

**RESULTS OF THE CZECHOSLOVAK-IRANIAN ENTOMOLOGICAL  
EXPEDITIONS TO IRAN****Introduction to the Second expedition 1973**

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This, the second introductory paper in the series, a summary of basic data concerning the Second Czechoslovak-Iranian Entomological Expedition to Iran (1973) of the Department of Entomology of the National Museum (Natural History) in Prague which was undertaken in 1973 from February 13<sup>th</sup> to July 27<sup>th</sup>.

The second expedition was realized through the co-operation of a number of institutions and leading-officers in Czechoslovakia as well as in Iran, first of all Dr. A. Čejchan and Dr. V. Zázvorka, directors of the National Museum in Prague, Mrs. C. Durdilová and Ing. M. Váňa from the Ministry of Culture, Ing. M. Burza, vice-minister from the Ministry of Foreign Trade in Prague. The understanding of Iranian institutions and personalities ensured that the planned trip was realized fully and successfully. Gratitude is due to the Plant Pests and Diseases Research Institute in Tehran - Evin and especially to the director Dr. E. Esfandiari and Dr. M. Safavi, and the Department of the Ministry of Agriculture and of the Ministry of the Interior. All the Institutions and personalities mentioned in both countries played a part in ensuring that the Second expedition was very successfully realized and that a Third may be proposed. For such co-operation from the personalities and Institutions mentioned I wish to express my great appreciation.

As in first expedition, the Second trip was carried out with a special laboratory terrain car from Prague through Hungary, Yugoslavia, Bulgaria, Turkey to Iran. Members of the Second Czechoslovak-Iranian entomological expedition to Iran in 1973 were Dr. Adolf Čejchan, Dr. Jiří Dlabola, Dr. Ludvík Hoberlandt, Dr. Josef Jelínek, Dr. Jan Ježek, Dr. Ivo Kovář, entomologists, Dr. Jiří Soják, botanist, Mr. Otto Janka, documentator, all from the National Museum in Prague and the mechanic Mr. Karel Štich. The expedition as the first one was led by Dr. L. Hoberlandt. In the territory of Iran the mission was accompanied alternately by Dr. Mohammad Safavi, Ing. Hushang Burumand, Ing. Abbas Hashemi, Ing. Mustafa Sairi, Mr. Maleki Zadeh and the mechanic Mr. Ali Ilkhani, all from the Plant Pests and Diseases Research Institute, in Tehran-Evin.

For collecting of the entomological material, as already mentioned in the Introductory Report of the First expedition in 1970, several different were used and they were changed or combined according to the characters of the respective localities in order to accumulate a complex material in adequate time in different conditions. The main collecting methods used were sweeping the vegetation, collecting of single specimens on respective plants, on trees, under the bark of trees and stumps, by

beating, under stones by sifting, drifting in shore, in the water as well as on its surface, by light trap and UV-light, digging out from the earth, tearing out the roots of various plants, digging out the nests of different vertebrates, by use of different earth snares, by Manitoba-trap and a number of other methods.

The collected material, as mentioned in the previous paper, has been deposited in the collections of the Department of Entomology of the National Museum (Nat. Hist.) in Prague and duplicates will be later transferred to the entomological collections of the Plant Pests and Diseases Research Institute in Tehran, as previously agreed.

The formal preparation of all future papers dealing with the Iranian material will be adjusted as shown already in the Introduction to the First Expedition (No. 1 in series), but in contradiction, all future papers will not be numbered to simplify and made more clear their headings.

The members of the Second Czechoslovak-Iranian entomological expedition to Iran 1973 collected in the territory of Iran in 153 localities which are situated in four main, geographically and floristically interesting areas, not visited by the First Expedition in 1970:

### 1. The Central Desert Basine

Central area of irregular shape and composed of number of inland basins of different size is enclosed by the Iranian rim. All these basins have one common feature in lacking any outward drainage to the sea. Although they are generally areas of subdued relief, with extensive flats and terraces the dominating feature, the topography is far from uniform. Much of the central area lies at an altitude of about 1000 m. above sea-level, but there are a few regions where the lowest basins are only 300 m. These basins are separated by topographical divides of different characters, certain of these are highly elevated mountains chains reaching altitudes of 3000 m. or more, others are lines of isolated hummocks, and others again low coils of intermediate relief. This area is shut off to a considerable extent from the influence of damp, maritime air masses; this interior area experiences only low amounts of rainfall, which are on average between 2.5 cm. and 15 cm. annually with an incidence sharply confined to the six winter months. Summer temperatures are very high during the daytime. Because of the lack of cloud and the dryness of the air, there is rapid radiation of heat from the surface at night, both in summer and in winter. This leads to temperature extremes with surprising low figures in winter and great diurnal differences in summer. The inland basin of Iran covers rather more than the half of the total land area and much of the present surface was once occupied by large lakes which formed a fairly continuous system that extends farther east into Afghanistan and Middle Asia. Today only the lowest parts of the basins are occupied by residual salt lake or marsh with extensive deposits of gravels, sands, rock debris, and silts at higher and varied levels. Water levels have fluctuated considerably with the maxima in the Quarternaly era. The present-day water surfaces represent a distinctly arid phase. Dessication has gone furthest in the south and east; in the north and west, where there is a relatively substantial rainfall over the encircling hill ranges and thus considerable surface inflow, the size of the present lakes tends to vary widely according to season.

The boundary between steppe and desert is identified by the limit of potential cultivation based on rainfall which shifts through the years and within the plant



cover of this area. Two main groups of associations are to be distinguished within these limits: (1) those of the Tragacanthic type, or Astragaleta, with the spiny bushes or brushwood of Tragacanthic or other *Astragalus* and *Acantholimon* species, together with other dwarf bushes and many grassy and herbaceous ingredients including *Artemisia*. These associations generally occupy the more elevated area. They also extend to lower areas, following overpasturing. (2) The *Artemisia* type of associations, where scrub composed mostly of *Herba alba* dominates together with other variable ingredients: dwarf bushes, grass and herbs. They generally cover areas of medium elevations, for the most part "dasht" plains and rolling country. Cultivation, heavy pasturing, and other human uses have contributed to the degradation of both types, but especially of the latter, thus promoting the expansion of anti-pastoral and post-segmental weeds like *Hulthemis persica*, *Peganum harmala*, *Sophora alopecuroides*, *Euphorbia* spp. and others. Outside the limit of potential cultivation based on rainfall, the steppe thins out naturally without greatly changing its composition. There is an intermediate zone where the patches of bare ground become considerable, desert-steppe. The desert vegetation consists mainly of saxaul, *Haloxyylon ammодendron* or *Haloxyylon persicum*, *Calligonum polygonoides* or *Calligonum comosum*, and a few other species including stiff grass bunches of *Aristida pennata*.

## 2. Sistan

Southward the mountain mass of Sistan dwindles to a single ridge that lies between Neh and Nosratabad. East of this ridge lies a more developed lowland zone or basin. The Sistan lowland, oval in shape, is a complex downthrow zone, with an especially steep boundary on its western side formed by the narrow ridge. Farther east, in its Afghan portion the basin is more developed with the most eastern rim of the Hindu-Kush ranges which rise to over 4,900 m. The lowest part of Sistan basin (only 470 m.) is the extreme southwest and here is a large area of permanent water. The principal water sheet of the Sistan basin, that of the Hamum-i-Helman, constitutes the largest single expanse of fresh water within the Iranian plateau. The floor of the depression exhibits three layers of material that represent stages in the gradual desiccation of a vast enclosed sea, which was cut off from the Tethys during Late Tertiary times as the result of the upthrusting of folds that now form the present mountain ring surrounding the basin. The uppermost of the deposits are very extensive silts; clay and mud predominate, and these form the present day margins of the actual water surface. Wind and erosion acting selectively upon the various formations have also produced vast areas of loose and shifting dunes.

The river system is of considerable interest; in the west, only a few strictly seasonal torrents plunge for a few days each year down the steep western flanks of the Helmand basin, however the main water sources lie to the east. These streams produce a sheet of water which fluctuates considerably in area, not only seasonally but also very much from one year to another.

The large depression of Sistan, 475 m. above sea-level, has a true desert flora. It changes into a steppe of the *Artemisieta* as one gains in higher on approaching the northern and eastern hill ranges. Still higher up it turns into the Tragacanthic type. From the foothills upwards the pistachio-almond formation becomes established (*Pistacia cabulica*), together with several almond species (e. g. *Amygdalus bucharica*), maple trees, trees of *Celtis caucasica* and *Cercis griffithii*, and several shrubs.

## Makran and Baluchistan

Within a zone summarily defined, as lying east of a dividing line that would run from the Bandar Abbas — Minab fronting the Gulf of Hurmuz to the north of Zahedan there occurs a geographical unit sufficiently distinctive to justify separate recognition as proper subarea forming part of the eastern and southern upland rim of Iran. In terms of geological structure, physiography and climate, this southeast corner of Iran shows a certain individuality. The extreme southeast of Iran is itself characterized by very light folding of the rock series in many varying directions, by considerable distortion of the surface by massive warping and finally by much volcanic outpouring that has been on a scale large enough to give rise to major land forms. Structure shattered by intense and tangential folding, by vertical displacement or the upwelling of lava, are further degraded by the strongly erosive effects due to climate. Hence the topography is of a very complex nature, with vestigial structural features often obscured at least in part, by lava flows, or by the development of extensive detrital layers, which have been either river-aggrandized and deposited, or laid down in the form of lacustrine deposits. Further action due to temperature changes and above all to strong seasonal winds transform these deposits either into pebbly wastes or successions of sandy dunes. Chief erosive agent is the notorious "Wind of 120 Days". Lack of cloud results in a high rate of heat exchange. Altitude also makes a considerable difference. Rainfall in this south-eastern zone ranges from only 2 cm. to 15 cm. over the lowlands to distinctly higher figures over the mountain crests. In the extreme south, along the shores of the Gulf of Oman and proceeding northward lies the very characteristic Persian Makran. This region is adjacent to the coast and comprises the zone between the Strait of Hurmuz and the West frontier of Pakistan. In its extreme western part fronting the Strait, the Makran consists of a series of small ridges aligned in a generally north-south pattern. Near the coast the rock series consist of Eocene and Miocene shales, conglomerates, marls, sandstones and limestones. These are not strongly resistant even to the greatly reduced erosive power of the streams, and individual anticlines are small in longitudinal extent consequently the river pattern is smaller. Many valleys run directly in from the coast and merely skirt the edges of the folds, with extremely broad lower sections. Towards the northward situated Baluchistan the character of Makran changes somewhat owing to the occurrence of a wild mixture of igneous and sedimentary rocks of Cretaceous age which has greater resistance than the coastal series and hence forms the major relief features: a group of ridges reaching 1830 m. to 2135 m., that define the northern edge of the Makran and the rim of the Jaz Murian depression Baluchistan.

North of the Makran and its immediate neighbour to the north-west and north-east Baluchistan, is an irregular upland area dominated by Kuh-i Taftan range. Further, a narrow but imposing mountain chain is that of Kuh-i Bazman, which runs eastwards to link the uplands of eastern Iran to the Zagros chains far to the west. It also divides the Central Lut from the Jaz Murian. The Kuh-i Taftan is an immense cone that rises to 4030 m. and is still in part active, emitting gas and occasionally mud. On the lower slopes is a pillar of lava, and the whole area consists of a mixture of tuffs, conglomerates, and trachytic lavas lying above marl and clay schists. Although the cone is of very young geological age, heavy erosion has cut numerous deep furrows and gullies on its sides, and the base region is deeply covered in places

by accumulations of boulders, pebbles, sands, and silts. Lying at a considerable distance from the cone, the silts appear as flats and dunes, the original furrows and valleys having been heavily infilled. South of the Taftan crests there are a number of larger hollows or valleys cut into the plateau surface. Towards the west and the borders of the Lut, particularly below an altitude of 1250 m., which over much of eastern Iran is a critical level, the vegetation becomes markedly xerophilous and even more differentiated is the vegetation of the true garmsir. Here the predominant type is that of scattered trees and shrubs with a steppe like ground cover, which tapers out into more desert-like formations towards Makran. Floristically the vegetation of garmsir belongs to the Saharian-Arabian and Nubo-Sindian groups, where they mix with those of pistachio-almond formation (Kuh-i Taftan). The kunar tree (*Zizyphus spina-christi*), however, has a fairly wide distribution over the garmsir. Prominent Nubo-Sindian trees are several species of *Acacia*, which are accompanied by shrubs like *Salvadora persica*, *Calotropis procera*, *Capparis*, the dwarf palm *Nannorrhops ritchiana* and many components. The garmsir vegetation is rich in species, some of which mix the northern group in lower places, such as the *Tamarix*, poplar (*Populus euphratica*), myrtle and oleander. More restricted to the true garmsir are *Calotropis procera*, *Rhazya stricta*, *Rubus sanctus* and others; but the date-palm as a cultigen has largely replaced them. Also acacia or kunar trees (*Zizyphus jujuba* or *Z. spina-christi*) gather to form stands in the wadis.

### South Zagros

The southern region of the Zagros system consists of the major Zagros chains of the confines of a tectonically produced mountain basin, of an altitude of about 2,600 m. some 145 km. long and in places as much as 25 km. wide. The basin declines greatly in width at its northern end and the town of Shiraz lies actually within 2 km. of an abrupt hill slope. Shiraz is located within the shallow crook of a river-course that drains south-eastwards to lake Maharlu, but this watercourse remains dry for the greater part of the year. The southern parts of the Zagros range, lying immediately south-east of the Karun basin, show the beginnings of major differences which become so marked further to the south and east as to justify recognition of this area on the features of which are in many respects quite distinct from those of the Zagros — there is still an overwhelming predominance of N. W. — S. E. aligned ridges composed of Upper Mesozoic (chiefly Cretaceous) and Lower tertiary series (Miocene especially). A further element that differentiates this part of the Zagros is the occurrence of salt pluge and domes on a considerable scale. The most striking factor separating this southern Zagros area from the others is that of climate. Rainfall is very much lower as compared with other parts of Zagros. Besides a reduction in overall amount, rainfall tends to be distinctly more unreliable and sporadic in onset, with a tendency to heavy but short falls, and irregularity both in season and from year to year. The result of this is that material eroded by stream and river action, although considerable in amount is not transported far, since streams are not always perennial.

A semidesert oak forest covers the outer slopes of the southern and south-western margins of the Iranian plateau and is called "Zagrosian forest". It is somewhat dry, cold-resistant, and deciduous forest with broad-leaved, summer green, oaks as its dominant members. Its trees are low, round-topped and so widely spaced that the ground cover receives enough light to take on the character of a grassy and herbaceous

steppe. The whole forest displays an orchard-like appearance. Floristically it belongs to the Irano-Turanian complex with a few Mediterranean ingredients. Its most characteristic members are *Quercus brantii*, *Quercus libanii* and *Quercus boissieri*, accompanied by elm, maple, celtis, walnut, Syrian pear, pistachio (*Pistacia khinjuk* and *Pistacia atlantica*), a few almond trees and a great many bushes. In the ravine there are special moisture-loving associations of poplar, willow, alder, elm, ash and plane tree and also creepers.

This second introductory paper includes one map tracing the route in Iran of the expedition of 1973 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 in Iran as well as Turkey mentioned in the Appendix 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" and Gazetteer No. 46, Turkey, March 1960. 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 Geographic Organization, Tehran 1970 (1348) and according to the special views of Dr. Mohammad Safavi.

The numbering of the following localities starts from the list given in the Introductory part dealing with the results of the First expedition of 1970 and in the present list there are included numbered localities from Iran only.

#### List of the localities

**No. 119:** 17 km. N. W. of Mianeh (37 28 N, 47 36 E), 4. 3. 1973, East Azarbaidjan, N. W. Iran.

Terraces of the river Zandjan. Stone steppe with the growth predominantly *Ceratocarpus arenarius*.

Collected under stones and in dung of horses and donkeys.

**No. 120:** 25 km. S. S. E. of Mianeh (37 08 N, 47 47 E), 4. 3. 1973, East Azarbaidjan, N. W. Iran. Photo 1.

Bare bank of the river Qezel Owzan near to the old bridge, between Mianeh and Zandjan.

Collected under stones.

**No. 121:** 16 km. S. E. of Sar Cham (37 07 N, 47 54 E), 4. 3. 1973, Azarbaidjan, N. W. Iran. Photo 2.

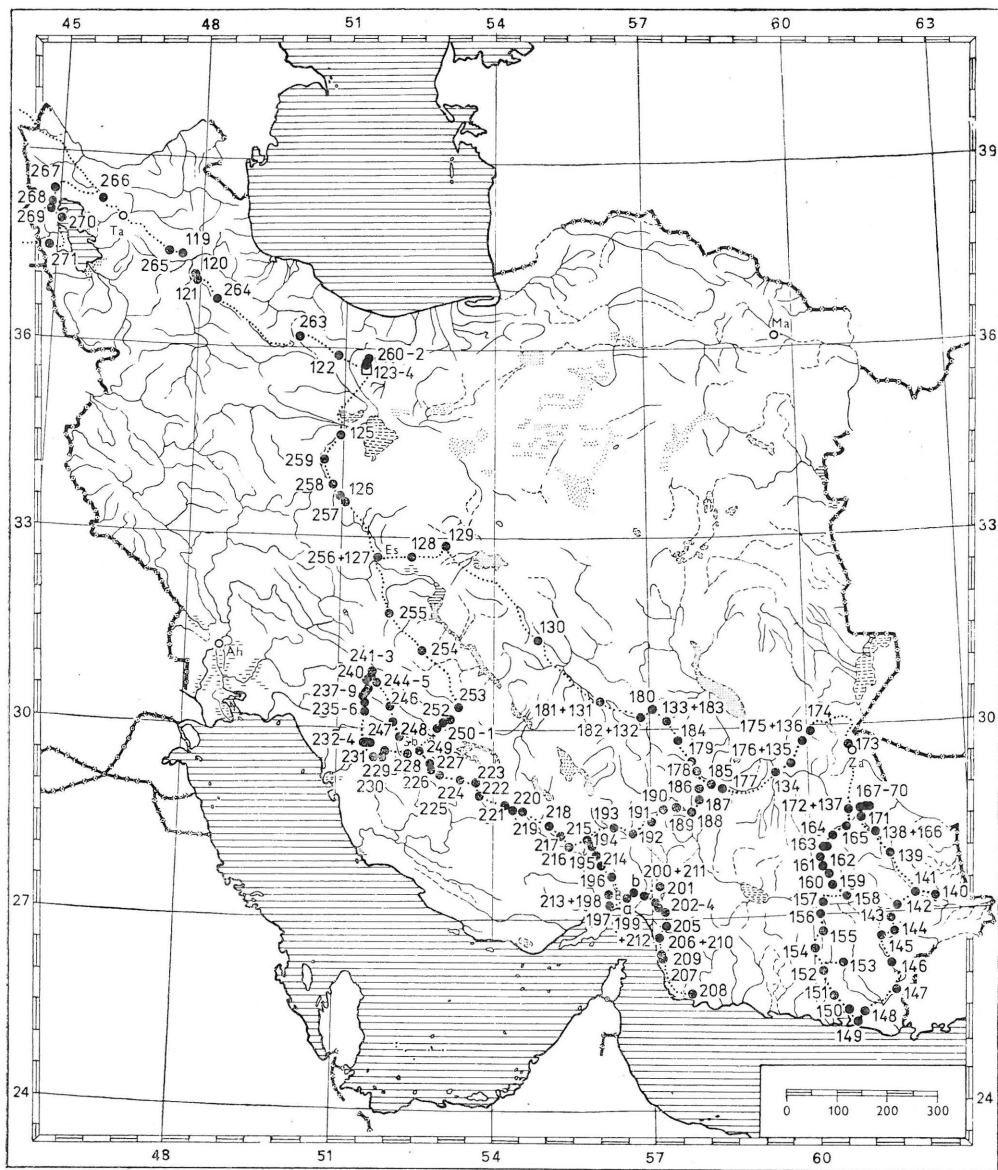
Steppe slopes with the growth of *Ferula* sp.

**No. 122:** 12 km. N. W. of Hesarak (35 54 N, 50 44 E), 5. 3. 1973, Tehran (province), N. Iran.

Stony steppe region at that time with predominant growth of *Artemisia herba-alba*, *Ceratocarpus arenarius*, *Cousinia cylindracea*, *Cousinia urumiensis*.

Collected at the roots of *Artemisia* (hibernated insects).

**No. 123:** Tehran - Evin (35 49 N, 51 23 E), 1700—2000 m., 9.—10. 3, 14. 3. and 16. 3. 1973, N. Iran.



Map of Iran tracing the route of the Second Czechoslovak-Iranian entomological expedition (1973) and the collecting localities are numbered 119-271.

South slopes of Elburz Mountains (Central) above the Plant Pests and Diseases Research Institute, Tehran. Rocky steppe formations with dominant growth of *Astragalus*, *Cousinia*, *Verbascum*, *Hypericum* etc.

Vicinity of a brook in deep ravine with *Platanus orientalis*, *Fraxinus oxycarpa* and *Salix* sp.

Collected in clumps and roots of *Astragalus* and *Verbascum* etc., under stones and under bark of trees.

**No. 124:** Tehran - Evin (35 47 N, 51 22 E), 1700 m., 13. 3. 1973, N. Iran.

Garden of the Plant Pests and Diseases Research Institute in the North part of Tehran (Evin). Apple-trees and alfalfa.

**No. 125:** Ghom (34 39 N, 50 54 E), 18. 3. 1973, Tehran (province), N. Iran.

Wide vicinity of Ghom. Rocky semi-desert and clayish areas with predominant growth of *Artemisia herba-alba*, *Peganum harmala*, *Astragalus candolleanus*, *Lactuca orientalis*, *Ceratocephalus falcatus*.

Collected under clumps of the above mentioned plants.

**No. 126:** 21 km. S. E. of Robate-Tork (33 40 N, 50 59 E), resp. 33 km. N. W. of Meymeh (33 27 N, 51 10 E), between Ghom and Esfahan, 18. 3. 1973, Tehran (province), N. Iran.

Stony semi-desert region, with predominant growth of *Pteropyrum aucheri*.

Collected at roots and under clumps of plants.

**No. 127:** Esfahan (32 40 N, 51 38 E), 1620 m., 19. 3. 1973, Esfahan (province), C. Iran.

Garden of Plant Pests and Diseases Research Institute with Cupressus-trees and alfalfa.

Collected by sweeping.

**No. 128:** Kuhpayeh (32 43 N, 52 26 E), 73 km. E. of Esfahan, 20. 3. 1973, Esfahan (province), C. Iran.

Gravel semi-desert with dominant growth of *Pteropyrum ericoides*, *Lactuca orientalis*, *Atraphaxis*, *Astragalus (Tragacantha)*.

Collected under stones and under clumps of plants.

**No. 129:** Nain (32 52 N, 53 05 E), 20. 3. 1973, Esfahan (province), C. Iran.

Gravel semi-desert with dominant growth of *Pteropyrum aucheri*.

Collected under stones and under plants.

**No. 130:** 6 km. N. W. of Kermanshahan (31 20 N, 54 54 E), between Yazd and Rafsandjan, 1610 m., 21. 3. 1973, Esfahan (province), C. Iran. Photo 3.

Gravel semi-desert with rich growth of spring ephemeral plants; *Artemisia herba-alba*, *Pteropyrum ericoides*, *Euphorbia connata*, *Cleome colutooides*, *Amygdalus scoparia* (in blossom).

Collected from the vegetation and under clumps of plants.

**No. 131:** Rafsanjan (30 24 N, 56 01 E), 22. 3. 1973, Kerman (province), C. Iran.

1. Gardens of the Institute of plant protection with cultivation of *Pistacia vera*, alley with *Populus*.

2. Vicinity of the town in the direction Nuq — sand desert with *Alhagi maurorum*, *Anabasis aphylla* and *Agriophyllum* sp.

3. Vicinity of the town, dry river-bed on the border of Pistachio gardens (*Pistacia*

*vera*) with dominant growth of *Alhagi maurorum*, *Tamarix gallica*, *T. laxa*, *Diplo-taxis hara*, *Cardaria draba chalepensis*, *Scorzonera laciniata*, *Heteranthelium piliferum*, *Eremopyrum bonapartis*, *Bromus tectorum* var. *hirsutus*.

Collected under stones, in soil, under fallen leaves of pistachio, by sweeping and by light trap from the vegetation.

**No. 132:** 13 km. W. S. W. of Kerman (30 14 N, 56 58 E), 23. 3. 1973, Kerman (province), C. Iran. Photo 4.

Sandy dunes partially fixed by sparse shrubs — *Calligonum amoenum*, *Haloxyylon multiflorum* and grass *Ptilagrostis plumosa*.

Collected by beating of *Hyloxyylon*, by sweeping, under roots of plants and in burrow of rodents.

**No. 133:** Mahan (30 05 N, 57 18 E), 1700 m., 23.—24. 3. 1973, Kerman (province), C. Iran. Photo 5.

Stony semi-desert; irrigation channel with alluvial meadows; growth of *Hertia intermedia*, *Astragalus gyzensis*, *Salix aegyptiaca*, *Scorzonera pseudolanata*, *Valeriana triplaris*, *V. oxyrrhyncha*, *V. szowitsiana*, *Spergularia diandra*.

Collected under stones and by light trap.

**No. 134:** Shur Gaz (29 10 N, 59 20 E), 25. 3. 1973, Kerman (province), E. Iran. Photo 6.

Sandy desert with sparse growth of *Tamarix dioica*, *T. aphylla* and *Seidlitzia rosmarinus*.

Collected by sweeping.

**No. 135:** Kahurak (29 26 N, 59 40 E), 130 km. E. N. E. of Bam, 25.—26. 3. 1973, Sistan, E. Iran.

Stony and sandy desert, grassy banks of water source and meander of running salty brook in desert; growth of *Phragmites australis*, *Aeluropus littoralis*, *Desmostachya bipinnata*, *Seidlitzia rosmarinus*, *Haloxyylon ammodendron*, *Tamarix mascatensis*, *Cistanche tubulosa*, *Fagonia bruguyeri*, *Stipagrostis plumosa*, *Tribulus longipetalus macropterus*.

Collected by sweeping, drifting in shore, in water, under stones and by light trap.

**No. 136:** 30 km. S. W. of Nosratabad (29 44 N, 59 48 E), 26. 3. 1973, Sistan, E. Iran.

Mountain ridge near Nosratabad; stony mountain semi-desert; *Amygdalus eburnea*, *Stockia brahuica*, *Fortnuynia bungeri*, *Sabria aegyptiaca*, *Stipagrostis plumosa*, *Stipagrostis brachypoda*.

Collected by sweeping and under stones.

**No. 137:** 26 km. N. W. of Deh Pabid (28 37 N, 60 46 E), 1420 m., between Zahedan and Khash, 28. 3. 1973, Baluchistan, E. Iran.

Clayish-stony semi-desert, dry river-bed, bordered by *Tamarix dubia*, *Ephedra intermedia* var. *persica*, *Zygophyllum euryppterum*. Spring aspect of ephemeral plants: *Scabiosa olivieri*, *Paracaryum stellatum*, *P. persicum*, *Heterocaryum subsessile*, *Scorzonera picrioides*, *S. litvinovii*.

Collected by sweeping and under stones.

**No. 138:** Khash (28 14 N, 61 14 E), 28. 3. 1973, Baluchistan, S. E. Iran.

Sandy semi-desert, Artemisietum (10 km. N. of the town) and near to the Agronomical Research Institute cultivated area and entire growth of *Peganum hamala* and *Artemisia herba-alba*. Growth of *Cardaria draba chalepensis*, *Epilasia hemilasia*,



*Helianthemum lippii*, *H. salicifolium*, *H. ledifolium*, *Koelpinia linearis*, *Crepis kotschyana*, *Heteroderis pusilla*, *Valerianella oxyrrhyncha*, *Ziziphora persica*. Vicinity of Agronomical Institute with immense growth of *Zygophyllum eurypterum* and *Calliphorum*.

Collected under clumps of plants (*Artemisia*), under heaps of vegetable remnants, by sweeping and by light trap.

**No. 139:** 40 km. N. W. of Paskuh (27 55 N, 61 30 E), between Fazlabad and Paskuh, 29. 3. 1973, Baluchistan, S. E. Iran. Photo 7.

Sarhad Mts., semi-desert, gravel-clayish to partly sandy plateau, composition of vegetation changes with regard to foundation, however the dominant plant species are the same to the whole region: *Rhazia stricta*, *Anvillea garcini*, *Carex physodes*; *Euphorbia connata*, *Rheum ribes*, *Amygdalus eburnea*, about 44 km. S. of Khash begins *Convolvulus argyranthus*, *Pistacia atlantica mutica*, *Fagonia bruguyeri*, along river beds *Tamarix* sp., *Matthiola chenopodiifolia*, *Arnebia decumbens*, *Arnebia minima*, *Scorzonera tortuosissima*, *Scorzonera picridioides*, *Scorzonera mucida*, *Saccharum* sp. and on adjacent slopes *Nanorrhops ritchieana*.

Collected by beating the vegetation and by sweeping.

**No. 140:** 21 km. S. W. of Saravan (27 08 N, 62 14 E), 30. 3. 1973, Baluchistan, S. E. Iran. Photo 9.

Valley between Suran and Saravan with predominant growth of *Nanorrhops ritchieana*, *Zygophyllum eurypterum* and *Zizyphus spina-christi*.

Collected from the vegetation.

**No. 141:** 44 km. N. E. of Zaboli (27 15 N, 61 58 E), 30.—31. 3. 1973, Baluchistan, S. E. Iran.

Semi-desert with a periodical shallow river bed with plant association: *Zygophyllum eurypterum*, *Acanthophyllum squarrosum*, *Periploca aphylla*, *Convolvulus argyranthus*, *Anvillea garcini*, *Scorzonera tortuosissima*, *Acanthophyllum glumaceum* and *Stockia brahuica*.

Collected from the vegetation by sweeping and beating, under stones and under vegetation.

**No. 142:** 10 km. S. W. Zaboli (27 05 N, 61 35 E), 31. 3. 1973, Baluchistan, S. E. Iran.

Rocky and stony semi-desert, very sparse xerophylous vegetation with predominant: *Zygophyllum eurypterum*, *Farsetia heliophila*, *Convolvulus argyranthus*, *Olea aucheri*, *Blepharis persica* and *Cleome oxypetala*.

Collected under stones and on sparse vegetation.

**No. 143:** 40 km. S. W. of Zaboli (26 53 N, 61 29 E) on the road Zaboli - Sarbaz, 31. 3. 1973, Baluchistan, S. E. Iran

Rocky valley on the road between Zaboli and Sarbaz, periodical river-bed with remnants of water with some watered trees; *Phoenix dactylifera*, *Nanorrhops ritchieana*, *Nerium indicum kotschyi*. Rocky mountain sparse xerophylous vegetation of *Salvia aegyptiaca*, *Oligomeris subulata*, *Olea aucheri*, *Blepharis persica*, *Argyrolobium roseum*, *Helianthemum lippii*, *Arundo donax*.

Collected from the vegetation, under stones, in detritus of date-palms and in water.

**No. 144:** Sekand (26 43 N, 61 31 E) 27 km. E. N. E. of Sarbaz (26 39 N, 61 15 E), 31. 3.—1. 4. 1973, Baluchestan, S. E. Iran. Photo 10.

Valley near to the road Zaboli — Sarbaz, small fields near to the oasis watered by a salty brook; small salty swamps in the oasis. Rocky desert in the vicinity of the oasis with growth of *Boerhaavia elegans*, *Commicarpus stenocarpus*, *Zygophyllum erypterum*, *Rhazia stricta*, *Taverniera spartea*, *Argyrolobium roseum*, *Frankenia pulverulenta*, *Helianthemum lestifolium* var. *microcarpum*, *Oligomeris subulata*, *Homalodiscus ochradeni*, *Citrus colocythis*. Area of water source with growth of *Launea fallax*, *Gnaphalium luteo-album*, *Phyla nodiflora*, *Centaurium tenuifolium*, *Samolus valerandi*, *Acorellus distachyus*, *Eleocharis capitata*, *Fimbristilis diphylla*, *Isolepis supina*.

Collected under stones and in swamps, from the vegetation, in dung and by light trap.

**No. 145:** Sarbaz river valley (Rudkhanehye Sarbaz), 11 km. N. up to and 30 km. S. of Sarbaz (26 39 N, 61 15 E), 1.—2. 4. 1973, Baluchestan, S. E. Iran. Photos 11, 12, 13.

Very broad gravel-sandy river bed only partially flooded. Terrace cultivated with wheat and *Phoenix dactyliflora*. Semi-desert on rocky slopes in the vicinity. Valley of the river with growth of *Bergia ammanioides*, *Gnaphalium luteo-album*, *Phyla nodiflora*, *Euphorbia helioscopia*, *Urospermum picrioides*, *Solanum surattense*, *Acorellus distachyus*, *Nerium indicum kotschyi*. Banks of irrigation channel with grass. Stony semi-desert on slopes with the growth of *Tephrosia apolinea*, *Taverniera glabra*, *Salvia aegyptiaca*, *Ostegia persica*, *Chrozophora obliqua*, *Pergularia tomentosa*, *Boerhaavia elegans*, *Salvadora oleoides*, *Dodonea viscosa*, *Homalodiscus ochradeni*, *Oligomeris subulata*, *Rhazia stricta*, *Convolvulus virgatus*, *Convolvulus spinosus*, *Convolvulus argyranthus*, *Fagonia olivieri*, *Lycium shawii*.

Collected by sweeping the vegetation, under stones near the water and by light trap.

**No. 146:** Rask (26 13 N, 61 25 E), about 3 km. N., 2.—3. 4. 1973, Baluchistan S. E., Iran. Photos 14, 15.

Gravel-sandy valley of the river Sarbaz; in the vegetation predominate *Tamarix dioica*, *Callotropis procera*, *Amygdalus eburnea*, *Acacia flava*; rocky very sparse xerophyllous vegetation of *Tephrosia apolinea*, *Taverniera glabra*, *Convolvulus virgatus*, *Convolvulus spinosus*, *Salvia aegyptiaca*, *Berhavia elegans*, *Aristida adscensionis*.

Collected from the vegetation, in the soil and by light trap.

**No. 147:** Bahu-Kalat (25 44 N, 61 32 E), 68 km. S. of Rask, 3.—4. 4. 1973, Baluchistan, S. E. Iran. Photo 16.

Wide gravel-sandy river bed of Sarbaz, alluvial area of the river characterized by tropical grassland with xerophilous vegetation and scattered trees composed of *Prosopis spicigera*, *Acacia flava*, *Callotropis procera*, *Nerium indicum kotschyi*, *Zizyphus spini-christi*, *Ephedra ciliata*, *Tamarix dioica*, *Tamarix aphylla*, *Capparis decidua*, *Taverniera glabra*, *Taverniera spartea*, *Convolvulus leptochabrus*, *Salvadora oleoides*, *Lycium shawii*, *Fagonia olivieri*, *Farsettia ramosissima*, *Farsettia heliophila*, *Ochradenus baccatus*. On the river bank with *Cyperus rotundus*, *Schoenoplectus littoralis*, *Potamogeton nodorus* and *Potamogeton pusillus*.

Collected from the vegetation, by sweeping and beating the vegetation, under stones, drifting in shores and by light trap.

**No. 148:** 15 km. N. E. of Bandar-e Chah Bahar (25 22 N, 60 46 E), 5. 4. 1973, Baluchistan, S. E. Iran.

Rocky and stony semi-desert, vegetation characterized by *Heliotropium tuberculatum*, *Grantia aucheri*, *Taverniera spartea*, *Capparis decidua*, *Launaea oligocephala*, *Tephrosia apolinea*, *Salvadora persica*, *Aerva persica*, *Rhanterium epapposum*, *Lactuca orientalis*, *Commicarpus stenocarpus*.

Collected by sweeping the vegetation and in the soil.

**No. 149:** Bandar-e Chah Bahar (25 18 N, 60 46 E), 5.—6. 5. 1973, Baluchistan, S. E. Iran.

Sandy sea-strand, hinterland with desert vegetation on sands characterized mainly by *Heliotropium tuberculatum*, *Moltkiopsis ciliata*, *Rhanterium epapposum*; *Tephrosia apolinea*, *Launaea massauensis*, *Acacia flava*, *Acorellus laevigatus* var. *albidus*, *Periploca aphylla*, *Salvadora persica*, *Capparis cartilaginea*, *Indigofera intricata*.

Collected from the vegetation and on the strand under stranded weeds and dead sea animals.

**No. 150:** Tis (25 21 N, 60 37 E), 6.—7. 4. 1973, Baluchistan, S. E. Iran. Photos 17, 18.

Garden of the Agronomical research institute with cultivated tropical products like citrus, bananas, mango, papaya and also with tomatoes, dill, parsley etc. All around stony semi-desert, sporadically with solitary groups of trees: *Acacia arabica*, *Prosopis spicigera*, *Ficus bengalensis*, *Capparis decidua*, *Heliotropium tuberculatum*, *Taverniera spartea*, *Taverniera glabra*; *Abutilon hirtum*, *Ephedra ciliata*, *Periploca aphylla*, *Helianthemum lippii*, *Grantia aucheri*, *Rhanterium epapposum*, *Ochradenus baccatus*, *Oldenhamia retrorsa*.

Collected from the vegetation, by sweeping, under stones and in soil, by light trap.

**No. 151:** Valley of the river Pish mant Kowr (25 40 N, 50 22 E) near the village Pish mant-e Kahur (25 42 N, 60 24 E), 55—78 km. N. N. W. of Tis on the road Tis - Nikshahr, 5. 4. 1973, Baluchistan, S. E. Iran. Photo 19.

Stony semi-desert, sporadically with solitary groups of trees *Prosopis spicigera*, *Acacia flava*, *Tamarix dioica*, *Taverniera glabra*, *Amygdalus eburnea* and *Gymnocarpus decandrus* and dry river-bed of Pish mant Kowr richly overgrown with *Tephrosia apolinea*, *Cassia obovata*, *Lactuca orientalis*, *Platychaete aucheri*, *Convolvulus virgatus*, *Fagonia subinermis*, *Reaumuria stocksii*, *Trichodesma africanum*.

Collected by sweeping, in heads of *Acacia* and *Prosopis*.

**No. 152:** 13 km. S. S. E. of Nikshahr (26 08 N, 60 11 E), valley of the river Nikshahr (Rudkhaneh Nikshahr), 8.—9. 4. 1973, Baluchistan, S. E. Iran. Photo 20.

Stony semi-desert and valley of small river Nikshahr with predominant growth of *Tamarix dioica*, *Acacia arabica*, *Nanorrhops ritchieana*, *Grantia aucheri*, *Acorellus laevigatus* var. *albidus*, *Trichodesma africanum*, *Trichodesma longipedicellatum*, *Taverniera glabra*, *Convolvulus leptocladus*, *Fortuynia lungei*, *Reaumuria stocksii*, *Vitex trifolia*.

Collected on the bank of the river, from the vegetation and by light trap.

**No. 153:** 25 km. W. of Ghasre-Ghand (26 12 N, 60 31 E), 34 km. E. of Nikshahr, 9.—10. 4. 1973 Baluchistan, S. E. Iran.

Stony semi-desert, sporadically with groups of trees *Acacia arabica*, *Amygdalus eburnea*, *Grantia discoidea*, *Taverniera glabra*, *Tamarix* sp.; *Pistacia khinjuk*, *Salva-*

*dora persica*, *Launaea oligocephala*, *Convolvulus virgatus*, *Olea ferruginea*, *Lactura orientalis*.

Collected by sweeping the vegetation and by beating, by light trap.

**No. 154:** 16 km. S. E. of Tangé-Sarhé (26 29 N, 60 02 E), 61 km. N. N. W. of Nikshahr, 900 m., 10. 4. 1973, Baluchistan, S. E. Iran. Photo 21.

Rocky bank of a mountain torrent, without vegetation. Stony mountain slopes with sparse vegetation of *Zataria multiflora*, *Taverniera glabra*, *Acanthophyllum glumaceum*, *Launaea oligocephala*, *Platychaete aucheri*, *Boerhaavia diffusa*.

Riparial fauna collected and insects drifted from weeds and small gravel strands on bank of the brook.

**No. 155:** 9 km. S. of Espakeh (26 47 N, 60 14 E), 10. 4. 1973, Baluchistan, S. E. Iran.

Semi-desert vegetation on gravel-clayish ground. Predominant plants: *Tamarix florida*, *Tamarix mascatensis*, *Convolvulus acanthocladus*, *Convolvulus oxysepalus*, *Acanthophyllum squarrosum*, *Scorzonera tortuosissima*, *Gymnocarpus decandrus*, *Eremobium aegyptiacum*, *Centaurea belangeriana*, *Salvia aegyptiaca*.

Collected by sweeping and beating the vegetation.

**No. 156:** Sands of Espakeh (Shen-e Espakeh) (27 00 N, 60 13 E), 13—47 km. N. of Espakeh, 11. 4. 1973, Baluchistan, S. E. Iran. Photo 22.

Sand desert with sparse growth of *Calligonum laristanicum*, *Calligonum amoenum*, *Calligonum denticulatum* and *Calligonum bungei*, *Moltkiopsis ciliata*, *Haloxylon persicum*, *Acorellus laevigatus* var. *albidus*, *Convolvulus acanthocladus*, *Neurada procumbens*, *Eremobium aegyptiacum*, *Savignya parviflora*, *Cakile arabica*.

Collected by beating the mentioned vegetation.

**No. 157:** Ghasemabad (27 10 N, 60 20 E), valley of the river Bampur (Rud-e Bampur), 10 km. E. of Bampur, 11.—12. 4. 1973, Baluchistan, S. E. Iran.

Valley of the river with fields in semi-desert region. Large sandy bank of the river Bampur without any vegetation, sandy terraces of the river overgrown with *Tamarix aphylla*, *Callotropis procera*, *Anundo donax*, *Alhagi camelorum*, *Spergularia diandra*, *Plantago amplexicaulis*, *Anagallis coerulea*. Near to the town a cultivated region with wheat, alfalfa and poppy.

Collected in water, by sweeping the vegetation and by light trap.

**No. 158:** Iranshahr (27 13 N, 60 41 E), 12. 4. 1973, Baluchistan, S. E. Iran.

Agronomical Research Institute — garden with different flowers.

Collected in the garden.

**No. 159:** 30 km. N. of Bampur (27 27 N, 60 25 E), 12.—13. 4. 1973, on the road between Bampur - Bazman, Baluchistan, S. E. Iran.

Stony and clayish semi-desert with spring ephemeral plants; *Calligonum denticulatum*, *Prosopis spicigera*, *Ephedra pachyclada*, *Salvia aegyptiaca*, *Lycium edgeworthii*, *Frankenia pulverulenta*, *Scorzonera ramosissima*, *Acanthophyllum glumaceum*.

Collected from the vegetation.

**No. 160:** 12 km. S. S. E. of Bazman (27 42 N, 60 17 E), 13. 4. 1973, Baluchistan, S. E. Iran.

Deep canyon with dry gravel river-bed. Side terraces with disperse groups of woods; *Tamarix aphylla*, *Gymnarrhaena micrantha*, *Forskalea tenacissima*, *Mathiola*

*chenopodiifolia*, *Arnebia decumbens*, *Paracaryum stellatum*, *Mattiastrum bungei*, *Papaver decaisnei*.

Collected from the vegetation.

**No. 161:** Bazman (27 49 N, 60 12 E), 13. 4. 1973, Baluchistan, S. E. Iran.

Palm oasis at the foot of Bazman Mts. Irrigation channel on the border of village; *Juncus rigidus*, *Launaea capitata*, *Leyssera capilifolia*.

Collected water insects and under stones.

**No. 162:** Bazman Mts. (27 58 N, 60 10 E), 1200—1300 m., 18 km. N. of village Bazman, 13.—14. 4. 1973, Baluchistan, S. E. Iran. Photo 8.

Dry gravel river-bed, terraces with *Tamarix aphylla*, slopes with dominant growth of *Zygophyllum eurypterum*, *Oligomeris subullata*, *Parietaria alsinifolia*, *Pergularia tomentosa*.

Collected from vegetation and under stones.

**No. 163:** 30—45 km. N. N. E. of Bazman (28 05 N, 60 15 20 E), on road between Bazman and Deh Pabid, 14. 4. 1973 Baluchistan, S. E. Iran.

Sandy semi-desert with rich growth of spring ephemeral plants and *Calligonum amoenum*, *Scorzonera tortuosissima*, *Scorzonera picridioides*, *Acorellus laevigatus* var. *albidus*, *Stipagrostis plumosa*, *Asteriscus pygmaeus*.

Collected by beating the vegetation.

**No. 164:** 63 km. N. E. of Bazman (60 27 E, 28 13 N), on the road between Bazman and Deh Pabid, 14. 4. 1973, Baluchistan, S. E. Iran.

Mountain valley with a torrent forming pools, mountain stony slopes with sparse vegetation. Banks of torrent with gravel strands and growth of *Lotus laticus*, *Acorellus distachyus*, *Aeluropus macrostachys*, *Phalaris brachystachys*, *Imperata cylindrica*.

Collected water and riparian insects.

**No. 165:** 25 km. S. W. of Eskelabad (28 24 N, 60 43 E), 14.—15. 4. 1973 Baluchistan, S. E. Iran.

Gravel semi-desert with predominant growth of *Zygophyllum eurypterum*.

Collected by sweeping the vegetation.

**No. 166:** Khash (28 14 N, 61 14 E), 15.—16. 4. 1973, Baluchistan, S. E. Iran. Similar to locality no. 138.

Sandy semi-desert in the vicinity of the Agronomical Research Institute additionally with *Zygophyllum eurypterum*, *Ziziphora persica*, *Gymnocarpus decandrus*, *Convolvulus turrillianus*. Fields with *Reichardia orientalis*, *Achillea santolina*, *Convolvulus arvensis*, *Heteroderis pusilla*.

Collected from the vegetation by sweeping and beating the plants, under stones, in soil and in the water, by light trap.

**No. 167:** Kuh-e Taftan (Mts. Taftan), Valley Tamandan, 2100 m., (28 36 N, 61 02 E), 17.—18. and 20. 4. 1973, Baluchistan, S. E. Iran. Photo 23.

Broad valley of brook, banks with dense growth of *Mentha silvestris*, *Mentha aquatica*, *Euphorbia microsciadia*, *Euphorbia gedrosiaca*, *Euphorbia buhsei*, *Cousinia stocksii*, *Artemisia herba-alba*, *Glycyrrhiza glandulifera*, *Salix acmophila*, *Salix zygostemon*. Grassy meadows on the banks of brook with *Eleocharis quinqueflora*, *Samolus valerandi*, *Holoschoenus vulgaris*, *Nepeta bracteata*, *Poa glabriflora*, *Acorellus distachyus*. Dry stony slopes of mountains with predominant growth of steppe veg-

etation like *Achillea eriophora*, *Achillea santolina*, *Aethionema carneum*, *Amygdalus scoparia*, *Malva rotundifolia*, *Callicephalus nitens*, *Pterocephalus canus*; *Eremopoa persica*, *Oryzopsis fuliflora*, *Ziziphora persica*.

Collected from the vegetation by sweeping and beating the plants, under stones, nisoil and in the water, by light trap.

**No. 168:** Kuh-e Taftan (Mts. Taftan), Tamandan valley (upper end of the valley), 2200 m., (28 36 N, 61 04 E) 18. 4. 1973 Baluchistan, S. E. Iran. Photo 24.

Region of steppe character with Artemisetum; *Artemisia herba-alba* and *Amygdalus scoparia*. Water source with *Juncus articulatus*, *Juncus gerardi* ssp. *persicus* and *Glycyrrhiza glandulifera*.

Collecting by sweeping, under stones and on slopes near the water source.

**No. 169:** Kuh-e Taftan (Mts. Taftan), 2400 m., (28 36 N, 61 04 E), water source on the foot of the proper Mountain (Ab-e Shirin), 19. 4. 1973, Baluchistan, S. E. Iran. Photo 25.

Mountain steppe with the continuous growth of *Artemisia herba-alba* and *Euphorbia aucheri*.

Collected by sweeping and under stones.

**No. 170:** Kuh-e Taftan (Mts. Taftan), top of the mountain, 4042 m. (28 36 N, 61 06 E), 19. 4. 1973, Baluchistan, S. E. Iran.

Top of the mountain, without vegetation, covered with stones and slag with admixture of sulphur compounds. The upper limit of the vegetation (*Artemisia herba-alba* and pillow of *Acantholimon stocksii*) at an altitude of 3.800 m.

Collected under stones and in the soil.

**No. 171:** Gusheh (28 34 N, 61 00 E), 21. 4. 1973, Baluchistan, S. E. Iran.

Border of water reservoir and irrigation channel with predominant growth of *Mentha aquatica* and *Glycyrrhiza glandulifera*.

Collected by sweeping and under stones.

**No. 172:** Deh Pabid, vicinity (28 37 N, 60 46 E) on the road between Khash and Zahedan, 21. 4. 1973, Baluchistan, S. E. Iran. Similar to locality no. 137.

Semi-desert with dry gravel river-bed with sparse growth of woods; *Tamarix mascatensis*, *Tamarix leptopatala*, *Euphorbia buhsei*, *Euphorbia microsciadia*, *Cometes suratensis*, *Dendrostellera lessertii*, *Amygdalus eburnea*, *Rochelia macrocalyx*, *Arnebia decumbens*, *Roemeria hybrida* ssp. *dodecandra*.

Collected by sweeping.

**No. 173:** 37 km. N. W. of Zahedan (29 42 N, 60 38 E), 22.—23. 4. 1973, Sistan, E. Iran.

Semi-desert with predominant vegetation of *Artemisia herba-alba* and *Zygophyllum eurypterum*.

Collected by sweeping and by light trap.

**No. 174:** 8 km. W. of Nosratabad (29 53 N, 60 04 E), 23. 4. 1973, Sistan, E. Iran.

Dry stony mountain slopes with dense vegetation of *Artemisia herba-alba*, *Amygdalus eburnea*, *Grantia aucheri*, *Cousinia stocksii*, *Taverniera glabra*, *Stocksia brahuica*. Collected under clumps of vegetation.

**No. 175:** 30 km. S. W. of Nosratabad (29 44 N, 59 48 E), 23. 4. 1973, Sistan, E. Iran. Similar to locality no. 136.

**No. 176:** Kahurak (29 26 N, 59 40 E), 23.—24. 4. 1973, Sistan, E. Iran. Similar to locality no. 135.

**No. 177:** 8 km. W. of Bam (29 06 N, 58 21 E), 24.—25. 4. 1973, Kerman (province), E. Iran.

Gravel desert without vegetation; in the vicinity of the town watered fields with wheat at sides overgrown with *Glycyrrhiza glandulifera*, *Alhagi camelorum*, *Zoegea purpurea*, *Plantago amplexicaulis*, *Melilotus indicus*, *Malva nicaensis*.

Collected by sweeping the vegetation, under stones and on the soil.

**No. 178:** Abaregh (29 19 N, 57 55 E), 53 km. N. W. of Bam, 25. 4. 1973, Kerman (province), E. Iran.

Semi-desert with growth of spring ephemeral plants and *Artemisia herba-alba*; along an irrigation channel growth of *Tamarix leptopatala*, *Ebenus stellata*, *Gymnocarpus decandrus*, *Hertia angustifolia*, *Helianthemum lippii*, *Fortuynia bungei*, *Stipa haussknechtii*.

Collected by sweeping and under clumps of vegetation.

**No. 179:** Khutanabad (29 28 N, 57 48 E), 70 km. N. W. of Bam, 25. 4. 1973, Kerman (province), E. Iran.

Stony semi-desert with the rich vegetation of spring ephemeral plants on the slopes of hills; *Glaucium elegans*, *Hyoscyamus pusillus*, *Arnebia minima*, *Matthiola chenopodiifolia*, *Heteroderis pusilla*, *Scorzonera picridioides*, *Linaria michauxii*, *Artemisia herba-alba*, *Calligonum bungei*, *Amygdalus eburnea*, *Peganum hamala*.

Collected from the vegetation.

**No. 180:** Kerman (30 17 N, 57 05 E), 26. 4. 1973, E. Iran.

Area of an Agricultural Institute.

Collected from Alfalfa.

**No. 181:** Rafsanjan (30 24 N, 56 01 E), 26.—28. 4. 1973, Kerman (province), E. Iran. Similar to locality no. 131.

Collected in similar localities, especially from *Alhagi maurorum*, *Tamarix gallica*, *Tamarix laxa*, *Tamarix deserti*, *Prosopis farcta*, *Glycyrrhiza glandulifera*, *Achillea santolina*, *Scorzonera songarica*, *Hyoscyamus pusillus*, *Crepis sancta* ssp. *iranica*.

**No. 182:** 13 km. W. S. W. of Kerman (30 14 N, 56 58 E), Kerman (province), 29. 4. 1973, E. Iran. Similar to locality no. 132.

Sandy dunes — additionally collected from *Ptilograstis plumosa*, *Convolvulus eremophilus*, *Heliotropium transoxanum* and *Calligonum amoenum* (just in blossom).

**No. 183:** Mahan (30 05 N, 57 18 E), 1700 m., 29. 4. 1973, Kerman (province), E. Iran. Similar to locality no. 133.

**No. 184:** 15 km. N. W. of Neybid, 40 km. S. E. of Mahan (29 46 N, 57 35 E), 2000 m., 29. 4. 1973, Kerman (province), E. Iran.

Semi-desert vegetation almost solely growth of *Artemisia herba-alba* on clayish substratum. Stony slopes of mountains with sparse vegetation of *Nepeta bracteata*, *Ziziphora persica*, *Scorzonera mucida*, *Tragopogon caricifolius*.

Collected by sweeping.

**No. 185:** Darzin (29 09 N, 58 06 E), 20 km. W. of Bam, 29.—30. 4. 1973, Kerman (province), E. Iran.



Semi-desert, stony slopes with sparse growth of *Artemisia herba-alba*, and *Cometes suratensis*.

Collected by sweeping, on the soil and by light trap.

**No. 186:** Deh Bakri (29 03 N, 57 56 E), Kuh-e Jebal Barez (Jebal Barez Mts.), 1700—1750 m., 30. 4.—3. 5. 1973, Kerman (province), E. Iran. Photo 26.

1. Gravel and rocky river-bed with parallel irrigation channel with growth of *Mentha aquatica*, *Primula gaubeana*, *Nerium odorum*, *Acantholimon munroanum*, *Veronica anagallis-aquatica*.

2. Terraces and stony slopes over the river, when not cultivated, sporadically covered with bushes and low plants: *Amygdalus eleagnifolia*, *Amygdalus horrida*, *Convolvulus leiocalycinus*, *Astragalus kuhistanicus*, *Artemisia herba-alba*, *Acantholimon leucanthemum*, *Berberis integerrima*, *Lonicera mummulariifolia*, *Euphorbia szovitsii*, *Euphorbia microsciadia*, *Rhammus persica*, *Daphne stapfii*, *Daphne mucronata*, *Bunium persicum*, *Dorema aucheri*, *Colutea persica*.

3. Sides of valley clayish with water sources with growth of *Gundeliato urnefortii*, *Pistacia atlantica* ssp. *mutica*, *Ephedra intermedia* var. *persica*, *Campanula kermanica*, *Acer monspessulanum* ssp. *persicum*.

4. Lateral valley with running brook, along with consistent turf, on the moist places (water sources) with *Blysmus compressus*, *Eleocharis quinqueflora*, *Eleocharis uniglumis*, *Schoenus nigricans*, *Holoschoenus vulgaris*, *Catabrosa aquatica*, *Gnaphalium luteoalbum*, *Glaux maritima*, *Samolus valerandi*, *Salix acmophylla*.

Collected by sweeping and beating the vegetation, under stones and in soil, on the banks of brook and river, by light trap.

**No. 187:** Mohammadabad (28 57 N, 57 55 N), 35 km. N. N. W. of Sabzevaran (Jiroft), 1600 m., on the road between Deh Bakri and Sabzevaran, 3.—5. 5. 1973, Kerman (province), E. Iran. Photo 27.

Dry river-bed in the semi-desert region with sparse xerophilous vegetation on the south slopes of Jebal Barez. Bare mountains with *Amygdalus eburnea*, *Astragalus cornutus*, *Astragalus kuhistanicus*, *Amygdalus scoparia*, *Acanthophyllum glumaceum*, *Nerium indicum* ssp. *kotschyi*, *Convolvulus leiocalycinus*, *Glycyrrhiza glandulifera*, *Achillea eriophora*, *Convolvulus acanthocladus*, *Salvia aegyptiaca*, *Centaurea belangeriana*. In the vicinity weedy and irrigated garden.

Collected by sweeping the vegetation, under stones and in the soil, collected by light trap.

**No. 188:** Sabzevaran (28 37 N, 57 45 E) (Jiroft), 5.—6. 5. 1973, Kerman (province), E. Iran.

Area of Agricultural Institute with culture of alfalfa and other products, avenues with *Nerium indicum* ssp. *kotschyi*.

Collected from vegetation.

**No. 189:** 33 km. W. of Sabzevaran (28 44 N, 57 28 E), 1100 m., 6.—7. 5. 1973, on the road Sabzevaran - Esefandaqeh, Kerman (province), E. Iran. Photo 28.

Dry river-bed in the mountain valley with a growth of *Calligonum amoenum*. *Amygdalus eburnea*, *Cousinia stocksii*, *Salvia aegyptiaca*, *Convolvulus oxysepalus*. In the vicinity of irrigation ditches with clumps of *Anundo donax*, *Pistacia atlantica* ssp. *mutica*, *Pistacia khinjuk*, *Anvillea garcini*, irrigated fields with alfalfa and weeds (*Peganum hamala*), along the ditches a growth of *Mentha aquatica*.

Collected by sweeping the vegetation.

**No. 190:** Gav Koshi (28 38 N, 57 12 E) near Esfandaqeh, 60 km. W. of Sabzevaran, 1650 m., 7.—8. 5. 1973, Kerman (province), E. Iran. Photo 29.

Steppe region with growth of *Glycyrrhiza glandulifera* and *Peganum hamala*.  
Collected from the vegetation and by light trap.

**No. 191:** Banu-e Charehar (28 30 N, 57 00 E), 1800—2000 m., 25 km. N. W. of Sowghan (28 20 N, 56 54 E), between Esfandaqeh and Sowghan, 8. 5. 1973, Kerman (province), E. Iran.

Stony mountain slopes with sparse growth high wood of *Amygdalus scoparia*, *Amygdalus eburnea*, *Amygdalus eleagnifolia*, *Pistacia khinjuk*, *Juniperus polycarpus*, *Ephedra ciliata*, *Ephedra intermedia* var. *persica*, *Astragalus susianus*, *Astragalus lobophorus*, *Astragalus kirrindicus*, *Acantholimon flexuosum*, *Artemisia herba-alba*, *Scorzonera tortuosissima*.

Collected from the vegetation and under clumps of *Acantholimon*.

**No. 192:** Dowlatabad (28 20 N, 56 38 E), 85 km. E. of Hajiabad (28 19 N, 55 55 E) on the road Sowghan and Hajiabad, 8.—9. 5. 1973, Kerman (province), S. Iran.

Sands and gravels in gently salty lowlands enclosed by hills with *Calligonum amoenum*, *Haloxylon salicornicum*, *Tamarix gallica*, *Tamarix leptopetala*, *Capparis spinosa* var. *spinosa*, *Halocharis sulphurea*, *Dactyloctenium aegyptium*.

Collected by sweeping and by light trap.

**No. 193:** 8—45 km. E. of Hajiabad (28 23 N, 56 23 E), 9. 5. 1973, Kerman (province), S. Iran.

Semi-desert, irrigation channel and a garden with date-palms; borders of irrigation channel with *Cynodon dactylon*, *Dactyloctenium aegyptium*, *Acorellus distachyus*; *Anvillea garcini*, *Scorzonera tortuosissima*, *Launaea mucronata*, *Salvia aegyptiaca*, *Haplophyllum canaliculatum*.

Collected from the vegetation.

**No. 194:** 24 km. S. S. W. of Hajiabad (28 08 N, 55 52 E), 9.—10. 5. 1973, Kerman (province), S. Iran. Photo 31.

Plain sandy salty basin with salines in the valley, growth of date-palms and *Statice thouinii*, *Seidlizia rosmarinus*, *Tamarix aphylla*, *Aeluropus lagopoides*, *Phragmites australis*, *Reaumuria cistoides*, *Gymnocarpus decandrus*, *Launaea oligocephala*.

Collected from the vegetation and by light trap.

**No. 195:** 55 km. S. of Hajiabad (27 58 N, 55 58 E) or 25 km. N. W. of Qotbabad (27 46 N, 56 06 E), west slope of Kuh-e Surmeh (Mts.), 2000 m., 10. 5. 1973, Kerman (province), S. Iran.

Rocky limestone arid slopes of mountains with sparse xerophylous vegetation of *Hormalodiscus ochradeni*, *Otostegia aucheri*, *Hyoscyamus tenuicaulis*, *Anvillea garcini*, *Salvia aegyptiaca*, *Althaea ludwigii*, *Centaurea belangeriana*.

Collected from the vegetation.

**No. 196:** Khushengan (27 38 N, 56 14 E), 66 km. N. of Bandar Abbas, 10. 5. 1973, Kerman (province), S. Iran.

Semi-desert with gravel dry river-bed; *Euphorbia larica*, *Anvillea garcini*, *Tamarix aphylla*, *Acorellus distachius*, *Schoenoplectus littoralis*.

Collected from the vegetation.

**No. 197:** Bandar Abbas (27 11 N, 56 17 E), 11. 5. 1973, S. Iran.

Fixed coastal sands N. E. of the town, about 2 km. from sea-shore with sparse psammophilous and halophilous plants *Haloxylon salicornicum*, *Halocnemum strobilaceum*, *Halocharis sulphurea*, *Eurotia ceratoides*, *Acacia arabica*, *Schoenoplectus littoralis*, *Acorellus distachyus*, *Schismus arabicus*, *Indigofera intricata*, *Convolvulus cephalopodus*, *Moltkiopsis ciliata*, *Heliotropium tuberculatum*, *Cassia obovata*, *Tephrosia persica*, *Sphaerocoma aucheri*.

Collected from the vegetation and in the sands.

**No. 198:** Isin (27 19 N, 56 17 E), south slopes of Kuhha-ye Genu (27 25 N, 56 09 E), 45 km. N. W. of Bandar Abbas, 11.—15. 5. 1973, Makran, S. Iran.

1. Stony semi-desert with *Prosopis spicigera*, *Zizyphus spina-christi*, *Euphorbia larica*, *Otostegia persica*, *Acacia flava*, *Callotropis procera*, *Tephrosia persica*, *Corrollocarpus schimperi*, *Ochradenus baccatus*, *Salvia aegyptiaca*, *Convolvulus leptocladus*, *Pergularia tomentosa*, *Haplophyllum tuberculatum*, *Convolvulus virgatus*, *Amygdalus scoparia*, *Taverniera glabra*, *Sericostomma pauciflorum*.

2. Deep canyons and steep clayish slopes in the south area of Genu mountain, with numerous water pools in the bottom of main canyon (5 km. N. W. of oasis Isin) with sparse vegetation of *Adiantum capillus-veneris*, *Capparis spinosa* var. *mucronifolia*, *Nerium indicum* ssp. *kotschyi*, *Fimbristylis miliacea*, *Fimbristylis diphylla*, *Eleocharis capitata*, *Acorellus distachyus*, *Abutilon muticum*, *Abutilon hirtum*, *Grewia populifolia*, *Oldenhamia retrorsa*.

3. Date-palm oasis with large garden of an Agronomical Research Institute with cultures of different tropical products; *Launaea cassiniana*, *Euphorbia helioscopia*, *Aerva persica*, *Amaranthus graecizans*, *Launaea mucronata*, *Digitaria nodosa*, *Launaea procumbens*, *Eragrostis cilianensis*, *Eragrostis barrelieri*, *Echinochloa colonum*.

Collected by sweeping and beating the vegetation, under stones and in the soil, in water and by light trap.

**No. 199:** a) Baghu (27 18 N, 56 30 E), 22 km. N. E. of Bandar Abbas, 16. 5. 1973, Makran, S. Iran.

b) Jelani (27 27 N, 56 40 E), 41 km. N. E. of Bandar Abbas, 16. 5. 1973, Makran, S. Iran

Aluvial gravel-sandy plain; salty dry river-bed (a) with *Tamarix mascatensis*, *Tamarix aphylla*, *Haloxylon salicornicum*, *Halocharis sulphurea*, *Lotononis persica*, *Heliotropium tuberculatum*, *Acorellus laevigatus* var. *albidus*. Sandy plain (b) with *Calligonum comosum*, *Prosopis spicigera*, *Halocharis sulphurea*, *Oldenhamia retrorsa*, *Lotononis persica*, *Haplophyllum tuberculatum*, *Arnebia hispidissima*.

Collected by sweeping from the vegetation.

**No. 200:** Hassan Langi (27 22 N, 56 52 E), 62 km. E. of Bandar Abbas, 16.—17. 5. 1973, Makran, S. Iran.

Semi-desert; clayish-sandy plain with water pools in the river-bed with growth of *Tamarix mascatensis*, *Tamarix stricta*, *Taverniera glabra*, *Acorellus distachyus*; *Naias marina*, *Ruppia maritima*, *Schoenoplectus littoralis*.

Collected from the vegetation, in the water and by light trap.

**No. 201:** Faryab (27 28 N, 57 07 E), Rud-e Rudan (river), 350 m., 17.—18. 5. 1973, Makran, S. Iran. Photo 32.

Date-palm oasis near the dry river-bed, with growth of *Nerium indicum* ssp. *kotschyi*, *Prosopis spicigera*, *Callotropis procera*, *Vitex pseudonegundo*, *Taverniera glabra*, *Euphorbia larica*, *Reichardia orientalis*, *Aristida adscensionis*.

Collected from the vegetation and under stones.

**No. 202:** Shahvar (27 14 N, 57 01 E), 12 km. N. W. of Minab, 18.—19. 5. 1973, Makran, S. Iran.

Gravel-sandy aluvial semi-desert with predominant *Calligonum comosum*, *Taverniera glabra*, *Prosopis spicigera*, *Acacia arabica*, *Leptadenia pyrotechnica*, *Arnebia hispidissima*, *Moltkiopsis ciliata*, *Reaumuria stocksii*, *Grantia aucheri*.

Collected by sweeping and beating the vegetation and by light trap.

**No. 203:** Minab (27 09 N, 57 05 E), 19.—20. 5. 1973, Makran, S. Iran. Photo 30.

Large date-palm oasis with water-pools and irrigation channels in west part of the oasis. Garden of the Agronomical Research Institute with cultures of tropical products (Citrus, mango etc.) and rice. Growth of *Sida spinosa*, *Euphorbia cheirolepidioides*, *Moltkiopsis ciliata*, *Heliotropium tuberculatum*, *Eragrostis cilianensis*, *Spegularia diandra*, *Amaranthus graecizans*, *Urospermum picrioides*, *Launaea procumbens*.

Collected from the vegetation, under stones, near the water and by light trap.

**No. 204:** 20 km. S. E. of Minab (27 05 N, 57 14 E), 21. 5. 1973, Makran, S. Iran.

Savanna with predominant growth of *Prosopis spicigera*, *Salvadora persica*, *Nerium indicum* ssp. *kotschyi* and *Tamarix* sp.

Collected from the vegetation.

**No. 205:** Teleng (26 53 N, 57 16 E), 40 km. S. E. of Minab, 21. 5. 1973, Makran, S. Iran.

Semi-desert, gravel dry river-bed with water pools; lower terraces with *Nerium indicum* ssp. *kotschyi*, *Prosopis spicigera*, *Tamarix mascatensis*, *Salvadora persica*, *Acorellus distachius*, *Aeluropus lagopoides*, *Launaea cassiniana*; close to the water on the sandy-clayish substrate with *Tyypfa australis* and *Juncus rigidus*.

Collected from the vegetation, on the bank of the river, in water, under stones and in soil.

**No. 206:** Ziarat, 57 km. S. of Minab (26 41 N, 57 05 E), 22. 5. 1973, Makran, S. Iran.

Sandy coastal plain with sandy dunes with predominant growth of *Heliotropium tuberculatum*, *Salvadora persica*, *Calotropis procera*, *Prosopis spicigera*, *Acacia nubica*, *Acacia arabica*, *Capparis decidua*, *Sphaerocoma aucheri*.

Collected from the vegetation on the sandy strand and under stranded weeds.

**No. 207:** 15 km. S. S. E. of Bilai (26 24 N, 57 12 E), 22. 5. 1973, Makran, S. Iran.

Sandy coastal plain with sparse growth of *Prosopis spinosa*, *Acacia arabica*, *Capparis decidua* and *Tamarix aphylla*.

Collected from the vegetation and under stones and on the soil.

**No. 208:** 16 km. N. of Jask (25 44 N, 57 46 E), Makran, S. Iran. 22.—23. 5. 1973. Photo 33.

Coastal sandy plain, dense savanna with three-like growth with predominant *Prosopis spicigera*, *Tamarix aphylla*, *Salvadora persica*, *Ephedra ciliata*, *Calligonum comosum*, *Trianthema pentandra*, *Acacia arabica*.

Collected from the vegetation, under stones, in the soil and by light trap.

**No. 209:** Bilai (26 29 N, 57 09 E), 23.—24. 5. 1973, Makran, S. Iran.

Coastal plain, savanna with growth of *Acacia nubica*, *Acacia arabica*, *Prosopis spicigera*, *Salvadora persica*, *Calotropis procera*.

Collected from the vegetation by sweeping and beating, in the soil and in burrow of Rodents, by light trap.

**No. 210:** Ziarat, 57 km. S. of Minab (26 41 N, 57 05 E), 24. 5. 1973, Makran, S. Iran.

Similar to locality no. 206.

**No. 211:** Hassan Langi (27 22 N, 56 52 E), 62 km. E. of Bandar Abbas, 24.—25. 5. 1973, Makran, S. Iran. Similar to locality no. 200.

**No. 212:** Baghu (27 18 N, 56 30 E), 22 km. N. E. of Bandar Abbas, 25. 5. 1973, Makran, S. Iran. Similar to locality no. 199a.

**No. 213:** Isin (27 19 N, 56 17 E), south slopes of Kuhha-ye Genu (27 25 N, 56 09 E), 45 km. N. W. of Bandar Abbas, 25. 5. 1973, Makran, S. Iran. Similar to locality no. 198.

**No. 214:** 30 km. S. E. — 20 km. N. W. of Ghotbabad (27 46 N, 56 06 E), on the road Hajiabad — Bandar Abbas, 27. 5. 1973, Kerman (province), S. Iran.

Semi-desert vegetation with predominant *Euphorbia larica* and single shrubs of *Acacia arabica* and *Zizyphus* sp.

Collected from the vegetation.

**No. 215:** 7 km. W. of Kahkom (28 12 N, 55 46 E), 20 km. S. W. of Hajiabad, 28. 5. 1973, Kerman (province), S. Iran.

Gravel river-bed with grassy banks of the river Ganj; growth of *Tamarix dioica*, *Acorellus laevigatus* var. *albidus* and locally with *Schoenoplectus littoralis*, *Centaurium spicatum*, *Launaea mucronata*, *Plantago coronopus* ssp. *commutata*, *Alhagi camelorum*, *Sonchus tenerrimus*, *Launaea capitata*.

Collected from the vegetation, under stones in the soil.

**No. 216:** 44 km. E. S. E. of Kahkom (28 08 N, 55 30 E), north border of the valley of the river Rud-e Shur, 28. 5. 1973, Kerman (province), S. Iran.

Clayish plain with the semi-desert growth of Chaenopodiaceae and single *Tamarix divica*.

Collected from the vegetation and under clusters of it.

**No. 217:** 5 km. E. of Furk (28 18 N, 55 16 E), on the road Hajiabad-Darab, 900 m., 28. 5. 1973, Kerman (province), S. Iran.

Humid green valley with *Acorellus laevigatus* var. *albidus*, *Schoenoplectus littoralis*, *Prosopis farcta*, *Acorellus distachyus*. Green of the valley composed of *Aeluropus lagopoides*.

Collected from the vegetation near the water and under stones.

**No. 218:** Gardaneh-e Besan (pass) (28 27 N, 55 06 E), 15 km. N. W. of Furk, 1000 — 1400 m., 28.—29. 5. 1973, Kerman (province), S. Iran.

Mountain stony slopes with sparse xerophyllous vegetation with *Amygdalus eleagnifolia*, *Amygdalus scoparia*, *Pistacia khinjuk*, *Otostegia aucheri*, *Astragalus cornutus*, *Acanthophyllum glumaceum*, *Convolvulus acanthocladus*, *Anvillea garcini*, *Dichyophora*

*persica*; rocks with growth of *Onosma orientale*, *Alcea aucheri*, *Launaea oligocephala*, *Zataria multiflora*, *Lactus orientalis*, *Acer monspessulanum* ssp. *persicum*.

Collected from the vegetation and below it, by light trap.

**No. 219:** Darab (28 45 N, 54 34 E), 29. 5. 1973, Fars, S. Iran.

Ruderal area east of the town with the growth of *Dichyophora persica*.

Collected from the vegetation and in the soil.

**No. 220:** Korsiah (28 46 N, 54 25 E), 14 km. W. N. W. of Darab, 29.—30. 5. 1973, Fars, S. Iran. Photo 34.

Brook with salty clayish banks with abundant growth of *Acorellus distachyus*, *Schoenoplectus littoralis*, and single *Tamarix florida*.

Collected from the vegetation, on soil, in the water and by light trap.

**No. 221:** 12 km. N. W. of Hosseinabad (28 51 N, 54 14 E), 37 km. W. N. W. of Darab, 30. 5. 1973, Fars, S. Iran.

Steppe region with very sparse vegetation.

Collected from the vegetation and below it.

**No. 222:** Fasa (28 56 N, 53 42 E), 30. 5. 1973, Fars, S. Iran. Photo 35.

Steppe region with very sparse vegetation.

Collected from vegetation and below it.

**No. 223:** Mian Jangal (29 09 N, 53 42 E), 30. 5. — 5. 6. 1973, Fars, S. Iran. Photo 36.

Steppe in blossom, plantations of almond-trees merging with the shrubs of *Amygdalus scoparia*, *Acer monspessularum* ssp. *turcomanicum*, *Acer monspessularum* ssp. *persicum*; *Pterocephalus canus*, *Siebera pungens*, *Helianthemum salicifolium*, *Hordeum bulbosum*, *Stipa haussknechtii*, *Zataria multiflora*, *Gundelia tournefortii*, *Hypericum hirtellum*, *Dendrostellera lessertii*, *Sconzonera tortuosissima*, *Scorzonera ramosissima*, *Pistacia atlantica* ssp. *mutica*, *Pistacia khinjuk*, *Ebenus stellata*, *Convolvulus kotschyanus*, *Echinops macrophyllus*, *Achillea eriophora*. Irrigation channel bordered by *Salix* sp. and *Mentha aquatica* and *Mentha silvestris*. Close rocky region with *Dionysia revoluta* and *Dionysia diapensiifolia*. Mountain region over 2000 m. with *Juniperus polycarpus* and *Alkanna leptophylla*.

Collected among the vegetation by sweeping and beating, under stones, in water and by light trap.

**No. 224:** 15 km. N. W. of Mian Jangal (29 13 N, 53 20 E), 5. 6. 1973, Fars, S. Iran.,

Deep canyon of brook excavated in alluvial plain richly watered; with a growth of *Populus euphratica*, *Salix acmophylla*, *Cladium mariscus*, *Carex diluta*, *Glycyrrhiza glandulifera*, *Juncus articulatus*, *Juncus subulatus*, *Juncus inflexus*, *Juncus punctatus*, *Acorellus distachyus*, *Mentha aquatica*, *Echinops macrophyllus*. Upper plateau of semi-desert character.

Collected from the vegetation.

**No. 225:** Kamalabad (29 17 N, 53 02 E), 19 km. W. of Sarvestan, 5. 6. 1973, Fars, S. Iran.

Salty semi-desert with growth of *Statice thouinii*, *Reaumuria cistoides*, *Seidlitzia rosmarinus*, *Halocharis sulphurea*, *Eurotia ceratoides*, *Tamarix hispida*.

Collected from the vegetation.

**No. 226:** 7 km. N. W. of Kuhenjan (29 19 N, 52 54 E), 11 km. of Maharlu (Daryache-ye Maharlu) (29 25 N, 52 50 E), 5. 6. 1973, Fars, S. Iran.

Swampy and grassy south bank of salty (Maharlu) with *Acorellus distachyus*, *Typha minima*, *Cirsium* sp., *Centaurea belangeriana*, *Hypericopsis persica*; steppe vegetation on rocky slopes with *Stipa lagascae*, *Astragalus murinus*, *Campanula kermanensis*, *Onosma rostellatum*, *Cousinia orthoclada*, *Echinops ceratophorus*.

Collected from the vegetation, under stones and on the soil.

**No. 227:** Daryache-ye Maharlu (29 21 N, 52 49 E), south bank of the lake Maharlu, 5.—6. 6. 1973, Fars, S. Iran.

Rocky slopes close to the lake with similar vegetation to locality no. 223; *Astragalus murinus*, *Convolvulus leiocalycinus*, *Echinops ceratophorus*.

Collected by the beating the vegetation and by light trap.

**No. 228:** 10 km. W. of Shiraz (29 36 N, 52 26 E), on the road Shiraz - Kazerun, 8. 6. 1973, Fars, S. Iran.

Irrigation ditch with growth of *Acorellus distachyus*, *Glycyrrhiza glabra*, *Alhagi maurorum*, *Juncus fontanesii* ssp. *kotschyi*, *Bolboschoenus maritimus*, *Lythrum junceum*, *Lythrum thymifolium*.

Collecting from the vegetation by sweeping and under stones.

**No. 229:** 30 km. E. of Kazerun (29 33 N, 51 54 E), 1300 m., 8.—10. 6. 1973, Fars, S. Iran. Similar to locality no. 45 from 1970.

Rocky steppe with sparse growth of *Quercus brantii*, *Amygdalus eburnea*, *Amygdalus scoparia*, *Acer monspessularum* ssp. *turcomanicum*, *Cousinia cylindracea*, *Convolvulus stapfii*, *Astragalus murinus*, *Achillea eriophora*, *Phlomis olivieri*, *Otostegia aucheri*, *Zoegea purpurea*.

Collected from the vegetation, under stones on the soil and by light trap.

**No. 230:** Dasht-e Arzhan (29 39 N, 51 58 E), 54 km. E. of Kazerun, 1700 m., 9. 6. 1973, Fars, S. Iran.

Rocky slopes with S. E. exposure with sparse oak forest and steppe vegetation as undergrowth; *Quercus brantii*, *Acer monspessulanum* ssp. *turcomanicum*, *Daphne mucronata*, *Euphorbia hebecarpa*, *Euphorbia macrostegia*, *Gundelia tournefortii*, *Phlomis olivieri*, *Phlomis elliptica*, *Teucrium orientale*, *Stipa hohenackeriana*.

Collected from the vegetation.

**No. 231:** 13 km. E. S. E. of Kazerun (29 34 N, 51 44 E), Fars, S. Iran.

Dry pastures with sparse growth of *Quercus brantii* and *Dianthus stenocephalus* with scarcely undergrowth.

Collected under stones and on the soil.

**No. 232:** Cave Gar Shapur (29 47 N, 51 35 E), 1280 m., 10.—11. 6. 1973, Fars, S. Iran.

Collected in the soil near the cave and in the cave.

**No. 233:** Tang-e Chogan-e Olia (29 47 N, 51 36 E), ruins of Bishapur, 1000 m., 10. 6. 1973, Fars, S. Iran. Photo 37.

Stony valley of the river with *Nerium indicum* ssp. *kotschyi*, *Salix* sp., *Mentha silvestris*, *Nasturtium nodiflora*, *Centaureum pulchellum*, *Juncus articulatus*, *Lythrum junceum*, *Lythrum hyssopifolium*, *Gnaphalium luteoalbum*, *Holoschoenus vulgaris*, *Bolboschoenus maritimus*. Lower part of the valley richly overgrown with *Salix* sp. and *Phragmites australis*.



Collected from the vegetation by sweeping and beating, under stones close to the water.

**No. 234:** Tang-e Chogan-e Olia (29 47 N, 51 38 E), valley, 10.—11. 6. 1973, Fars, S. Iran. Photo 38.

Steppe slopes of the valley with growth of *Quercus brantii*, *Zizyphus spina-christi*, *Alcea sulphurea*, *Onosma orientale*, *Siebera pungens*, *Hyparrhenia hirta*, *Parietaria alsinifolia*. South slopes of the valley below the cave with *Amygdalus scoparia*.

Collected mainly under stones and on the soil, by light trap.

**No. 235:** Masiri (30 16 N, 51 31 E), 11.—12. 6. 1973, Fars, S. Iran.

Stony pastures with steppe vegetation; *Hypericum triquetrifolium*. The remote slopes with *Quercus* sp.

Collected on the soil and under stones and by light trap.

**No. 236:** 28 km. N. of Masiri (30 24 N, 51 30 E), 1650 m., 12. 6. 1973, Fars, S. Iran.

Sparse oak growth with steppe vegetation in undergrowth: *Quercus brantii*, *Centaurea depressa*, *Alcea rechingeri*, *Crataegus atrosanguinea*, *Teucrium orientale*.

Collected from the vegetation.

**No. 237:** Kushk (30 31 N, 51 30 E), 42 km. N. of Masiri, 1800 m., 12. 6. 1973, Fars, S. Iran.

Growths of *Quercus brantii*, mountain brook bordered by *Salix excelsa*, *Platanus orientalis*, *Daphne mucronata*, *Acer monspessulanum* ssp. *turcomanicum*, *Mentha silvatica*; *Fibigia macrocarpa*, *Eleagnus angustifolia*, *Nepeta daenensis*, *Campanula cecilii*, *Oryzopsis piliflora*, *Heteranthelium piliferum*, *Hordeum bulbosum*.

Collected from the vegetation and under stones.

**No. 238:** 48 km. N. of Masiri (30 32 N, 51 31 E), pass in E. Zagros on the road Masiri - Yasuj, 2230 m., 12. 6. 1973, Fars, S. Iran. Photo 39.

Mountain stony slopes with steppe vegetation; pass with growth of *Quercus brantii*, *Daphne mucronata*, *Euphorbia microsciadia*, *Euphorbia szovitsii*, *Salvia virgata*, *Pirus glabra*, *Solenanthus stramineus*.

Collected from the vegetation.

**No. 239:** 13 km. S. S. W. of Yasuj (30 34 N, 51 32 E), 1800 m., Valley of the river Rudkhaneh Dasht-e Rum, 12.—13. 6. 1973, E. Zagros, Fars, S. Iran.

Forest of *Quercus brantii*, valley of a brook with shrubs of *Salix excelsa* and *Mentha silvatica*.

Collected from vegetation, under stones and by light trap.

**No. 240:** Sisakht (30 47 N, 51 33 E), 2408 m., 13. and 15. 6. 1973, E. Zagros, Fars, S. Iran.

Stony mountain steppe; exposed slopes with *Quercus brantii*, *Pistacia atlantica* ssp. *mutica*, *Crataegus sinaica*, *Acer monspessulanum* ssp. *turcomanicum*, *Lonicera* sp.; undergrowth with *Amygdalus haussknechtii*, *Rosa deseglisei*, *Astragalus camphylanthus*, *Acantholimon scorpius*, *Convolvulus leiocalycinus*, *Phlomis persica*, *Gundelia tournefortii*, *Salvia sclarea*, *Salvia syriaca*, *Nepeta daenensis*, *Campanula incanescens*, *Picris strigosa*.

Collected from the vegetation by sweeping and beating, under stones, by light trap.

**No. 241:** Kuhe Dena (Mts.), S. W. slope (30 49 N, 51 35 E), 5 km. N. E. of Sisakht, 2500—3000 m., 13.—14. 6. 1973, E. Zagros, Fars, S. Iran.

Stony slopes and mountain meadows with *Amygdalus eleagnifolia*, *Daphne stapfii*, *Ferula hausknechtii*, *Euphorbia aucheri*, *Marrubium vulgare*, *Nepeta microphylla*, *Dionysia bryoides*, *Dionysia termeana*, *Hypericum scabrum*, *Cerasus brachypetala*.

Collected from the vegetation, under stones, by light trap.

**No. 242:** Kuhe Dena (Mts.), top (30 50 N, 51 35 E), 3000—4000 m., 14. 6. 1973, E. Zagros, Fars, S. Iran. Photo 40.

High mountain meadows and top rocky area with *Astragalus ajubensis*, *Astragalus campylorrhynchus*, *Astragalus spachianus*, *Acantholimon melonanthus*, *Gypsophila polyclada*, *Cerasus brachypetala*, *Poa pratensis*, *Plantago atrata* ssp. *spartaea*, *Primula capitellata*, *Potentilla nuda*. In the slopes numerous water-sources. The highest zones with large snow-fields.

Collected under stones and under clusters of *Acantholimon* (3700 m.) and close to the snow-fields (3500—4000 m.).

**No. 243:** Yasuj (30 41 N, 51 35 E), 1750 m., 16. 6. 1973, E. Zagros, Fars, S. Iran.

Sparse forest of *Quercus brantii*, in the vicinity of the town steppe vegetation; *Teucrium orientale*, *Phlomis elliptica*, *Achillea eriophora*. Brook near the road Yasuj — Ardakan.

Collected from the vegetation and under stones near water.

**No. 244:** Mountain pass 27 km. E. of Yasuj (30 41 N, 51 43 E) and 10 km. N. W. Karun, 2650 m., 16. 6. 1973, E. Zagros, Fars, S. Iran.

Mountain stony steppe and grassy water-source — mountain pass with sparse growth of *Pinus glabra*, *Amygdalus eleagnifolia*, *Amygdalus eburnea*, *Lonicera nummulariifolia*, *Phlomis olivieri*, *Euphorbia szovitsii*, *Achillea santolina*; *Asyneuma persicum*, *Gundelia tournefortii*, *Pteroccephalus canus*; water-source with *Dactylis hispanica*, *Gallium tricornutum*, *Gentiana olivieri*, *Trichophorum pumilum*, *Agrostis olympica*.

Collected from the vegetation by sweeping and beating, under stones.

**No. 245:** 29 km. E. of Yasuj (30 41 N, 51 43 E) and 10 km. N. W. of Karun, 2300 m., 16.—17. 6. 1973, E. Zagros, Fars, S. Iran

Mountain steppe, pasture-land in the valley of a brook with growth of *Amygdalus eleagnifolia*, *Pinus glabra*, *Lonicera nummulariifolia*, *Daphne angustifolia*, *Daphne stapfii*, *Fraxinus oxycarpa*, *Cotoneaster persica*, *Euphorbia szovitsii*, *Hypericum scabrum*, *Galium tricornutum*.

Collected from the vegetation, by sweeping at night.

**No. 246:** Komehr, 41 km N. W. of Ardakan (30 16 N, 52 01 E), 2000 m., 17. 6. 1973, E. Zagros, Fars, S. Iran.

Gravel river-bed with sparse growth of *Salix excelsa*, *Tamarix bachtiarica*, *Berberis integerrima*, *Centaurea iberica*, *Stachys inflata*, *Crataegus atrosanguinea*.

Collected by beating the vegetation and under stones on the bank of the river.

**No. 247:** 7 km. N. W. of Shul (30 02 N, 52 09 E), 32 km. S. E. of Ardakan, 2100 m., 17. 6. 1973, E. Zagros, Fars, S. Iran. Photo 41.

Stony steppe with sparse growth of *Quercus brantii*, *Astragalus murinus*, *Cousinia thammoides*, *Echinops macrophyllus*, *Centaurea iberica*, *Convolvulus leiocalycinus*, *Phlomis persica*.

Collected by sweeping the vegetation and under stones.

**No. 248:** 6 km. S. S. E. of Shul (29 57 N, 52 15 E), 45 km. S. E. of Ardakan, 2190 m., 17.—18. 6. 1973, E. Zagros, Fars, S. Iran. Photo 41.

Mountain slopes, pasture-land with disperse vegetation dominated by *Euphorbia szovitsii*, *Gundelia tournefolii*, *Phlomis olivieri*, *Convolvulus leiocalycinus*, *Echinops ceratophorus*, *Stachys inflata*, *Campanula incanescens*, *Peltaria angustifolia*.

Collected from the vegetation and under stones.

**No. 249:** Shiraz (29 36 N, 52 32 E), 19. 6. 1973, Fars, S. Iran.

Collected from the trees (*Pinus glabra*, *Platanus orientalis*, *Populus euphratica*, *Cupressus* sp.) and by light trap at the Agronomical Institute.

**No. 250:** Naqsh-e Rostam (30 02 N, 52 53 E), 20.—21. 6. 1973, Fars, S. Iran.

Steppe with typical vegetation of *Alhagi maurorum*, *Prosopis farcta*, *Glycyrrhiza glabra*, *Peganum harmala*, *Centaurea belangeriana*.

Collected from the vegetation and by light trap.

**No. 251:** Saadatabad (30 06 N, 53 01 E), 51 km. N. of Persepolis, 21. 6. 1973, Fars, S. Iran.

Fallow with *Glycyrrhiza glabra*, *Alhagi camelorum* and *Echinops* sp. Collected on the soil and under stones.

**No. 252:** Pasargad (Mader Soleiman), 21. 6. 1973, Fars, S. Iran.

Steppe region with predominant growth of *Hertia angustifolia*, *Trichodesma aucheri*, *Alhagi maurorum*, *Prosopis farcta*, *Ceratocarpus arenarius*, *Garhadiolus hedypnois*, *Garhadiolus angulosus*, *Phlomis persica*.

Collected from the vegetation by sweeping and beating.

**No. 253:** 13 km. N. W. of Qaderabad (30 20 N, 53 21 E) pass in the altitude 2120 m. on the road Shiraz and Esfahan, 21. 6. 1973, Fars, S. Iran.

Steppe region with *Echinops ceratophorus*, *Cousinia* sp. and *Alhagi maurorum*.

**No. 254:** Abadeh (31 10 N, 52 37 E), 21.—22. 6. 1973, Fars, C. Iran.

Stony steppe with *Moriera spinosa*, *Pycnocycla spinosa*, *Cousinia piptocephala*, *Cousinia belangeri*, *Stipa szowitziana*, *Astragalus* sp.

Collected from the vegetation and by light trap.

**No. 255:** 30 km. S. E. of Shahreza (31 48 N, 51 59 E), 22. 6. 1973, Fars, C. Iran.

Clayish semidesert with Chenopodiaceae and *Lactuca* sp. Collected from the vegetation.

**No. 256:** Esfahan (32 40 N, 51 38 E), 1620 m., 22.—24. 6. 1973, Esfahan (province), C. Iran.

Similar to locality no. 127.

**No. 257:** 30 km. S. of Robate Tork (33 34 N, 51 02 E), 24. 6. 1973, Esfahan (province), C. Iran.

Stony steppe formation with *Alhagi maurorum*, *Cousinia belangeri*, *Echinops* sp. cf. *kotschyi*, *Dendrostellera lessertii*, *Ceratocarpus arenarius*.

Collected from the vegetation and the soil in saltmarsh, occasionally on dead animals.

**No. 258:** Robate Tork (33 45 N, 50 51 E), 24.—25. 6. 1973, Esfahan (province), C. Iran. Similar to locality No. 34 from 1970.

Plain dale with dense bushy and plant growth: *Haloxylon salicornicum*, *Tamarix ramosissima*, *Gonanthus gamocarpus*, *Frankenia hirsuta*, *Reaumuria squarosa*, *Alhagi maurorum*, *Petrosimonia glauca*, *Puccinellia grossheimiana*.

No. 259: 10 km. S. of Neizar (34 14 N, 50 34 E), 30 km. N.N.W. of Delijan on the road Esfahan — Ghom, 25. 6. 1973, Tehran (province), N. Iran.

Semidesert formation with *Euphorbia* sp., *Onopordon* sp. and *Peganum harmala*. Collected from the vegetation and in the soil.

No. 260: Tehran — Evin (35 49 N, 51 23 E), 26. 6.—2. 7. 1973. Similar to locality No. 123.

No. 261: Kuhhaye Tochal (35 53 N, 51 25 E), 2000—3500 m., Reshtehye Kuhhaye Alborz (Elburz Mountains Central), 29.—30. 6. 1973, Teheran (province), N. Iran.

South stony slopes of the mountains at an altitude 2000—3500 m., with sparse growth of steppe and mountain plants characterized by *Achillea* sp., *Marrubium* sp., *Thymus* sp., *Seseli* sp., *Lamium* sp., *Onopordon* and *Cousinia* sp.: in moist places with grassy meadows.

Collected from vegetation and under stones and under clumps of vegetation.

No. 262: Kuhhaye Tochal (35 53 N, 51 25 E), 3500—3950 m., Reshtehye Kuhhaye Alborz (Elburz Mountains Central), 30. 6. 1973, Tehran (province), N. Iran.

Peak area at an altitude of 3500—3950 m., with snow fields and growths of *Astragalus (Tragacantha)* sp., *Acantholimon* sp., grass with *Trifolium* sp. and *Ranunculus* sp.

Collected under stones and clumps of vegetation close to snow fields.

No. 263: Ghazvin (36 16 N, 50 00 E), 4. 7. 1973, Tehran (province), N. Iran.

Fallow with disperse growth of *Alhagi camelorum*, *Echinops* sp., *Onopordon* sp., *Verbascum* sp., *Malva* sp., *Peganum harmala*.

Collected from the vegetation and under stones.

No. 264: 10 km. N. W. of Zanjan (36 42 N, 48 23 E), 4.—5. 7. 1973, Gillan, N. W. Iran. Steppe slopes of small hills near the road Zanjan — Mianeh.

1. Stony steppe with *Hulthemia persica*, *Centaurea solstitialis*, *Centaurea iberica*, *Cousinia boissieri*, *Peganum harmala*, *Dendrostellera lessertii*, *Siebera pungens*, *Ziziphora persica*, *Teucrium orientale*.

2. Valley meadows and small woods on the bank of a torrent brook with very good watered fields (potatoes, alfalfa) with the growth of *Populus* sp., *Salix* sp. Close to the water *Mentha aquatica*, *Cichorium intybus*, *Salvia virgata*, *Echium amoenum*, *Bunias orientalis*, *Bolboschoenus maritimus*, *Juncus gerardi* ssp. *persicus*, *Tragopogon graminifolius*, *Medicago lupulina*, *Dactylis hispanica*.

Collected by sweeping the vegetation, in the soil and by light trap.

No. 265: 30 km. N.W. of Mianeh (37 29 N, 47 24 E), 5. 7. 1973, East Azarbaijan, N. W. Iran.

Rocky banks of the river Zanjan Chai, meadows near the river and stony steppe with xerophilous steppe vegetation: *Xeranthemum squarrosum*, *Echium amoenum*, *Achillea eriophora*, *Echinops sowitzi*, *Anchusa italica*, *Aethionema grandiflorum*, *Secale montanum*, *Agropyrum elongatiforme*, *Koeleria nitidula*.

Collected by sweeping the vegetation and on dead animals.

No. 266: 20 km. S. E. of Marand (38 20 N, 45 53 E), 5.—6. 7. 1973, Azarbaijan, N. W. Iran. Photo 42.

Fields and meadows partly cut down, edges with growth of *Salvia virgata*, *Echium amoenum*, *Lotus corniculatus*, *Anchusa italica* and *Cirsium* sp.

Collected by sweeping the vegetation and by light trap.

**No. 267:** 26 km. S.S.E. of Khoy (38 21 N, 44 50 E) on the road Khoy — Rezaiyeh, 6. 7. 1973, Azarbaidjan, N. W. Iran.

Stony steppe with abundant vegetation in blossom; with predominant *Cousinia tabriziana*, *Anchusa italica*, *Achillea eriophora*, *Euphorbia bungei*, *Diplotaxis hara*, *Vellozia rigida*, *Haplophyllum mesopotamicum*, *Haplophyllum kovalevskyi*, *Campanula propinqua*.

Collected by sweeping the vegetation.

**No. 268:** Shahpur (38 11 N, 44 47 E), on the road Khoy — Rezaiyeh, 6. 7. 1973, Azarbaidjan, W. Iran.

Flowery steppe slopes with *Anchusa italica*, *Alcanna orientalis*, *Teucrium orientale*, *Cleome iberica*, *Phlomis canallata*, *Ziziphora persica* and *Pterocephalus canus*.

Collected by sweeping the vegetation.

**No. 269:** 21 km. S. E. of Shahpur (38 05 N, 44 57 E) on the road Khoy — Rezaiyeh, 6. 7. 1973, Azarbaidjan, W. Iran.

Edges and remnants of steppes among fields with growth of *Achillea* sp. and *Euphorbia* sp.

Collected by sweeping the vegetation.

**No. 270:** Jabal Kandi (37 51 N, 45 (2 E)), 38 km. N. of Rezaiyeh on the West bank of Lake Rezaiyeh, 6. 7. 1973, Azarbaidjan, W. Iran.

Large plain salty coast of Lake Rezaiyeh with *Juncus maritimus* and *Puccinella grossheimiana*.

Collected by sweeping the vegetation and on the soil.

**No. 271:** 20 km. N. W. of Rezaiyeh (37 42 N, 44 55 E), on the road Rezaiyeh — Sero, Azarbaidjan, W. Iran. 6. —7. 7. 1973.

Steppe in hilly region.

Collected by sweeping the vegetation and on the soil.

During the passage of the expedition through Anatolia have been collected in the following 8 localities:

Gerade, 23. 3. 1977, N. W. Anatolia, Turkey.

Collected hibernated insects.

Oluközü, 18 km. W. of Akdagmadeni, 23. 3. 1977, N. E. Anatolia, Turkey.

Collected hibernated insects.

5 km. N. W. of Gevas, 29. 7. 1977, N. E. Anatolia, Turkey.

South bank of Van gölü, steppe.

25 km. N. W. of Tatvan, 29. 7. 1977, N. E. Anatolia, Turkey.

Dry semi-steppe region.

Toprakkale, 30.—31. 7. 1977, Anatolia, Turkey.

Cultivated zone.

35 km. N. W. of Alanya, 2. 8. 1977, S. Anatolia, Turkey.

Collected by sweeping of *Vitis negundo*.

30 km. S. E. of Kütahya, W. Anatolia, Turkey.

Collected in growth of *Quercus*.



Photo 1: Loc. no. 120. 25 km. S. S. E. of Mianeh, 4. 3. 1973 (N. W. Iran, Azarbaidjan). Bare-bank of the river Qezel Owzan. (Photos by L. Hoberlandt.)

Photo 2: Loc. no. 121. 16 km. S. E. of Sar Cham, 4. 3. 1973 (N. W. Iran Azarbaidjan). Early spring view.

Photo 3: Loc. no. 130. 6 km. N. W. of Kermanshahan, 1610 m., 21. 3. 1973 (C. Iran, Esfahan province). Gravel semi-desert between Yazd and Rafsanjan.

Photo 4: Loc. no. 132. 13 km. W. S. W. of Kerman, 23. 3. 1973 (C. Iran). Sandy dunes with *Calligonum amoenum* and *Haloxylon multiflorum*.

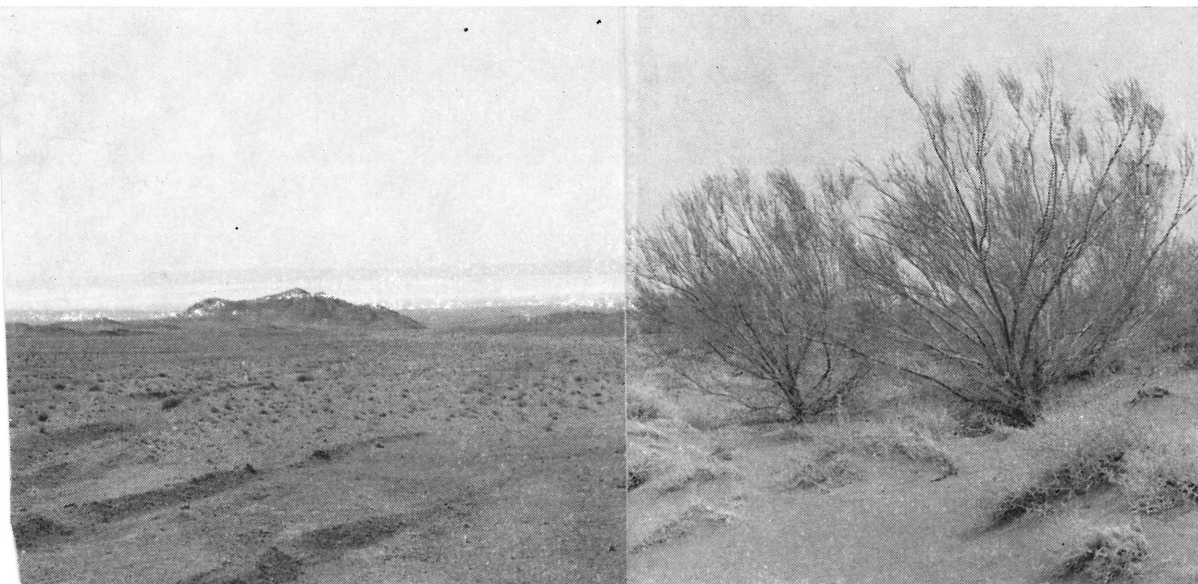




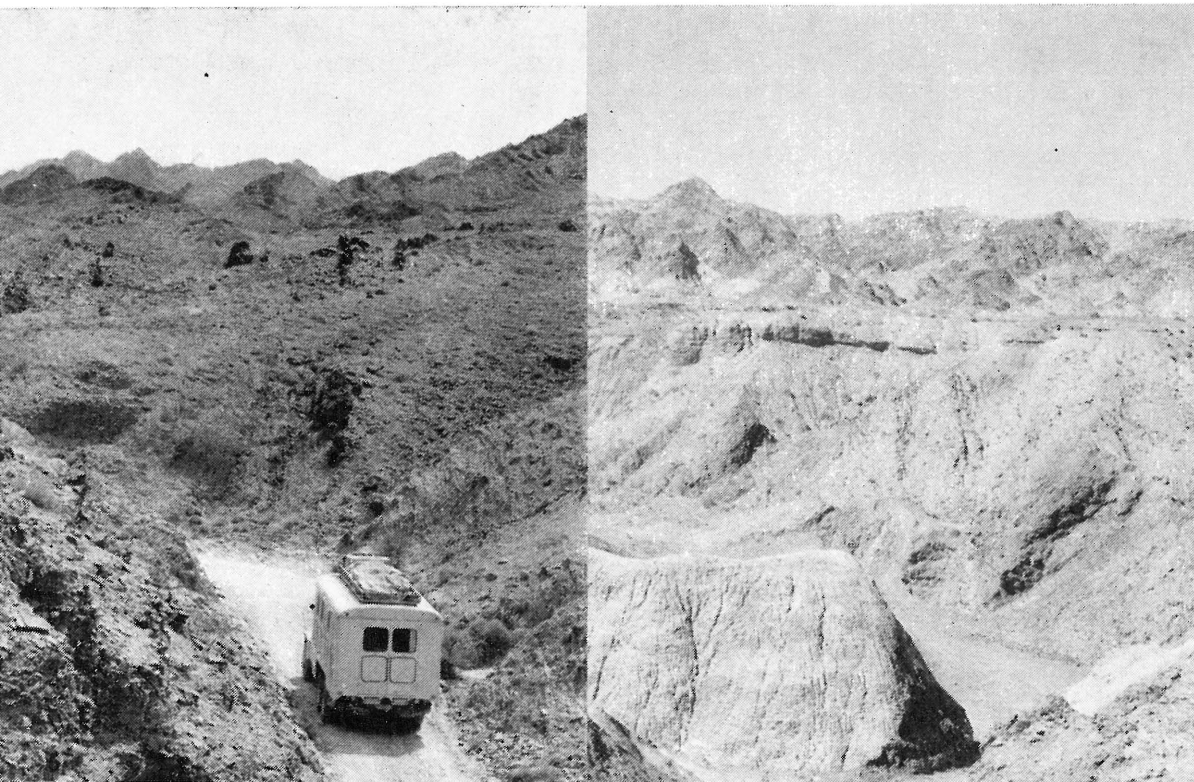


Photo 5: Loc. no. 133. Mahan, 1700 m., 23.—24. 3. 1973 (E. Iran, Kerman province). Stone semideser near Mahan.

Photo 6: Loc. no. 134. Shur Gaz, 25. 3. 1973 (E. Iran, Kerman province). Sandy dunes with *Tamarix*.

Photo 7: Loc. no. 139. 40 km. N. W. of Pashkuh, 29. 3. 1973 (S. E. Iran, Baluchistan). Plateau in Sarhad Mts.

Photo 8: Loc. no. 162. Bazman Mts., 13. 4. 1973 (S. E. Iran, Baluchistan). 1200—1300 m 18 km. N. of village Bazman.





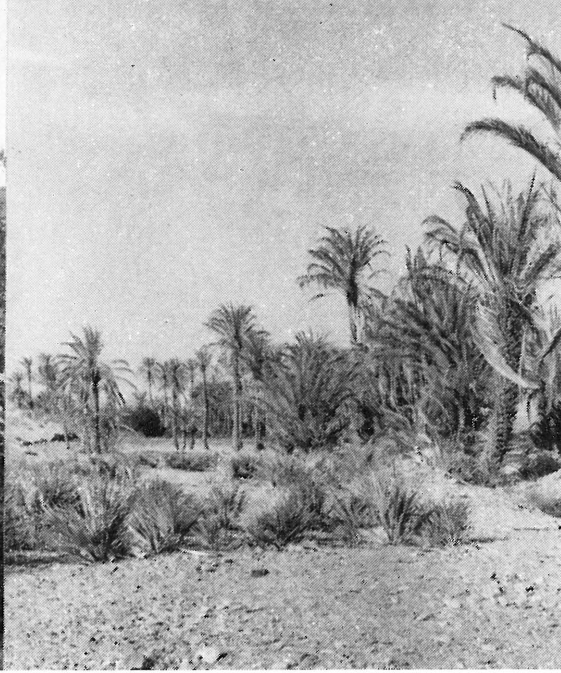


Photo 9: Loc. no. 140. 21 km. S. W. Saravan, 30. 3. 1973 (S. E. Iran, Baluchistan). Valley between Suran and Saravan with predominant growth of *Nanorrhops ritchieana*.

Photo 10: Loc. no. 144. Sekand, 27 km. E. N. E. of Sarbaz, 1. 4. 1973 (S. E. Iran, Baluchistan). Valley near to the oasis Sekand on the road Zaboli — Sarbaz.

Photo 11: Loc. no. 145. Sarbaz river valley, 11 km. N. of Sarbaz, 1. 4. 1973 (S. E. Iran, Baluchistan). Broad gravel-sandy river bed.

Photo 12: Loc. no. 145. Sarbaz river valley, 30 km. S. of Sarbaz, 2. 4. 1973 (S. E. Iran, Baluchistan). Terraces of the river Sarbaz cultivated with wheat and *Phoenix dactyliflora*.



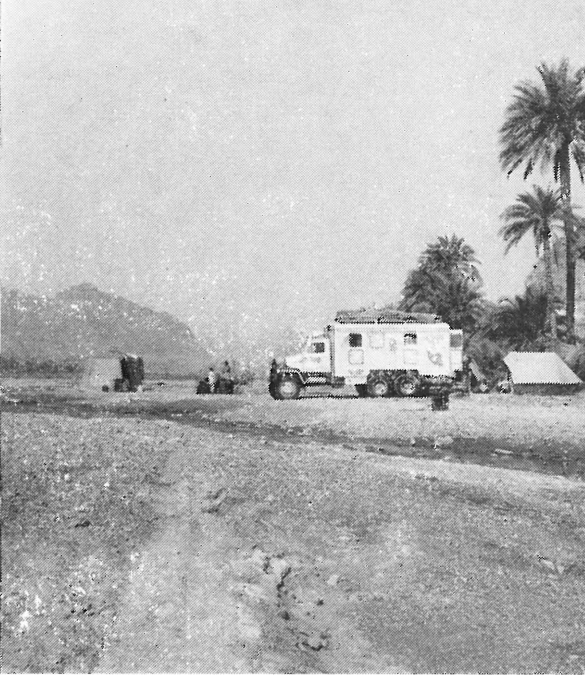
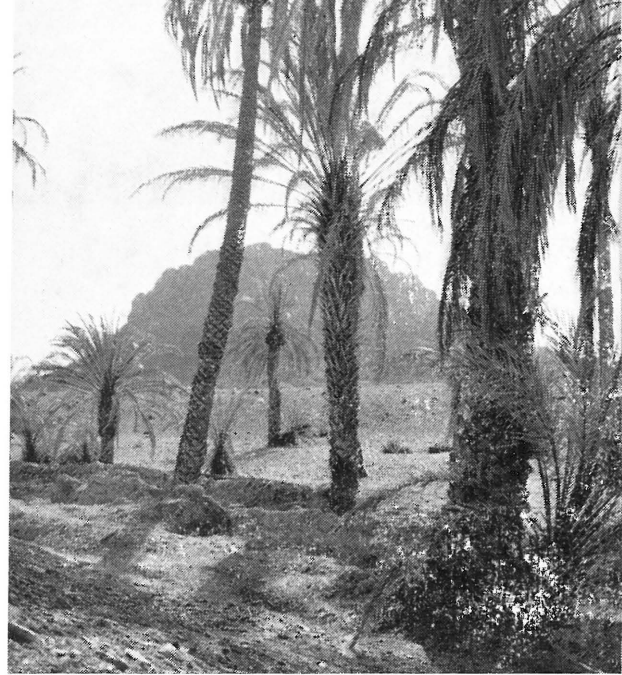


Photo 13: Loc. no. 145. Sarbaz river valley, 20 km. S. of Sarbaz, 2. 4. 1973 (S. E. Iran, Baluchistan). Semi-desert in the vicinity of valley of river Sarbaz, view to south.

Photo 14: Loc. no. 146. Rask, 3 km. N., 2. 4. 1973 (S. E. Iran, Baluchistan). Gravel-sandy valley of the river Sarbaz, view to the north.

Photo 15: Loc. no. 146. Rask, 3 km. N., 2. 4. 1973 (S. E. Iran, Baluchistan). Gravel-sandy valley of the river Sarbaz, view to the south.

Photo 16: Loc. no. 147. Bahu Kalat, 68 km. S. of Rask, 4. 4. 1973 (S. E. Iran, Baluchistan). Alluvial area of the river Sarbaz.

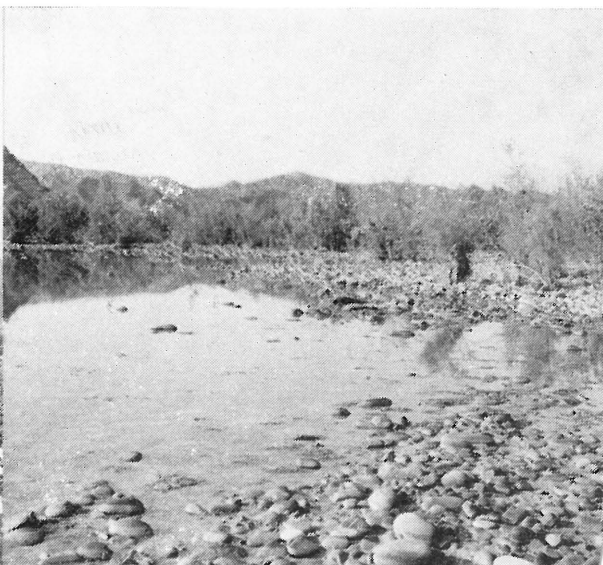
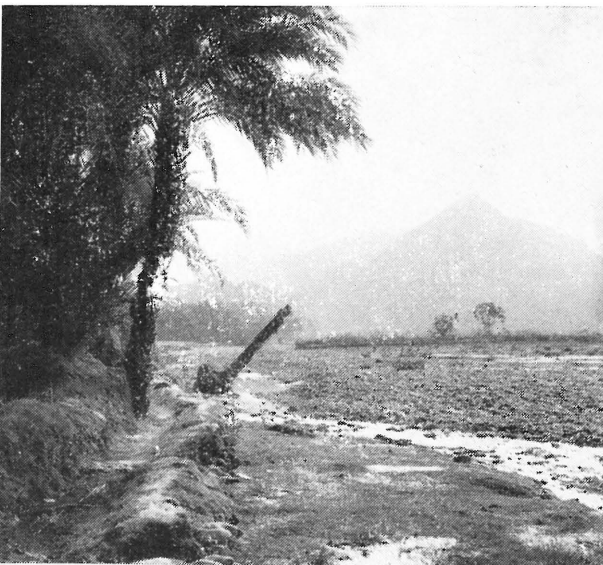




Photo 17: Loc. no. 150. Tis, 6. 4. 1973 (S. E. Iran, Baluchistan). Stony semi-desert N. of Tis, sporadically with solitary groups of trees.

Photo 18: Loc. no. 150. Tis, 7. 4. 1973 (S. E. Iran, Baluchistan). Stony semi-desert N. of Tis with giant tree of *Ficus bengalensis*.





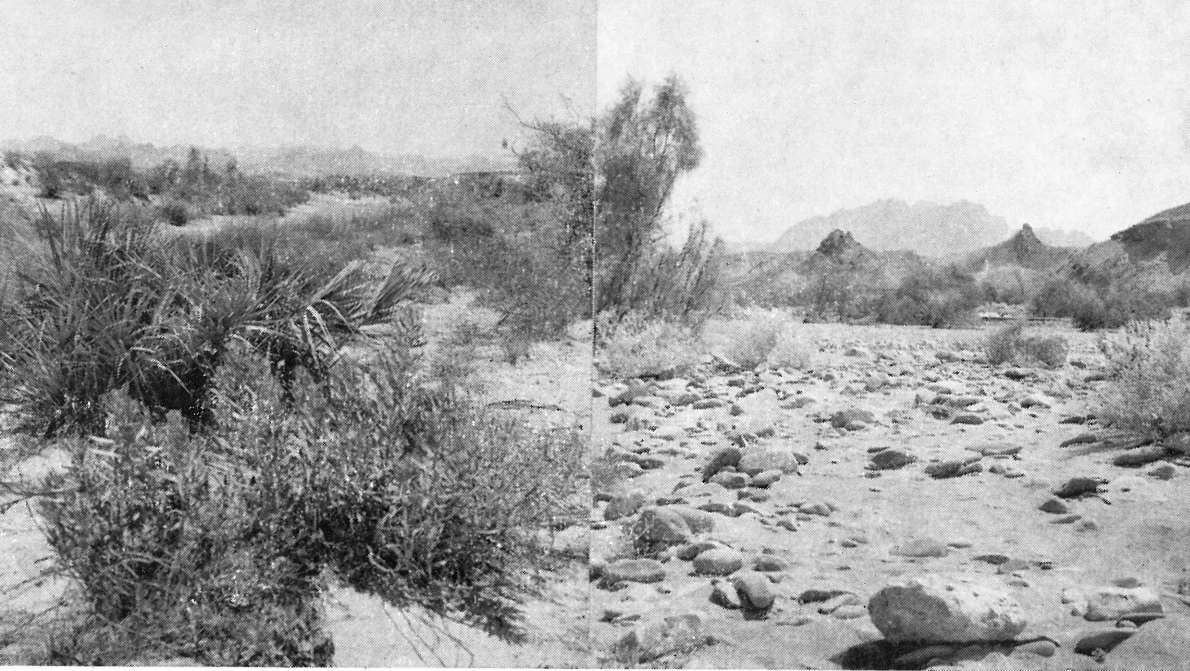


Photo 19: Loc. no. 151. Valley of the river Pish Mant Kowr near the village Pish Mant-e Kahur, 5. 4. 1973 (S. E. Iran, Baluchistan). Dry river-bed of Pish Mant Kowr 55—78 km. N. of Tis on the road Tis — Nikshahr.

Photo 20: Loc. no. 152. 13 km. S. S. E. of Nikshahr, valley of the river, 9. 4. 1973 (S. E. Iran, Baluchistan). Stony river-bed.

Photo 21: Loc. no. 154. 16 km. S. E. of Tang-e Sarhe, 61 km. N. N. W. of Nikshahr, 900 m., 10. 4. 1973 (S. E. Iran, Baluchistan). Rocky bank of a mountain torrent.

Photo 22: Loc. no. 156. Sands of Espakeh, 13—47 km. N. of Espakeh, 11. 4. 1973 (S. E. Iran, Baluchistan). Sandy desert with sparse growth of *Calligonum* spp.

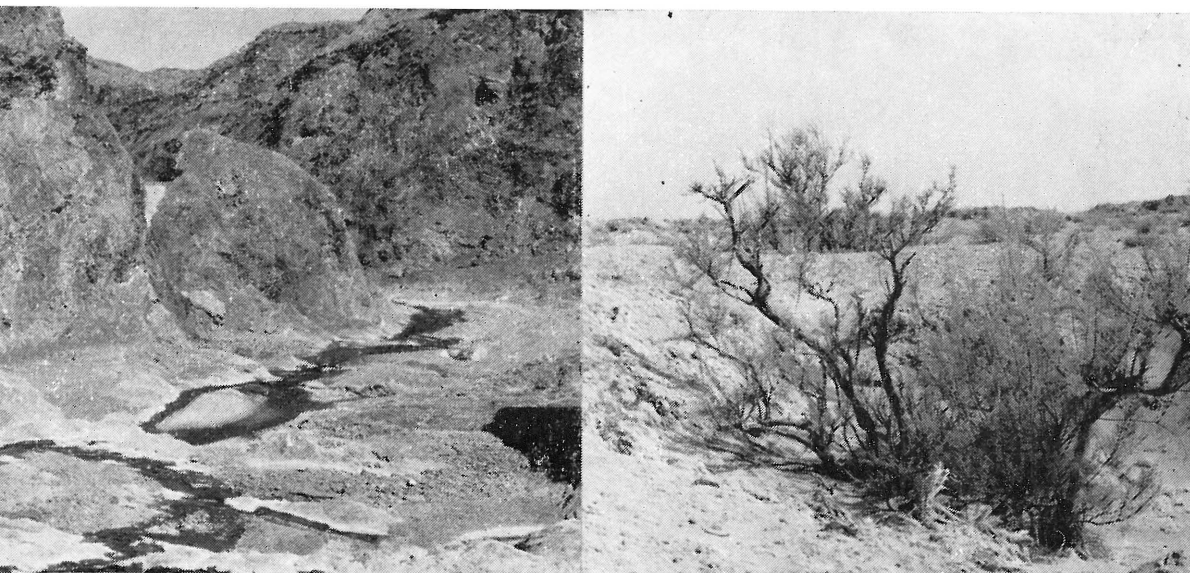




Photo 23: Loc. no. 167. Kuh-e Taftan, valley Tamandan, 2100 m, in S. W. part of the mountains, 18. 4. 1973 (S. E. Iran, Baluchistan).

Photo 24: Loc. no. 168. Kuh-e Taftan, Tamandan valley, 2200 m., upper end of the valley, 18. 4. 1973 (S. E. Iran, Baluchistan).

Photo 25: Loc. no. 169. Kuh-e Taftan, mountain steppe in the altitude 2400 m. on the foot of the Ab-e Shirin, 19. 4. 1973 (S. E. Iran, Baluchistan).

Photo 26: Loc. no. 186. Deh Bakri, Kuh-e Jebal Barez, 1700—1750 m., 1. 5. 1973. (E. Iran, Kerman province). Terraces and stone slopes over the river.

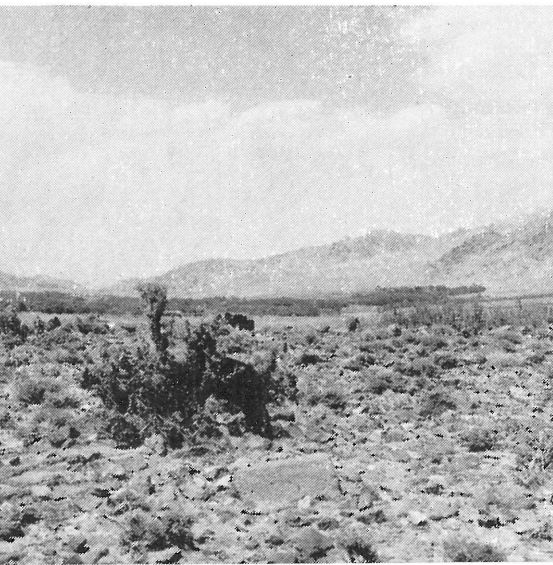
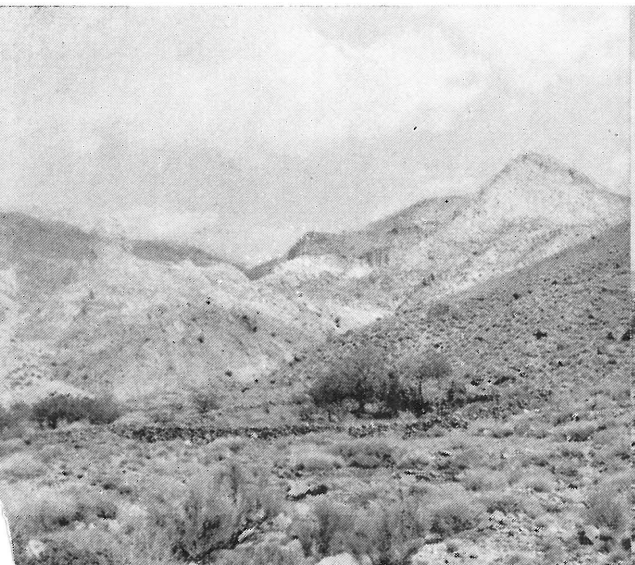




Photo 27: Loc. no. 187. Mohammadabad, 35 km. N. N. W. of Sabzevaran, 1600 m., 4. 5. 1973. (E. Iran, Kerman province). South slopes of Jebal Barez with sparse xerophilous vegetation

Photo 28: Loc. no. 189. 33 km. W. of Sabzevaran, 1100 m., on the road Sabzevaran-Esfandageh, 7. 5. 1973 (E. Iran, Kerman province). Irrigated fields and weeds in the mountain valley.

Photo 29: Loc. no. 190. Gav Koshi near Esafandageh, 1650 m., 8. 5. 1973 (E. Iran, Kerman province). Steppe region 60 km. W. of Sabzevaran.

Photo 30: Loc. no. 203. Minab, 19. 5. 1973 (S. Iran, Makran). Water pools and irrigation channels in west part of large date-palm oasis.







Photo 31: Loc. no. 194. 24 km. S. S. W. of Hajiabad, 9. 5. 1973 (S. Iran, Kerman province). Plain sandy salty basin.

Photo 32: Loc. no. 201. Faryab 350 m., 18. 5. 1973 (S. Iran, Makran). Dry river-bed of Rud-e Rudan.

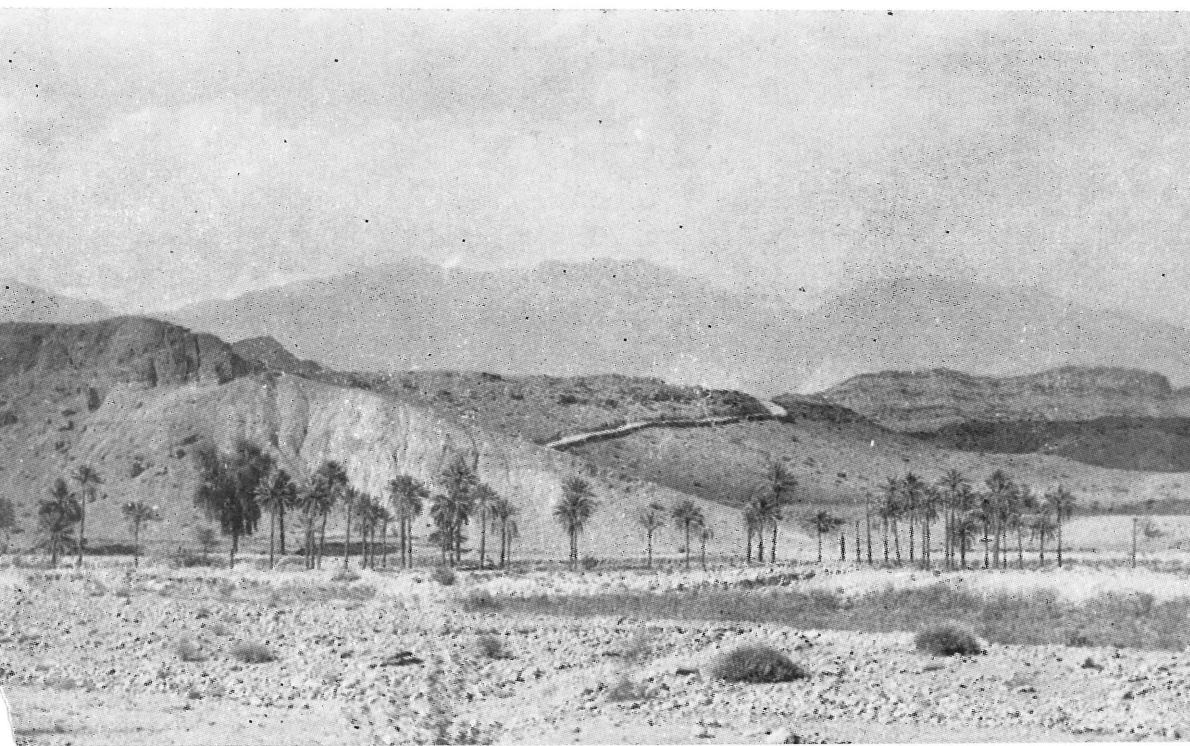






Photo 33: Loc. no. 208. 16 km. N. of Jask, 22. 5. 1973 (S. Iran, Makran). Coastal sandy plain with dense savanna and typical growth of *Acacia arabica*.

Photo 34: Loc. no. 220. Korsiah, 14 km. W. N. W. of Darab, 29. 5. 1973 (S. Iran, Fars). Salty clayish banks of a brook with abundant growth of *Acorellus distachys* and *Schoenoplectus littoralis*.





Photo 35: Loc. no. 222, Fasa, 30. 5. 1973 (S. Iran, Fars). Steppe region with sparse vegetation.

Photo 36: Loc. no. 223, Mian Jangal, 30. 5. 1973 (S. Iran, Fars) Steppe with plantations of almond-trees merging with original growth of *Amygdalus scoparia*.

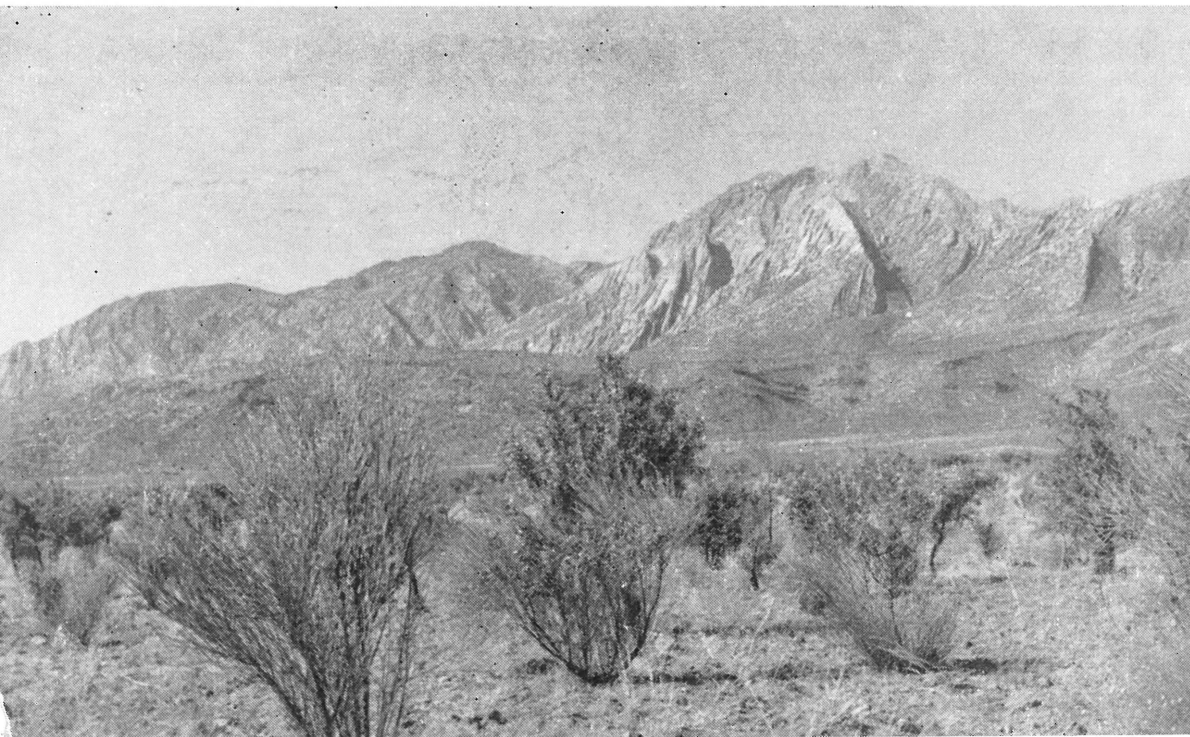






Photo 37: Loc. no. 233. Tang-e Chogan-e Olia, 10. 6. 1973 (S. Iran, Fars), Soony valley of the river with *Nerium kotschyi*, *Salix* sp. and *Mentha* sp.

Photo 38: Loc. no. 234. Tang-e Chogan-e Olia, 10. 6. 1973 (S. Iran, Fars). South slopes of the valley below the cave Gar Shapur with *Amygdalus scoparia*, 1280 m.



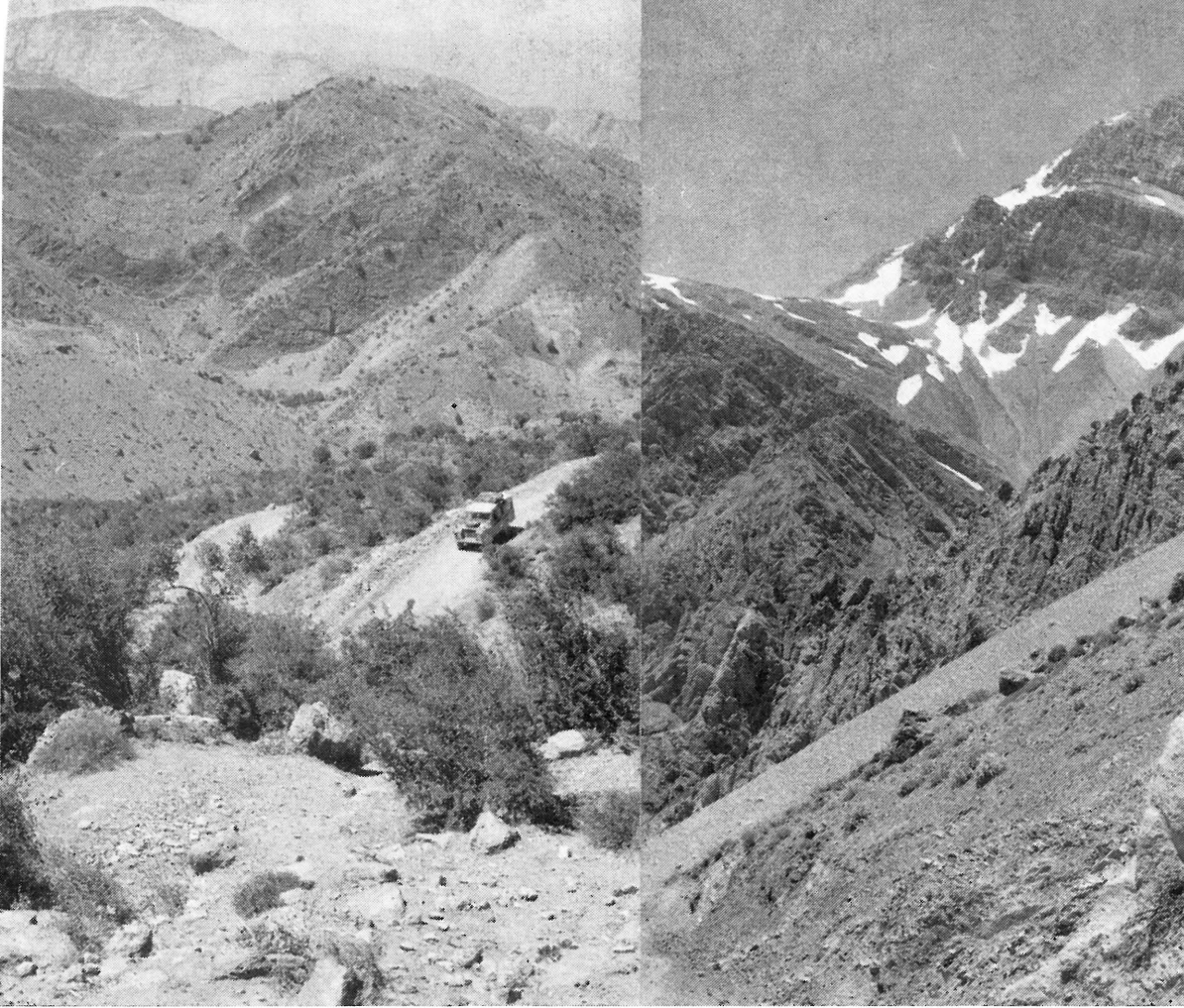


Photo 39: Loc. no. 238. 48 km. N. of Masiri, pass in E. Zagros on the road Masiri — Yasuj, 1800 m., 12. 6. 1973 (S. Iran, Fars). Mountain stony slopes with steppe vegetation and typical growth of *Quercus brantii*

Photo 40: Loc. no. 242. Kuh-e Dena, 3000—4000 m., E. Zagros, 14. 6. 1973 (S. Iran, Fars). Top rocky area with high mountain meadows.



Photo 41: Loc. no. 247. 7 km. N. W. of Shul and 32 km. S. E. of Ardakan, 2100 m, 17. 6. 1973, E. Zagros (S. Iran, Fars). Stony steppe with remnants of the growth of *Quercus brantii*.

Photo 42: Loc. no. 266. 20 km. of S. E. Marand, 6. 7. 1973 (N. W. Iran, Azarbaijan). Irrigation channel overgrown with trees among fields and meadows.

