuj — Bandar Lengeh, 20. 4. 1977, Fars, S. Iran.

Clayish coastal terraces with growth of *Tamarix* sp. and sandy dunes with *Alhagi maurorum*, *Cistanche* sp., *Haloxylon salicornietum*, *Acorellus laevigatus*. Collected from the vegetation and in the roots of plants.

**No. 304:** Jashak, 60 km. S. E. of Khormuj (28 11 N, 51 42 E), 110 m. 20.—21. 4. 1977, Fars, S. Iran. Photo 6.

A promontory of S. Zagros — gypseous hills and valleys with water pools. Growth of *Stipagrostis plumosa*, *Zygophyllum atriplicoides*, *Periploca aphylla*, *Astragalus fasciculifolius*, *Gymnocarpus decandrus*. Collected from the vegetation and in water. Collected by light trap.

**No. 305:** 12 km. N. W. of Kangan (27 55 N, 52 00 E), 70 m., 21.—22. 4. 1977, Fars, S. Iran.

Border between clayish semidesert (with *Stipargostis*) and coastal saltland. Watered gardens. Collected by light trap.

**No. 306:** Kangan (27 50 N, 52 03 E), 22. 4. 1977, Fars, S. Iran.

Coastal sandy dunes, in hinterland semidesert with sparse growth of *Acacia* sp. Sandy dunes with growth of *Heliotropium tuberculatum* and *Acorellus laevigatus*. Collected from vegetation and under stones.

**No. 307:** Shirinu, 25 km. S. E. of Taheri (27 34 N, 52 33 E), on the road Taheri — Asalooyeh, 22.—23. 4. 1977, Fars, S. Iran.

Narrow coastal zone between mountains and sea, with semidesert grassy formation and with sparse growth of *Taverniera glabra* *Tephrosia persica*, *Alhagi maurorum*, *Pteropium ericoides*, *Convolvulus acanthocladus* *Anvillea garcinii*, *Blepharis ciliaris*, *Ochradenu baccatus*. Collected from the vegetation.

**No. 308:** Asalooeyeh (27 28 N, 52 37 E), 23. 4. 1977, Fars, S. Iran.

Coastal marshes, savanna formation with *Prosopis spicigera* in the vicinity of town.

**No. 309:** Konardan (27 09 N, 53 20 E), 36 km. E. of Gav Bandi, 210 m., 23.—24. 4. 1977, Fars, S. Iran.

Savanna with *Prosopis spinigera*, mountain stony slopes with small fields. Collected by light trap.

**No. 310:** Golshan valley, vicinity of Golshan (26 50 N, 54 10 E), 24. 4. 1977, Fars, S. Iran.

Long wide valley with typical vegetation of tropical savanna with *Prosopis spicigera*, *Acacia nubica*, *Acacia flava*, *Nitraria retusa*, *Lycium* cf. *barbarum*, *Periploca aphylla*, *Centaurea belangeriana*, *Pergularia tomentosa*, *Forskalea tenacissima*, *Gaillonia aucheri*. Collected by sweeping from vegetation.

**No. 311:** 7. km. W. of Bandar-e Charak (26 43 N, 54 16 E), 24.—25. 4. 1977, Hormozgan province, S. Iran. Photo 7.

Savanna formation with *Prosopis spicigera*, *Acacia nubica*, *Nitraria retusa*, *Seidlitzia rosmarinus*; sands with rich typical psammophilous vegetation. Sea coast with marshes.

**No. 312:** Molu, 14 km. W. of Bandar-e Lengeh (26 32 N, 54 44 E), 25. 4. 1977, Hormozgan province, S. Iran.

Sandy sea coast, mouth of a stream with growth of *Tamarix* sp. Collected in the sands.

**No. 313:** Chah-kuh, 15 km. N. E. of Bandar-e Lengeh (26 38 N, 55 00 E), 25.—26. 4. 1977, Hormozgan province, S. Iran.

Savanna with *Acacia flava*, *Acacia arabica* and *Zizyphus jujuba*. Collected by light trap.

**No. 314:** Bandar-e Mahtabi (26 47 N, 55 20 E), 42 km. N. E. of Bandar-e Lengeh, 26. 4. 1977, Hormozgan, S. Iran.

Clayish semi-desert with *Anastatica hierochuntica*. Collected by light trap.

**No. 315:** 12 km. E. of Bandar-e Mahtabi, (26 52 N, 55 28 E), 26. 4. 1977, Hormozgan, S. Iran.  
Coastal reef.

**No. 316:** 5 km. E. of Khamir (26 59 N, 55 40 E), 26. 4. 1977, Hormozgan, S. Iran.

Mangrove (*Avicennia officinalis*), west of the town near the sea shore. Collected on sea among and on growth of *Avicennia*.

**No. 317:** 25 km. N. E. of Khamir (27 05 N, 55 50 E), 26.—27. 4. 1977, Hormozgan, S. Iran. Photo 8.

Stone semidesert on foot of hills with sparse growth of *Euphorbia larica*. Collected by light trap.

**No. 318:** Kuh-e Genu, 600—1000 m., 15 km. N. W. of Issin (27 24 N, 56 11 E), 27.—28. 4. 1977, Hormozgan, S. Iran. Photo 9.

South slopes of Genu Mountains with small plateau, 15 km. N. W. of Issin. Stone slopes with shrubs of *Zizyphus jujuba*, *Salvadora persica*, *Acacia flava*, *Amygdalus eburnea*, *Convolvulus virgatus*, *Convolvulus oxysepalus*, *Convolvulus glomeratus*, *Taverniera glabra*, *Taverniera spartaea*, *Salvia aegyptiaca*, *Cassia obovata*, *Tephrosia persica*. Collected from vegetation and by light trap.

**No. 319:** Bandar Abbas (27 11 N, 56 17 E), Hormozgan, 28. 4. 1977, S. Iran.

Occasionally collected in the garden of local Agronomical Institute.

**No. 320:** Issin (27 19 N, 56 17 E), 28. 4. — 6. 5. 1977, Hormozgan, S. Iran. Similar to locality No. 198 (1973).

Date-palm oasis with numerous gardens — neighbouring ruderal vegetation characterized by sparse trees of *Prosopis spicigera*, *Acacia arabica*, *Acacia flava*, *Calotropis procera* and *Euphorbia larica*. Collected from the vegetation and by light trap.

**No. 321:** Kuh-e Genu (Genu Mountains) south slopes 400—600 m., (27 24 N, 56 12 E), 1.—4. 5. 1977, Hormozgan, S. Iran. Photos 10, 11.

Slopes and canyons in southern foot zone of Genu Mountains. Growth of *Acacia arabica*, *Acacia flava*, *Zizyphus jujuba*, *Dodonaea viscosa*, *Taverniera glabra*, *Tephrosia apollinea*, *Convolvulus virgatus*. In canyons near water *Phoenix dactylifera*, *Nerium kotschy*, *Phragmites australis*, *Arundo donax*. Connected with the locality No. 322.

**No. 322:** Kuh-e Genu (Mountains), 1600—2100 m., top 2372 m. (27 25 N, 56 11 E), 5. 5. 1977 Hormozgan, S. Iran.

Highest part of the Mountains including more ranges. Higher zone with *Juniperus polycarpus*, *Pistacia atlantica*, *Cotoneaster* sp., *Acer cinerascens*, *Dyonis* sp., *Matthiola* sp. Lower zone — *Pistacia atlantica*, *Amygdalus scoparia*, *Ephedra foliata*. Collected from the vegetation.

**No. 323:** Bagh-e Tang, 6 km. W. of Genu (27 27 N, 56 18 E), 410 m., 50 km. N. of Bandar Abbas] 7.—9. 5. 1977, Hormozgan, S. Iran. Photo 12.

Valley on North-east foot of the Genu Mountains. Savanna formation with *Zizyphus jujuba*, *Acacia arabica*, *Acacia flava*, *Convolvulus glomeratus*, *Convolvulus leiocalycius*, *Euphorbia larica*, *Moricandia persica*, *Cometes surattensis*, *Amygdalus scoparia*, *Periploca aphylla*. Collected from vegetation and by light trap.

**No. 324:** Hassan Langi 55 km. N. E. of Bandar-e Abbas (27 22 N, 56 52 E), 9.—10. 5. 1977, Hormozgan, S. Iran. Similar to locality No. 200 (1973).

Salty river-bed with pools. Growth of *Tamarix* sp., *Seidlitzia rosmarinus*, *Schoenoplectus littoralis*, *Halocnemum strobilaceum*. In the

oasis with growth of *Proposis spicigera*. Collected from the vegetation, in the water and by light trap.

**No. 325:** Senderk, vicinity of oasis (26 46 N, 57 20 E), 11. 5. 1977, Hormozgan, S. Iran.

Tropical savanna in dry river-bed with growth of *Acacia flava*, *Stocksia brahuica*, *Hertia internedia*, *Heliotropium persicum*.

**No. 326:** Dar-pahn, 12 km. E. of Senderk (26 44 N, 57 28 E), 300 m., 11.—12. 5. 1977, Hormozgan, S. Iran.

River-bed in sandstone with growth of *Tamarix* sp., *Acacia flava*, *Taverniera glabra*. Collected by light trap and from sand near the water.

**No. 327:** Senderk, S. of Bashagerd (26 46 N, 57 20 E), 220 m., 12.—13. 5. 1977 Hormozgan, S. Iran. Photo 13.

Oasis with abundant plants of *Phoenix dactilifolia* and *Citrus*; broad partially dry sand-gravel river-bed with *Tamarix* sp., *Nerium kotschyi*, *Rhazya stricta*, *Vitex agnus-castus*, *Haplophylum tuberculatum*, *Grantia aucheri*.

**No. 328:** Minab (27 09 N, 57 05 E), 13. 5. 1977 Hormozgan, S. Iran. Similar to locality No. 203 (1973).

Garden of an Agronomical institute. *Proposis spicigera* in blossom.

**No. 329:** Bila'i (26 30 N, 57 07 E), 40 m., 13.—14. 5. 1977, Hormozgan, S. Iran.

Savanna with *Acacia arabica*, with undergrowth of *Taverniera glabra* and *Taverniera spartaea* *Tephrosia persica*, *Grantia aucheri*. Collected from the vegetation and by light trap.

**No. 330:** Ziarat (27 41 N, 57 05 E), 23 km. N. W. N. of Bila'i or 57 km. S. of Minab 14.—15. 5. 1977, Hormozgan, Iran Similar to locality No. 206 (1973).

Coastal sandy dunes with *Moltkiopsis ciliata* in the vicinity were many of date-palms and trees. Collected from the sands and under stones. Collected by light trap.

**No. 331:** 17 km. N. E. of Rudan (37 32 N, 57 25 E), road tunnel No. 7, 15. 5. 1977, Hormozgan, S. Iran.

Rocky valley with a stream with growth of *Nerium kotschyi*, *Erianthus ravennae*, *Periploca aphylla*, *Euphorbia larica*, *Echinops kotschyanus*, *Hertia intermedia*, *Anvillea garcini*, *Grantia aucheri*. Collected from the vegetation, on the sand and in the water.

**No. 332:** Bargah (27 38 N, 57 42 E), 650 m., 35 km. S. of Kahnuj, 15.—16. 5. 1977, Kerman province, S. Iran.

Stone semi-desert. Collected by light trap only.

**No. 333:** 22 km. N. of Kahnuj on the road between Minab and Sabzeva-van (28 09 N, 57 44 E), 580 m., 16. 5. 1977, Kerman province, S. Iran.



Clayish semi-desert with *Calligonum comosum*, *Taverniera glabra*, *Ochrademus baccatus* and with dispersed trees of *Prosopis spicigera* and *Zizyphus nummularia*. Collected from the vegetation.

**No. 334:** 43 km. N. of Kahnuij (28 21 N, 57 46 E) on the road Minab — Sabzevaran, 540 m., 16.—17. 5. 1977, Kerman province S. Iran.

Valley of the river Halil Rud with growth of *Tamarix* sp.

**No. 335:** 33 km. S. of Sabzevaran (28 24 N, 57 50 E), 17. 5. 1977, Kerman province, S. Iran.

Ruderal plants on the border of village among plantation of Citrus-trees. Further *Tamarix* sp. and *Alhagi maurorum*. Collected from the vegetation.

**No. 336:** Sabzevaran (28 37 N, 57 45 E), 17. 5. 1977, Kerman province, S. Iran.

Occasionally collected in the garden of Plant Pests and Diseases Research Laboratory. Predominant growth of grasses.

**No. 337:** Saghdar, 30 km. N. N. E. of Sabzevaran and 6 km. S. of Mohammadabad (28 54 N, 57 55 E), 1650 m., 17.—19. 5. 1977, Kerman province, S. Iran.

Mountain stony semi-desert with *Amygdalus scoparia*, *Amygdalus eburnea* and *Ebenus stellata*. Collected from the vegetation and by light trap.

**No. 338:** 16 km. W. of Sabzevaran (28 41 N, 57 37 E), 820 m., on the road Sabzevaran — Esfandagheh, 19.—20. 5. 1977, Kerman province, S. Iran.

Stony semi-desert with sparse shrubs of *Zizyphus spina-christi*, *Lepidania pyrotechnica*, *Rhazya stricta* and *Convolvulus virgatus*, *Convolvulus oxysephalus*. Collected from the vegetation and by light trap.

**No. 339:** Chashmeh-ye Sargaz, 50 km. W. of Sabzevaran (28 40 N, 57 23 E) on the road Sabzevaran — Esfandagheh, 1650 m., 20.—21. 5. 1977, Kerman province, S. Iran. Partially similar to locality No. 189 (1973). Photo 14.

Stony valley of a spring with growth of *Tamarix* sp. *Erianthus ravennae*, *Mentha* sp., Cultivated oasis with alfalfa, poplars, peach-trees, pomegranates. Mountain stony slopes with *Amygdalus scoparia*, *Acantholimon* sp., *Carvandarina aphylla*, *Ebenus stellata*, *Convolvulus virgatus*. The non-cultivated areas of the oasis with growth of *Glycyrrhiza glabra*. Collected from the vegetation, in the water and by light trap.

**No. 340:** Ferdows-e Esfandagheh (28 44 N, 57 15 E), 21. 5. 1977, Kerman province, S. Iran.

Stony slope with growth of *Onopordon* sp. *Echinops macrophyllus*, *Zygophyllum atriplicoides* and *Artemisia herba-alba*. Borders of fields with predominant growth of *Peganum harmala* and *Astragalus* sp., *Salix* sp. on bank of an irrigation channel.

**No. 341:** 12 km. N. W. of Dowlat-abad (28 50 N, 57 09 E), 21. 5. 1977, Kerman province, S. E. Iran. Photo 15.

Degraded mountain steppe forest with sparse growth of *Amygdalus scoparia*, *Amygdalus eburnea*, *Pistacia khinjuk*, *Acantholimon* sp. and *Astragalus* sp. Collected from the vegetation.

**No. 342:** 37 km. N. W. of Dowlat-abad (Esfandagheh) (28 58 N, 56 52 E), 1800 m., 21. 5. 1977, Kerman province, S. E. Iran.

Beginning of deep ravine with a stream at the bottom, slopes without vegetation and wet. Collected in the water, under stones and on the wet stones.

**No. 343:** Posht-e kuh (29 01 N, 56 53 E), 50 km. N. W. of Dowlatabad on the road Sabzevaran — Baft, 1700 m., 21.—22. 5. 1977, Kerman province, C. Iran.

Valley of a river on the border of village; growth of *Tamarix* sp., *Amygdalus scoparia*, *Pistacia mutica*, undergrowth of *Peganum harmala*. Collected from the vegetation and by light trap.

**No. 344:** 15 km. S. of Baft (29 05 N, 56 39 E), 2100 m., 22. 5. 1977, Kerman province, S. E. Iran.

Mountain *Artemisia*-steppe with *Artemisia herba-alba*, *Ebenus stellata*, *Astragalus* sp., *Echinops* sp., *Acantholimon* sp.

**No. 345:** Ghanat-e Marvan, south foot of Kuh-e Lalehsar (29 21 N, 56 48 E), 2850 m., 22.—24. 5. 1977, Kerman province, C. Iran. Photo 16.

South promontory of Kuh-e Lalehzar, stony mountain slopes with dominant *Artemisia herba-alba*, *Daphne angustifolia*, *Ferula* sp., *Cicer kermanense*. Collected from the vegetation, under stones and by light trap.

**No. 346:** Ghanat-e Marvan, 3000—3100 m., south slopes (29 23 N, 56 42 E), 24. 5. 1977, Kerman province, S. E. Iran.

Ridge of mountains at an altitude of 3000—3100 m., above former locality (No. 345); similar biotope.

**No. 347:** Kuh-e Lalehzar (Lalehzar Mountains), 2800—3100 m., plateau in north region (29 31 N, 56 51 E), 24.—30. 5. 1977, Kerman province, S. E. Iran. Photo 17.

Mountain plateau in the vicinity of village Lalehzar — degraded steppe with *Artemisia herba-alba*, *Astragalus* sp., *Zygophyllum* sp., *Salvia* sp., *Ferula* sp. Gardens and fields with *Ligustrum sativum* and poplar, wet meadows with *Orchis* sp., *Pedicularis* sp., *Carex* sp., *Juncus* sp., *Mentha* sp., *Eleocharis pauciflora*. Collected from the vegetation and under stones.

**No. 348:** Kuh-e Lalehzar (Lalehzar Mountains), North slope 3200—3800 m. (29 25 N, 56 50 E), 24.—30. 5. 1977, Kerman province, S. E. Iran. Photo 18.

Valley of the montane river with large lawns, slopes with mixed growth of *Artemisia herba-alba*, *Astragalus* sp., *Ferula*. Collected from the vegetation and under stones.

**No. 349:** Kuh-e Lalehzar (top 4374 m., 3850—4374 m.) (29 24 N, 56 46 E), 27.—29. 5. 1977, Kerman province, S. E. Iran. Photo 19.

Alpine zone with rocks closing the valley of stream. Alpine meadows with grasses, *Ranunculus*, *Potentilla*, *Primula*, *Draba*, *Veronica*. *Artemisia* steppe reaches borders of snow, oreol zone with *Draba*.

**No. 350:** Baghin, 30 km. W. S. W. of Kerman (30 11 N, 56 48 E) on the road Sirjan — Kerman, 30. 5. 1977, Kerman province, S. E. Iran.

Desert with predominant growth of *Alhagi maurorum* and *Peganum harmala*. Collected under vegetation.

**No. 351:** Mahan (30 05 N, 57 18 E), 30.—31. 5. 1977, Kerman province, S. E. Iran. Similar to the locality No. 133 (1973). Photo 20.

Semidesert with *Artemisia herba-alba*. Collected by sweeping and by light trap.

**No. 352:** Gowk (Golbaf) (29 51 N, 57 44 E), on the road Mahan — Shahdad, 31. 5. 1977, Kerman province, S. E. Iran. Photo 21, 22.

Vicinity of the oasis in desert of South Lut — sparse growth of *Artemisia* and *Calligonum*. Collected from the sparse vegetation.

**No. 353:** Shahdad (30 25 N, 57 44 E), 670 m., 31. 5.—1. 6. 1977, Kerman province, S. E. Iran. Photo 23.

Watered oasis in desert of South Lut, predominantly cultures of date-palms and citrus-trees. Collected from vegetation and by light trap.

**No. 354:** Fahraj (28 58 N, 58 52 E), 2. 6. 1977, Kerman province, S. E. Iran.

Salty plain depression among desert sandy dunes with *Tribulus macropterus*, *Fagonia brugnieri* and with predominant growth *Phragmites australis*, *Aeluropus litoralis*, *Juncus lamprocarpus*, *Tamarix* sp. and *Haloxylon salicornium*. Collected by sweeping the vegetation.

**No. 355:** Kahurak (29 26 N, 59 40 E), 130 km., E. N. E. of Bam, 510 m., 2.—3. 6. 1977, Baluchestan. E. Iran. Similar to the locality No. 135 and 173 (1973).

Desert with sandy dunes, small valley of salty stream with growth of *Saidlitzia rosmarinus*, *Phragmites australis*, *Tamarix* sp., *Haloxylon ammodendron*. Collected by sweeping the vegetation and by light trap.

**No. 356:** 20 km. N. W. of Zahedan (29 39 N, 60 46 E), 3. 6. 1977, Baluchestan, E. Iran.

Low hills with very sparse vegetation. Collected from vegetation.

**No. 357:** Kuh-e Khajeh (30 56 N, 61 15 E), 490 m., 3.—5. 6. 1977, Sistan, E. Iran.

Rocky nearly bare plain hill among the lakes Darysche-ye Hamun and Darysche-ye Sistan on the Afghan boundary with extensive growth of *Stipa* sp. and with dispersed *Phragmites australis* and *Schoenoplectus littoralis*. On rocks with withered plants e. g. *Grantia aucheri*. In the

vicinity ruderal plants with *Peganum harmala*, *Suaeda* sp. and *Alhagi maurorum*.

**No. 358:** 17 km. N. of Nehbandan or 15 km. S. of Shusf (31 41 N, 60 02 E), 1250 m., 5.—6. 6. 1977, Khorassan, E. Iran.

Mountain steppe with discrete growth of *Stocksia brahuica*, *Artemisia herba-alba*, *Pteropyrum aucheri*, *Dendrostellera lesserti*, *Acanthophyllum sclerosum*. Collected by sweeping the vegetation and by light trap.

**No. 359:** 25 km. N. N. W. of Shusf (32 00 N, 59 53 E), 6. 6. 1977, Khorassan, E. Iran.

Sandy semi-desert with *Calligonum comosum*, *Calligonum denticulatum*, *Haloxylon persicum*, *Dendrostellera lasserti*, *Dorema ammoniacum*. Collected from the vegetation.

**No. 360:** 13 km. N. of Birjand (33 05 N, 59 18 E), 2000 m., 6.—7. 6. 1977, Khorassan, E. Iran.

Mountain valleys with mountain steppes with growth of *Artemisia herba-alba*, *Lactuca orientalis*, *Eryngium bungei*, *Echinops persicus*, *Centaurea* sp., *Ferula* sp., *Acanthophyllum* sp., *Zizyphora* sp., at the end of the side-valley muddy source with growth of *Mentha* sp., *Isolepis setacea*, *Agrostis verticillata* and *Holoschoenus vulgaris*. Collected on the vegetation and by light trap.

**No. 361:** 36 km. N. of Gonabad (34 40 N, 58 47 E), 830 m., 7.—8. 6. 1977, Khorassan, N. E. Iran.

Sandy desert with growth of *Haloxylon persicum*. Collected from vegetation and by light trap.

**No. 362:** Mashhad (36 18 N, 59 36 E), 9.—11. 6. 1977, Khorassan, N. E. Iran.

Garden of a Agronomical ressearch institute, collected from the vegetation.

**No. 363:** Kuh-e Hezar Masjed (Mountains), 25 km. S. W. of Kalat-e Naderi (36 50 N, 59 31 E), 1600 m., 11.—12. 6. 1977, Khorassan, N. E. Iran. Photo 24, 25.

Mountain steppe, pass and ridges with growth of *Artemisia* sp., *Stipa* sp., *Astragalus* sp., *Arenaria* sp., *Phlomis* sp., Collected below vegetation.

**No. 364:** Hesar (Zabarkhan), 50 km. E. S. E. of Nishabur (36 02 N, 59 20 E), 1400 m., 12.—13. 6. 1977, Khorassan, N. E. Iran.

Valley with a stream with *Populus euphratica*, *Salix* sp., *Berberis integerrima*, *Tamarix* sp., *Rosa* sp., *Clematis* sp., In the vicinity steppe with *Artemisia herba-alba* and *Hulthemia berberidifolia*. Collected from the vegetation and by light trap.

**No. 365:** Soghand, S. slope of Kuh-e Binalud (Mountain), 15 km. N. E. of Nishabur (36 16 N, 58 57 E), 1600—2300 m., Khorassan, N. E. Iran. Photo 26.

Mountain vegetation (damaged by pasture) with *Acanthophyllum* and *Astragalus* sp. Collected below clumps of tragacanthic vegetation and by sweeping on *Euphorbia*.

**No. 366:** Kuh-e Binalud, 20 km. N. E. of Nishabur (36 17 N, 58 00 E), 2300—2800 m., 13.—15. 6. 1977, Khorassan, N. E. Iran.

South ridge of Mountains with *Acanthophyllum* sp., *Astragalus* sp., *Cicer* sp., *Euphorbia* sp., *Eremurus* sp., *Rheum* sp. Collected from the vegetation and below clump of tragacanthic vegetation.

**No. 367:** 20 km. N. E. of Sabzevar (36 19 N, 57 52 E), 15. 6. 1977, Khorassan, N. E. Iran.

Rocky slopes with *Dendrostellera lesserti*, *Alhagi maurorum*, *Echinops persicus*. Collected from the vegetation.

**No. 368:** Hares-abad, 10 km. S. of Sabzevar (36 12 N, 57 36 E), 940 m. 15.—16. 6. 1977, Khorassan, N. E. Iran.

„Desert park“ — sandy dunes fixed by artificial planting of *Haloxylon* sp. Rich undergrowth of *Aristida pennata*, *Calligonum stenopterum*, *Calligonum bungei* and *Ephedra strobilacea*. Collected from the vegetation and by light trap.

**No. 369:** Sabzevar (36 13 N, 57 42 E), 16. 6. 1977, Khorassan, N. E. Iran.

Salty banks of drying river with growth of *Phragmites australis*, *Tamarix* sp. *Seidlitzia rosmarinus* and *Alhagi maurorum*. Collected on the vegetation and on banks of the river.

**No. 370:** 20 km. W. of Sabzevar (36 22 N, 57 42 E), 1800 m., on the road between Sabzevar and Esfarayen, 16. 6. 1977, Khorassan, N. E. Iran.

Mountain pass, slopes grazed up with growth of *Goebelis slopecuroides*, *Isatis latisiliqua*, *Echinops persicus*. Collected from the vegetation.

**No. 371:** 30 km. S. of Esfarayen (36 49 N, 57 31 E), 15. 6. 1977, Khorassan, N. E. Iran.

Salty bank of river with growth of *Halocnemum strobilaceum* and other halophytic plants (*Halocharis*, *Suaeda*, *Halanthium*, *Halotis*). Collected from the vegetation.

**No. 372:** Rishi, south foot of Kuh-e Shah Jahan (37 02 N, 57 54 E), 20 km. S. E. of Esfarayen, 1350 m., 16.—17. 6. 1977, Khossaran, N. E. Iran.

Steppe with *Artemisia herba-alba*, *Hulthemia persica*, *Cousinia* sp. *Phlomis* sp. Collected from the vegetation and by light trap.

**No. 373:** Kalat (37 09 N, 57 20 E), on the road Esfarayen — Bojnurd, 17. 6. 1977, Khorassan, N. E. Iran.

Small oasis watered by a stream in a valley with slopes covered by steppe vegetation. Collected from the vegetation.

- No. 374:** Assadli, 30 km. S. of Bojnurd (37 14 N, 57 15 E), 1970 m., 17.—18. 6. 1977, Khorassan, N. E. Iran. Photo 27.

Steppe region.

- No. 375:** 53 km. N. of Dasht, Golestan forest (37 19 N, 56 01 E), 960 m., 18.—19. 6. 1977, Mazandaran, N. Iran.

Eastern border of National Park (Wildlife Park) with characteristic transition between steppe and forest. Valley with rocky slopes with steppe vegetation and sparse growth of *Juniperus polycarpus*, *Berberis integerrima*, *Colutea persica*. Bottom of the valley with growth of *Tamarix* sp.

- No. 376:** Golestan Forest — Mazarli, 20 km. N. W. of Dasht (37 22 N, 55 51 E), 530 m., 19.—21. 6. 1977, Mazandaran, N. Iran. Photo 28.

Zone of consistent forest of *Quercus castaneaeifolia*, *Parrotis persica*, *Alnus subcordata*, *Zelkova crenata*, *Fraxinus excelsior* and *Pterocarys fraxinifolia*, *Acer insigne*, *Diospyros lotus*. Collected in the wood, in fungi, by beating on and by light trap.

- No. 377:** Nahar khoran, 6 km. E. S. E. of Gorgan (36 47 N, 54 27 E), Mazandaran, N. Iran.

Thickly forested slopes of a valley: *Fagus orientalis*, *Alnus subcordata*, *Zelkova crenata*, *Fraxinus excelsior*, *Diospyros lotus*. Collected in the wood and by beating.

- No. 378:** Gorgan (36 50 N, 54 29 E), 140 m., 21.—23. 6. 1977, Mazandaran, N. Iran.

Garden of Plant Pests and Diseases Research Laboratory. Collected in the garden on plants.

- No. 379:** 7 km. E. of Istgah-e Galugah (36 45 N, 53 51 E), 23. 6. 1977, Mazandaran, N. Iran.

Border of fields with growth of *Centaurea* sp., *Eringium biebersteinianum*, *Euphorbia* sp., *Sambucus ebulus*. Collected from the vegetation.

- No. 380:** Duk forest, 10 km. S. of Behshahr (36 36 N, 53 28 E), 480 m., 23.—24. 6. 1977, Mazandaran, N. Iran.

Old forest with *Fagus orientalis*, *Carpinus betulus*, *Parrotis persica*. Collected from the vegetation and by light trap.

- No. 381:** Shahi (36 28 N, 52 53 E), 24. 6. 1977, Mazandaran, N. Iran.

Collected on borders of fields in the vicinity of the town.

- No. 382:** Istgah-e Zirab (36 10 N, 52 59 E), 24.—26. 6. 1977, Mazandaran, N. Iran.

Relict Hyrcanian forest with *Carpinus betulus*, *Parrotis persica*, *Pterocarya sempervirens hyrcanica*, *Stachys germanica*, *Hypericum* sp.

- No. 383:** Palang-dareh, Zirab (36 10 N, 52 59 E), 540 m., 26. 6. 1977, Mazandaran, N. Iran.

Pasture-land with steppe vegetation on the border of forest. *Stachys germanica*. Occasionally collected from the vegetation.

**No. 384:** 8 km. W. of Babol (36 32 N, 52 36 E), 26. 6. 1977, Mazandaran, N. Iran.

Ruderal banks of river Babol. Collected under stones.

**No. 385:** 5 km. E. of Amol (36 30 N, 52 24 E), 26. 6. 1977, Mazandaran, N. Iran.

Swamps and reice-fields.

**No. 386:** 30 km. E. of Nowshahr (36 35 N, 51 52 E), — 26 m., 26.—27. 6. 1977, Mazandaran, N. Iran.

Sandy sea-coast with growth of psammophylous vegetation: *Plantago indica*, *Convolvulus persicus*, *Tournefortia arguzia*, *Xanthium* sp., *Crepis foetida*, *Daucus littoralis*. In hinterland with *Punica granatum*, *Rubus caesius*. Collected Diptera only.

**No. 387:** 7 km. E. of Bandar-e Pahlavi (Anzali) (37 28 N, 49 33 E), 27. 6. 1977, Gilan, N. Iran.

Coastal sandy dunes with growth of *Plantago indica*, *Convolvulus persicus*, *Crepis foetida*, *Tournefortia arguzia*, *Xanthium* sp. Collected under alluvial detritus.

**No. 388:** Bandar-e Pahlavi (Anzali) (37 28 N, 49 27 E), 27.—28. 6. 1977, Gilan, N. Iran.

Garden of Plant Pests and Diseases Research Institute. Collected by light trap.

**No. 389:** Rezvandeh (37 33 N, 49 09 E), Gilan, 28. 6. 1977, N. Iran.

Growth of *Lanus glutinosa*. Collected from fungi (Polyporaceae) growing on wooden railings.

**No. 390:** Sheykh Mahalleh (Assalem) (37 53 N, 48 55 E), 160 m., 28. 6. — 3. 7. 1977, Gilan, N. Iran. Photo 29.

Wet subtropical Hyrcanian forest: *Parrotia persica*, *Alnus subcordata*, *Carpinus betulus*, *Carpinus orientalis*, *Acer insigne*, *Acer laetum*, *Ilex aquifolium*, *Ruscus hyrcanus*, *Oxalis* sp., *Stachys* sp. Collected from the vegetation, on the wood, in soil, under stones, in water and by light trap.

**No. 391:** Kuh-e Almas (Mountains), 20 km. N. N. W. of Khalkhal (Heroabad) (37 45 N, 48 38 E), 2160 m., 29. 6. — 1. 7. 1977, Gilan, N. Iran.

High-mountainous meadows with extremely rich vegetation: *Ranunculus*, *Trifolium* sp., *Potentilla* sp., *Lamium* sp., *Delphinium* sp., *Vicia* sp., *Sibbaldia* sp., *Centaurea* sp., *Campanula* sp., *Achillea* sp. etc. Collected from the vegetation and under stones.

**No. 392:** Lahijan (37 12 N, 50 01 E), 3. 7. 1977, Gilan, N. Iran.

Tea plantations and fields — collected on untilled fields and edges with predominant growth of *Rubus* sp.



**No. 393:** Chalus (36 38 N, 51 26 E), 4. 7. 1977, Mazandaran, N. Iran.

Hyrcanian forest in the valley of the river Chalus Rud: *Parrotis persica*, *Alnus subcordatus*, *Oxalis* sp., *Stachys* sp. Collected from the vegetation.

**No. 394:** 15 km. S. W. of Chalus (36 32 N, 51 19 E), 490 m., 4. 7. 1977, Mazandaran, N. Iran.

Fallow with sparse growth of *Paliurus spina-christi*, *Achillea* sp., *Chrysanthemum* sp. Collected from the vegetation.

**No. 395:** Kandavan-pass, south slope, Reshtehe Kuh-e Alborz (Elburz Mountains), 2780 m., (36 10 N, 51 15 E), 4.—9. 7. 1977, Tehran province, N. Iran. Photo 30.

Mountain steppe with grasses; *Stipa* sp., *Hypericum* sp., *Achillea* sp. *Salvia hypoleuca*, *Marrubium* sp. Collected by sweeping the vegetation and by light trap.

**No. 396:** 8 km. W. of Gachsar (36 07 N, 51 19 E), 6.—8. 7. 1977, Tehran province, N. Iran.

Valley of the right tributary of the river Karadj below Gachsar. Fields with alfalfa and growth of *Heracleum* sp. *Mentha* sp., *Salvia* sp. and *Vicia* sp. Collected from the vegetation.

**No. 397:** Kuh-e Kohar (Mountains), 4145 m., (36 06 N, 51 02 E), 7. 7. 1977, Tehran province, N. Iran.

Mountains S. W. of Kandavan pass, north slopes with forest, peak zone with rocks and snow.

**No. 398:** Khahak, Kandavan-pass, north slope, Reshtehe Kuh-e Alborz (Elburz Mountains), 2600 m., (36 11 N, 51 17 E), 9.—10. 7. 1977, Tehran province, N. Iran.

Collected in rocky valley of a stream, in banks and under stones.

**No. 399:** Hashtgerd (35 52 N, 50 40 E) on road Karadj — Ghazvin, 10. 7. 1977, Tehran province, N. Iran.

Steppe vegetation.

**No. 400:** 8 km. N. E. of Ziaran (36 10 N, 50 35 E), 2400 m., 10.—16. 7. 1977, Tehran province, N. Iran. Photo 31.

Mountain steppe. Collected from the vegetation and by light trap.

**No. 401:** Tehran — Evin, 1700—2000 m., (35 49 N, 51 23 E), 16.—26. 7. 1977, N. Iran.

South slopes of Elburz similar to locality No. 123 (1970) and 260 (1977).

**No. 402:** Kuh-e Tochal, 2000—3500 (35 53 N, 51 25 E), (Elburz Mountain Central), south slope, 16.—26. 7. 1977, Tehran province, N. Iran. Similar to locality No. 261 (1973).

**No. 403:** Kuh-e Tochal, 3500—4000 m., (35 53 N, 51 25 E), peak zone (Elburz Mountain Central), 16.—26. 7. 1977, Tehran province, N. Iran. Similar to locality No. 262 (1973).

**No. 404:** 10 km. N. W. of Zanjan (36 42 N, 48 23 E), 26.—27. 7. 1977, Zanjan province, N. W. Iran. Similar to locality No. 264 (1973).

**No. 405:** 20 km. N. of Shahpur (38 21 N, 44 50 E), 27. 7. 1977, W. Azar-baidjan, N. W. Iran. Similar to locality No. 269 (1973).

Flowery steppe with summer aspect.

**No. 406:** 25 km. S. E. of Shahpur (Salmas) (38 02 N, 45 00 E), 27.—28. 7. 1977, W. Azarbaidjan, N. W. Iran. Photo 32.

Steppe remnants among fields with growth of *Hulthemia persica*, *Achillea* sp. and *Euphorbia* sp.



Photo 1: Loc. no. 283. 10 km. W. of Babazaid between Malavi and Pol-e Dohtar, 880 m., 10. 4. 1977. Valley with grassy slopes, view to the north. (Photo L. Hoberlandt).

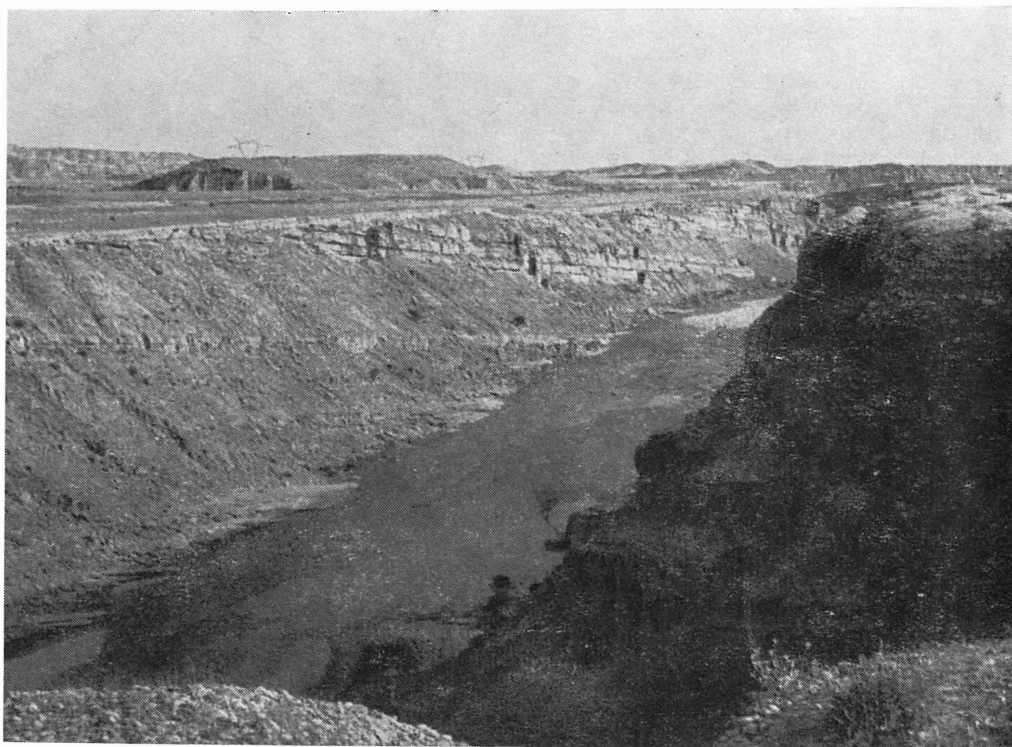
Photo 2: Loc. no. 284. Pol-e Tang, 60 km. N. W. Andimeshk, 11. 4. 1977. Lower open part of the valley. View to the south.





Photo 3: Loc. no. 284. Pol-e Tang. 60 km. N. W. of Andimeshk, 10. 4. 1977. Deep upper part of the valley, view to the south.

Photo 4: Loc. no. 286. Hosseiniyeh, Bala Rud valley, 28 km. N. N. W. of Andimeshk, 360 m., 13. 4. 1977. Steppe plateau, view to east.





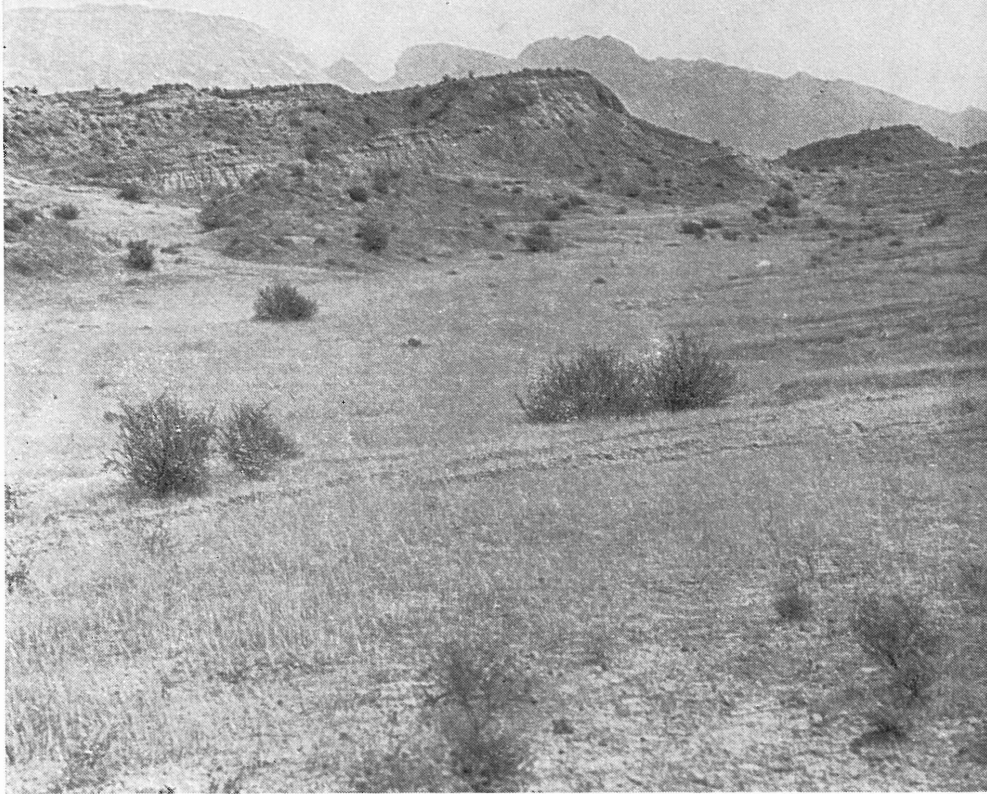


Photo 5: Loc. no. 290. Albaji, 15 km. W. of Ahwaz, 15. 4. 1977. Sandy dunes.

Photo 6: Loc. no. 304. Jashak, 60 km. S. E. of Khormuj, 21. 4. 1977. Promontory of S. W. Zagros, view to the north.

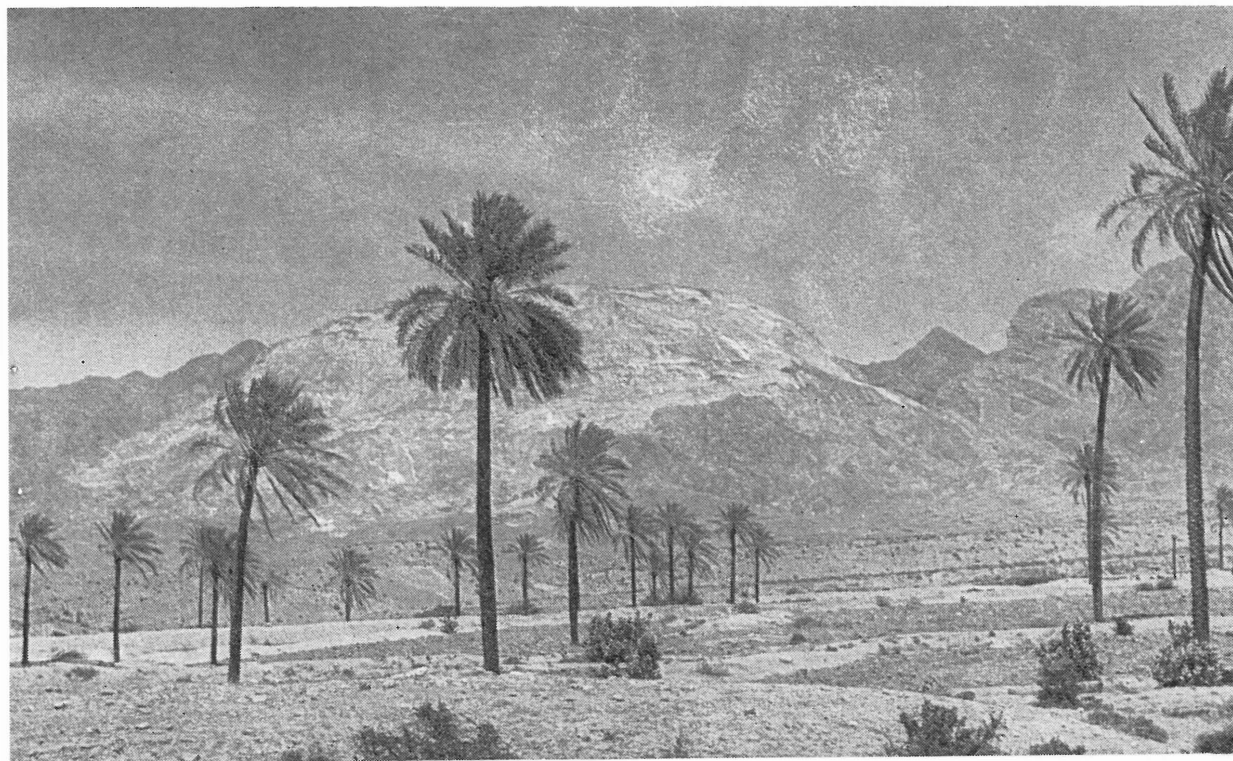




Photo 7: Loc. no. 311. 7 km. W. of Bandar-e Charak, 24. 4. 1977. Savanna formation.  
*Acacia nubica*.

Photo 8: Loc. no. 317. 25 km. N. E. of Khamir, 26. 4. 1977. Stone semi-desert.





Photo 9: Loc. no. 318. Kuh-e Genu, 600 m., 15 km. N. W. of Issin. 28. 4. 1977. South slopes, view to south.

Photo 10: Loc. no. 321. Kuh-e Genu 400 m., 3. 5. 1977. South slopes, mouth of canyon, view to north.







Photo 11: Loc. no. 321. Kuh-e Genu, 400 m., 3. 5. 1977. Foot zone, detail of the vegetation.

Photo 12: Loc. no. 323. Bagh-e Tang, 6 km. W. of Genu, 410 m., 8. 5. 1977. Valley on north-east foot of the Genu Mountains.

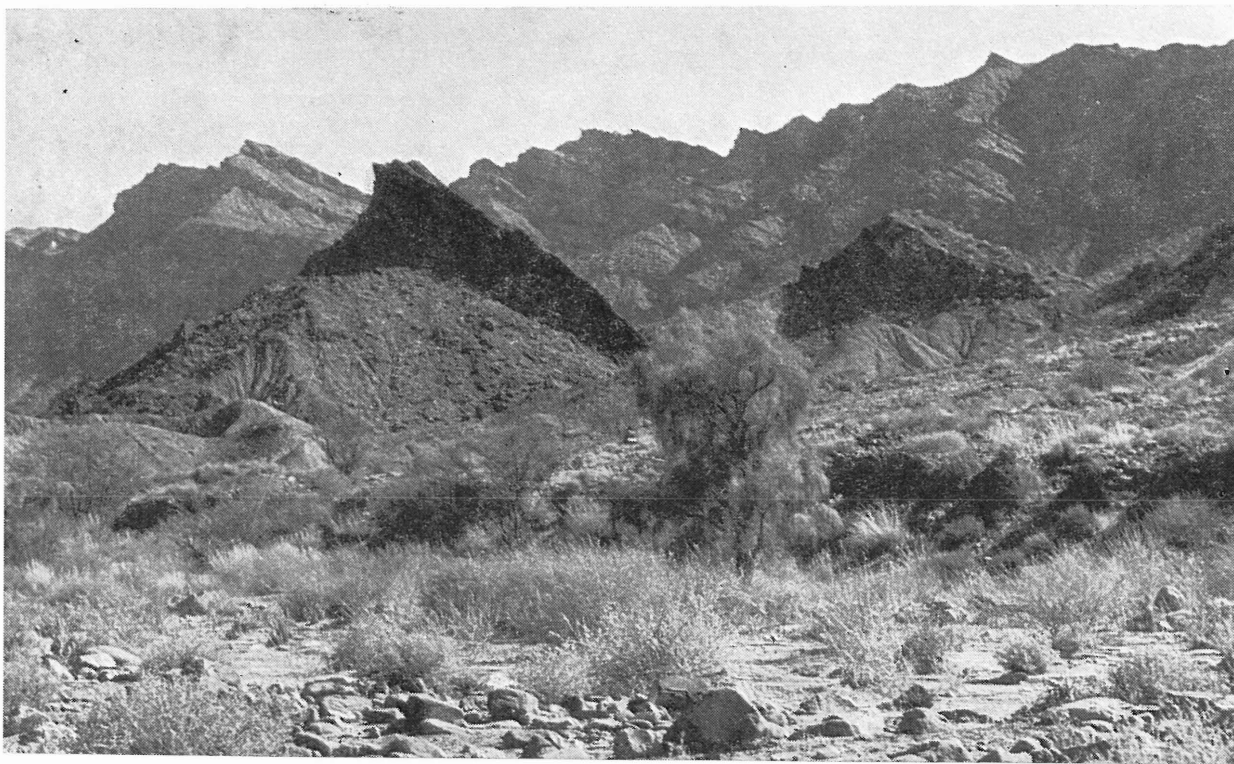




Photo 13: Loc. no. 327: Senderk, 220 m., 12. 5. 1977. Oasis with partialy dry river-bed, view to the west.

Photo 14: Loc. no. 339. Chashmah-ye Sargaz, 50 km. W. of Sabzevaran, 1650 m., 20. 5. 1977. Stony valley with a stream, view to the west.





Photo 15: Loc no: 341. 12 km. N. W. of Dowlat-abad, 21. 5. 1977. Mountain steppe.

Photo 16: Loc. no. 345. Ghanat-e Marvan, south foot of Kuh-e Lalehzar, 2850 m., 23. 5. 1977. View to south.

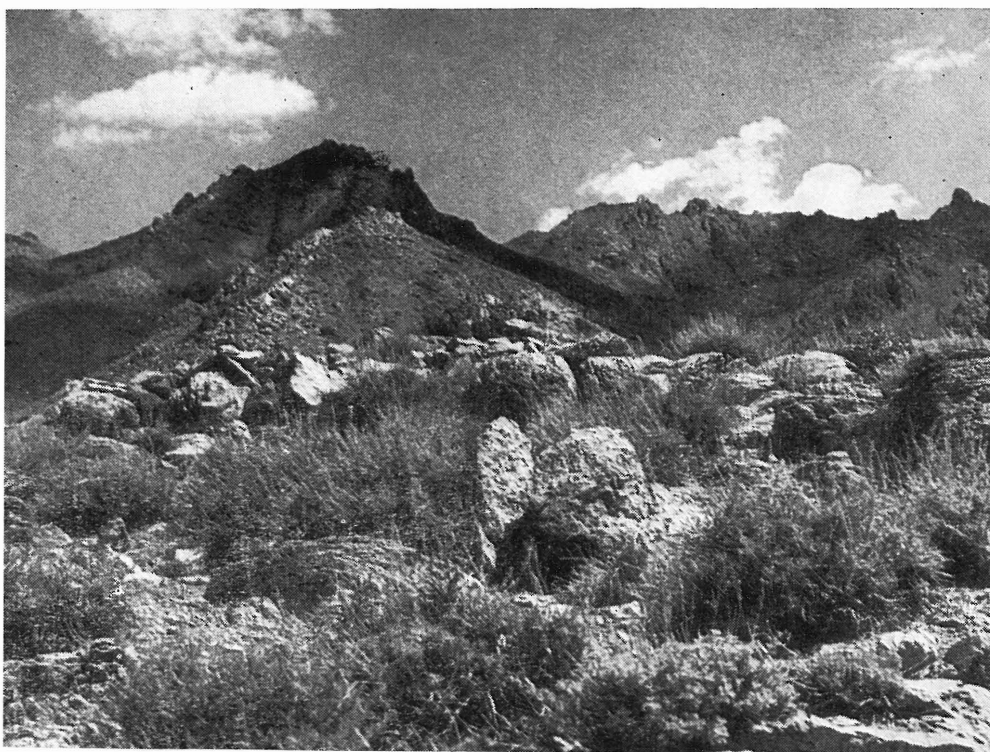






Photo 17: Loc. no. 347. Kuh-e Lalehzar, 2800 m., 25. 5. 1977. Mountain plateau in north region, view to south-east.

Photo 18: Loc. no. 348. Kuh-e Lalehzar, north slope, 3500 m., 27. 5. 1977. Valley of the montane river.





Photo 19: Loc. no. 349. Kuh-e Lalehzar, top 4374 m., 28. 5. 1977. Alpine zone.

Photo 20: Loc. no. 351. Mahan, S. E. Iran, 31. 5. 1977. Semi-desert east of the town.





Photo 21: Loc. no. 352. Gowk, [Golbaf] 31. 5. 1977. South Lut, desert south of oasis. View to north.

Photo 22: Loc. no. 352. South Lut, desert with sparse growth of *Artemisia*, N. of oasis Gowk [Golbaf] 31. 5. 1977.







Photo 23: Loc. no. 353. Shahdad, oasis in desert of South Lut, 1. 6. 1977.

Photo 24: Loc. no. 363. Kuh-e Hezar Masjed, 25 km. S. W. of Kalat-e Naderi, 1600 m., 12. 6. 1977. Mountain steppe.







Photo 25: Loc. no. 363. Kuh-e Hezar Masjed, 1600 m., 12. 6. 1977. Mountain pass, with characteristic vegetation.

Photo 26: Loc. no. 365. Soghand, S. slope of Kuh-e Binalud, 15 km. N. E. of Nishabur, 1600 m.; sparse tragacanthic vegetation. 14. 6. 1977.





Photo: 27: Loc. no. 374. Assadli, 30 km. S. of Bojnurd, 1970 m., 17. 6. 1977, Steppe region.

Photo 28: Loc. no: 376. Golestan Forest — Mazarli, 20 km. N. W. od Dasht, 530 m., 19. 6. 1977. Zone of consistent forest.





Photo 29: Loc. no. 390. Sheykh Mahalleh (Assalem), 160 m., 30. 6. 1977. Hyrcanian forest.

Photo 30: Loc. no. 395. Kandavan-pass, south slope of Elburz Mountains, 2700 m., 6. 7. 1977. Mountain steppe.







Photo 32: Loc. no. 406. 25 km. S. E. of Shahpur, (Salmas) 27. 7. 1977. Azarbaijan steppe.

Photo 31: Loc. no. 400. 8 km. N. E. of Ziaran, 2400 m., 12. 7. 1977. Mountain steppe, view to north.

