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Polish herbarium collection of trees and shrubs from southwest Asia made in the years 1972 - 1975

In recent years the interest in the countries of southwest Asia has greatly increased in Poland. This is also reflected in the biological field trips to that region, both of student groups and of individual botanists and zoologists. Thanks to these expeditions our collections were enriched, including those of the herbaria. Herbarium sheets of woody plants were supplied to the Herbarium of the Institute of Dendrology of the Polish Academy of Sciences, where for several years now studies are being conducted on the systematics and chorology of the woody flora of southwest Asia. Scientific contributions on the subject were published in "Flora of Turkey", "Flora Iranica" and in our own publication "Arboretum Kórnickie" as well as in forest periodicals in Turkey.

The collections referred to above originate from Turkey, Iran, Iraq, Syria, Lebanon, Afghanistan and Pakistan, the first two countries being most abundantly represented. In spite of the fact that these are frequently completely accidental collections that cannot be said to characterize the flora of any of these countries, nor of any smaller geobotanical region, yet they frequently contain interesting specimens of rare taxons, or collected in completely new localities for the species. Taking this into consideration, and believing that this information is an interesting source of data for the preparation of point maps of plant distribution, we have decided to publish it. Except for few specimens, collected in early spring and therefore insufficiently developed, we were able to indentify the plants. They originate from the following collections:

1. An expedition of students of the Silesian University in Katowice to Turkey, Iraq and Iran, VII - X.1972. The collections were made by S. Cabała and are housed in the herbarium of the University in Katowice (duplicates in Kórnik). Abbreviation for the collections — SC.
2. An expedition of students from the A. Mickiewicz University in Poznań and the Poznań Agricultural Academy to Turkey, Syria and Iraq, VIII - X.1973. Collections made by I. Izydorek and G. Wiśniewski. Abbreviation for the collections — I - W.

3. Collections made by K. Browicz in Turkey during a visit to that country for the international symposium in Istanbul on "*Abies equi-trojani* and Turkish Flora", 22 - 28.X.1973. Abbreviation for the collections — KB.

4. Expedition of students from Poznań colleges "Orient 74" to Turkey, Lebanon and Syria, VII - VIII.1974. The collections made under the



Phot. K. Browicz

Fig. 1. The largest specimen of *Juniperus excelsa* in Anatolia (south of Elmali, in vilayet Antalya) — 25 m high and 680 cm in girth

supervision of B. Wojciechowska from the Institute of Dendrology. Abbreviation for the collections — BW.

5. Collections of K. Browicz and J. Zieliński made in Turkey and northwestern Iran, V - VI.1975. Abbreviation for the collections — B - Z.

6. Collections of S. Egierszdorff from the Institute of Dendrology in Kórnik, made in northwestern Pakistan, Afghanistan, Iran and Turkey, VIII - X.1975. Abbreviation for the collections — SE.

Below is a list of taxa represented in collections mentioned above arranged alphabetically by families. For different countries we use the following abbreviations: T — Turkey, I — Iran, IQ — Iraq, L — Leba-

non, S — Syria, A — Afghanistan, P — Pakistan. Also in the case of herbarium materials from Turkey we are using the system of squares adopted by the "Flora of Turkey" for the division of the country into sectors.

1. ACERACEAE

Acer campestre L.

T — **B2** Balikesir: 25 km NE of Balikesir, road to Bursa, small thicket 6.5.1975, B-Z 52

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, by road, 2300 m, 5.6.1975, B-Z 453

A. cappadocicum Gleditsch var. *cappadocicum*

T — **A7** Trabzon: Meryemana forest, below ruins of Sumela monastery, 23.5.1975, B-Z 325

I — Mazandaran: Chalus valley, ca 5 km S of village Chalus, forest edge, 5.6.1975, B-Z 512

A. hyrcanum Fisch. et Mey. subsp. *hyrcanum*

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, by road, 2300 m, 5.6.1975, B-Z 458, 461

— subsp. *sphaerocaryum* Yalt.

T — **C2** Antalya: Ciglikara forest, *Cedrus libani-Juniperus excelsa*, S of Elmali, ca 1600 m, 12.5.1975, B-Z 163

A. monspessulanum L. subsp. *assyriacum* (Pojark.) Rech. f.

T — **C10** Hakkari: ca 70 km W from frontier-post, near cross-road, Hakkari-Yüksekova, 8.10.1975, SE 80

— subsp. *ibericum* (Bieb.) Yalt.

T — Mazandaran: Chalus valley, ca 11 km S of village Chalus, thicket on rocks, 5.6.1975, B-Z 496

A. monspessulanum L. × *A. hyrcanum* Fisch. et Mey.

I — Mazandaran: Elburs Mts., ca 10 km N of Kandavan pass, slope of Chalus valley, 5.6.1975, B-Z 477

A. platanoides L.

T — **B1** Balikesir: near Edremit, Kazdagi Mt., small stream in forest, rare, 27.10.1973, KB

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, thicket below road, ca. 2300 m, rare, 5.6.1975, B-Z 441

A. syriacum Boiss. et Gaill.

S — Djebel Ansarieh, between Haleb and Lattakia, 600 - 800 m, 27.7.1974, BW 90

A. trautvetteri Medw.

T — **A7** Trabzon: Meryemana forest, below ruins of Sumela monastery, 23.5.1975, B-Z 323

A. velutinum Boiss. var. *velutinum*

I — Mazandaran: Chalus valley, ca 11 km S of village Chalus, old tree, 5.6.1975, B-Z 500

2. ANACARDIACEAE

Cotinus coggygria Scop.

T — **C4** Icel: Silifke-Mut, W of Degirmendere, small gorge, 14.5.1975, B-Z 192;
C6 Adana: 10 - 15 km E of Osmaniye, road to Fevzipasa, N part of Amanus Mts., thicket on loamy slope, 16.5.1975, B-Z 226

S — Djebel Ansarieh, between Haleb and Lattakia, 600 - 800 m, 27.7.1974, BW 79

Pistacia atlantica Desf. subsp. *atlantica*

T — C3 Antalya: 2 - 4 km of village Dag, S of cross-road Antalya-Korkuteli, calcareous rocks, very rare, 10.5.1975, B-Z 127

— subsp. *mutica* (Fisch. et Mey.) Rech f.

I — Between Tehran and Karaj, Chitgar, Vardavard valley, stony slope, 1750 m, 8.6.1975, B-Z 530

— subsp. *kurdica* (Zohary) Rech. f.

T — C10 Hakkari: ca 70 km from frontier-post, near cross-road Hakkari — Yüksekova, 8.10.1975, SE 84

I — Fars: Shiraz Buhsehr, ca 100 km W of Shiraz, 2.10.1975, SE 73

S — NE slope of E Antilebanon, ca 1620 m, single tree, 29.8.1973, I - W 40

— subsp. *cabulica* (Stocks) Rech. f.

P — Chitral: Bumburet valley, ca. 2200 m, near village Ayun, by river, 27.8.1974, SE 12

P. khinjuk Stocks

IQ — Kurdistan: mountain gorge N of road Salahaddin-Shaqlawa, ca 850 m, 10.9.1973, I - W 55; Kurdistan: ca 9 km SW of Shaqlawa, 1120 m, rocky gorge, 10.9.1973, I - W 69

P — Chitral: Bumburet valley, ca 2300 m, by river, W slope, 28.8.1975, SE 14

P. lentiscus L.

T — B1 Balikesir: SW of Burhaniye, near Pelit, dense thicket by sea, 7.5.1975, B - Z 79; C4 Antalya: Alanya-Gazipasa, dunes by sea, 13.5.1975, B - Z 169; Antalya: Alanya, by sea, 13.10.1975, SE 96; Icel: ca 14 km W of Silifke, by sea, 21.9.1972, SC

P. terebinthus L. subsp. *terebinthus*

T — A2(A) Kocaeli: thicket 6 km E of Tasköprü, 17 km E of Yalova, 5.5.1975, B-Z 34; Bursa: Gemik bay, between Gemilk and Kumla, 5.5.1975, B-Z 36;

B1 Balikesir: SW of Burhaniye, near Pelit, dense thicket by sea, 7.5.1975, B - Z 77; Balikesir, near Edremit, Kazdagi Mt., S slope, ca 800 m. *Quercus marcopilepis* scrub, 27.10.1973, KB; C5 Icel: Taurus Mts., ca 50 km N of Tarsus, 18.8.1974, BW 142

— subsp. *palaestina* (Boiss.) Engler

T — C3 Isparta: mountain slope between Isparta and Aglasun, 1000 - 1500 m, near stream, 21.7.1974, BW 35; Antalya: ca 30 km E of Korkuteli, road to Antalya, thicket, 11.5.1975, B - Z 132; C4 Icel: Anamur-Gazipasa, 31 km W of Anamur, thicket of *Arbutus andrachne*, 13.5.1975, B - Z 171; Antalya: near Alanya, by sea, 13.10.1975, SE 100; C6 Adana: 10 - 15 km E of Osmaniye, road to Fevzipasa, N part of Amanus Mts., *Quercus infectoria* scrub, 16.5.1975, B - Z 230

S — 20 km S of Lattakia, near village Kabu, by sea, common, 24.8.1973, I - W 27

P. vera L.

T — C6 Maras: 10 km N of Pazarcik, road to Malatya, cult., 17.5.1975, B - Z 247

Rhus coriaria L.

T — B1 Balikesir: Edremit, Kazdagi Mt., S slope, open places, common, ca 1000 m, 27.10.1973, KB; B2 Balikesir: 25 km NE of Balikesir, road to Bursa, small thicket by road, 6.5.1975, B - Z 49; C4 Icel: Silifke-Mut, W of Degirmendere, small gorge near road, 14.5.1975, B - Z 199; C6 Hatay: Amanus Mts., ca 1120 m, open slope, 28.8.1973, I - W 10

S — Ca 56 km N of Damas, S slope of E Antilebanon, ca 1500 m, 29.8.1973, I - W

3. APOCYNACEAE

Carissa spinarum L.

P — Islamabad: suburban forest, 5.9.1975, SE 22

Nerium oleander L. subsp. *oleander*

T — C2 Denizli: small hills near Köprübasi, road Aydın-Denizli, open thicket, 9.5.1975, B - Z 99; C4 Antalya: Gazipasa-Anamur, ca 600 m, 25.7.1974, BW 116 — subsp. *kurdicum* Rech f.

T — B9 Bitlis: 10 km E of Ahlat, Süphan Dagi massif, N side of lake Van, 1600 - 1800 m, 5.8.1972, SC

I — Region of Babazeyd, near Seyko, thicket by river Seymareh, 8.9.1972, SC

4. AQUIFOLIACEAE

Ilex colchica Pojark.

T — A7 Trabzon: near Arsin, E of Trabzon, thicket by sea, 22.5.1975, B - Z 300; Trabzon: Meryemana forest, below ruins of Sumela monastery, by stream, 23.5.1975, B - Z 334; C6 Hatay: Amanus Mts., N slope, ca 1100 m, 20.8.1973, I - W 18

5. ARALIACEAE

Hedera colchica (C. Koch) C. Koch

T — A7 Trabzon: near Arsin, E of Trabzon, *Rhododendron ponticum* thicket, 22.5.1975, B - Z 306; Trabzon: Meryemana forest, on rocks, below ruins of Sumela monastery, 23.5.1975, B - Z 327, 331

H. helix L.

T — A7 Trabzon: near Arsin, E of Trabzon, on rocks, 22.5.1975, B - Z 307, B1 Balikesir: near Edremit, Kazdagi Mt., ca 1000 m, by stream, *Castanea sativa* trunk, 27.10.1973, KB C5 Adana: Cilician Gate, calcareous rocks, 15.5.1975, B - Z 214

6. ASCLEPIADACEAE

Cionura erecta (L.) Griseb.

IQ — Kurdistan: ca 8 km SW of Shaqlawa, 10.9.1974, I - W 66

Periploca aphylla Decaisne

I — Fars: 60 km W of Shiraz, road to Bushehr, 2.10.1975, SE 72

P. graeca L.

IQ — Kurdistan: ca 8 km SW of Shaqlawa, near stream, common, 10.9.1973, I - W 65

I — Mazandaran: Pol-e-Zoghal, E tributary of Chalus river, forest along river, 5.6.1975, B - Z 485

7. BERBERIDACEAE

Berberis crataegina DC.

T — B5 Nevşehir: near Göreme, dirt road, 19.8.1974, BW 150; B7 Erzincan: Erzincan-Sivas, W of Refahiye, ca 2 km E of Altköy and 3 km from cross-road Sivas-Susehri, 1600 m, stony slope, 12.6.1975, B - Z 550; Erzincan: near Avcilar, 30 km E of Erzincan, thicket by road, 12.6.1975, B - Z 546; Erzincan: near Tanyeri, cross-road Erzincan-Erzurum-Tunceli, by Euphrat, 19.5.1975, B - Z 269; C(2)3 Antalya: 5 - 10 km N of Elmali, road to Korkuteli, 11.5.1975, B - Z 145a

B. integerrima Bge. × *B. vulgaris* L.

I — Rud-e-Karaj valley, ca 18 km N of Karaj, gravelly slope near road, 2.6.1975, B - Z 419

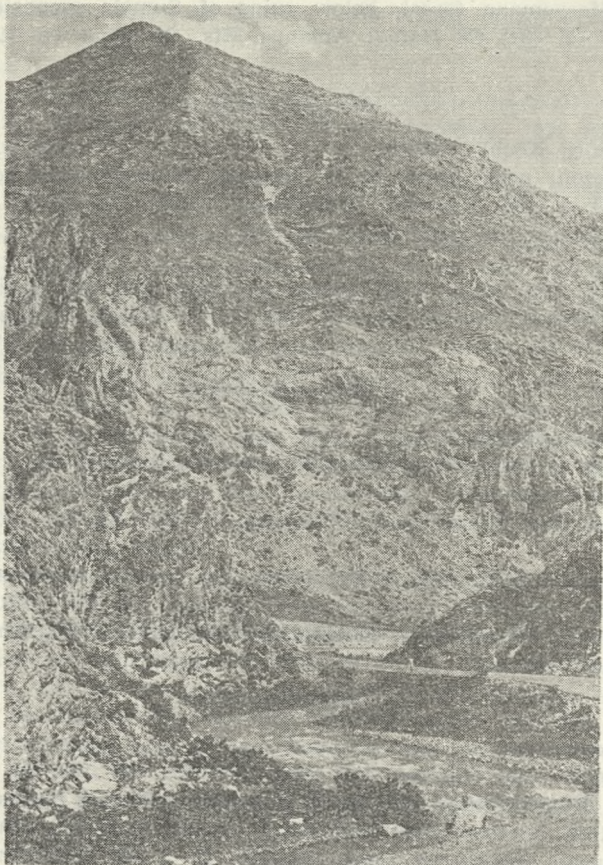
B. parkeriana Schneid.

- P — Dir: 3 km from Dir in direction of Lowari pass, NW slope, 23.8.1975, SE 4
B. vulgaris L.
 T — A8 Gümüsane: Bayburt-Askale, S of village Kop, thicket by road, 21.5.1975,
 B - Z 285
 I — Mazandaran: Elburs Mts. ca 5 km N of Kandavan pass, ca 2300 m, slope
 near road, 5.6.1975, B - Z 443, 448

8. BETULACEAE

Alnus glutinosa (L.) Gaertn. subsp. *glutinosa*

- T — A2(E) Istanbul: 7 km S of Kilyos, by stream, 3.5.1975, B - Z 23; B1 Balikesir:
 ca 25 km E of Edremit, between Edremit and Balikesir, small valley, by
 stream, 6.5.1975, B - Z 54; Balikesir: near Edremit, Kazdagi Mt., ca 1000 m,
 small valley in forest, by stream, 27.10.1973, KB
 — subsp. *barbata* (C. A. Mey.) Yalt.



Phot. K. Browicz

Fig. 2. Road from Askale to Bayburt, north of Kopdagi pass (villayet Gümüsane, northern Anatolia) — thickets of *Betula litwinowii* along banks of the river

- T — A8 Rize: ca 2 km W of Rize, thicket by road to Trabzon, 22.5.1975, B - Z 307
 I — Mazandaran: beech forest near village Dshal, region of Shabsawar, 22.8.1972,
 SC; coast of Caspian Sea, 15 km E of Bandar Pahlavi, ca 300 m S of sea,
 20.8.1972, SC

A. orientalis Dcne var. *orientalis*

T — C4 Icel: Gazipasa-Anamur, ca 30 km W of Anamur, small stream, *Pinus brutia* forest, 13.5.1975, B - Z 175

— var. *pubescens* Dipp.

T — C6 Adana: 10 - 15 km E of Osmaniye, road to Fevzipasa, N part of Amanus Mts., along stream, 16.5.1975, B - Z 228; Hatay: Amanus Mts., 18 km N of Antakya, near Serinyol, stony slope by stream, 800 m, 14.8.1974, BW 134

A. subcordata C. A. Mey. var. *subcordata*

I — Mazandaran: Pol-e-Zoghal, E tributary of Chalus river, forest along river, 5.6.1975, B - Z 493

— var. *villosa* (Rgl.) H. Winkl.

I — *ibid.*, B - Z 491

Betula litwinowii Doluch.

T — A8 Gümüsane: Bayburt-Askale, S of village Kop, along river, small thicket, 19.5.1975, B - Z 287; B7 Erzincan: Erzincan-Sivas, W of Refahiye, ca 2 km E of Altköy and 3 km from cross-road Sivas-Susehri, 1600 m, stony slope, by stream, 12.6.1975, B - Z 547, 560

B. pendula Roth.

T — A8 Gümüsane: Bayburt-Askale, Kopdagi pass, ca 2350 m, small thicket near stream, specimens up to 2 m high, 19.5.1975, B - Z 278

9. BORAGINACEAE

Lithodora hispidula (Sibth. et Sm.) Griseb.

T — C4 Icel: 1 km N of Silifke, road to Mut, slope of Göksu valley, 14.5.1975, B - Z 184

10. BUXACEAE

Buxus hyrcana Pojark.

I — Mazandaran: valley of Chalus river, ca 5 km S of village Chalus, Hyrcanian Forest, common, 5.6.1975, B - Z 509

11. CAPRIFOLIACEAE

Lonicera caucasica Pall. subsp. *caucasica*

T — B8 Erzurum: N of Askale, road to Bayburt, near Pirnakapan, ca 2000 m, *Quercus macranthera* scrub, 21.5.1975, B - Z 275

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, ca 2300 m, gravelly slope near road, thicket, 5.6.1975, B - Z 440

— subsp. *orientalis* (Lam.) Chamb. et Long

T — A7 Trabzon: Meryemana forest, below ruins of Sumela monastery, by stream, 23.5.1975, B - Z 324, 327; B7 Erzincan: Erzincan-Sivas, W of Refahiye, ca 2 km E of Altköy and 3 km from cross-road Sivas-Susehri, 1600 m, thicket by stream, 12.6.1975, B - Z 548, 554 (intermediate form); B8 Erzurum: N of Askale road to Bayburt, near Pirnakapan, ca 2000 m, *Quercus macranthera* scrub, 21.5.1975, B - Z 273

L. etrusca Santi var. *etrusca*

T — A2(E) Istanbul: rocky side of Black Sea near Kilyos, 15.6.1975, B - Z 596; B1 Balıkesir: 8 km W of Balıkesir, road to Edremit, thicket on slope, 6.5.1975, B - Z 60; Balıkesir: SW of Burhaniye, near Pelit, by Aegean Sea, 7.5.1975, B - Z 81

— var. *hispidula* Boiss.

T — B2 Balıkesir: 25 km NE of Balıkesir, road to Bursa, small thicket, 6.5.1975, B - Z 46

S — Ca 20 km S of Lattakia, near village Kabu, rocks near sea-side, 24.8.1973, I - W 33

L. floribunda Boiss. et Bushe

I — Mazandaran: Elburs Mts., ca 10 km N of Kandavan pass, Chalus valley, rocky slope, 5.6.1975, B - Z 468, 476

L. iberica M. B.

I — Near Turkish frontier, N of Maku, rocky slope, very rare, 10.6.1975, B - Z 542; Mazandaran: ca 5 km N of Kandavan pass, thicket by road, ca 2300 m, 5.6.1975, B - Z 439; Mazandaran: ca 10 km N of Kandavan pass, Chalus valley, rocky slope, 5.6.1975, B - W 470

L. nummularifolia Jaub. et Spach subsp. *glandulifera* (Hub.-Mor.) Chamberlain

T — C2 Antalya: lower part of Ciglikara forest, S of Elmali, rocks among *Juniperus excelsa*, 12.5.1975, B - Z 156

L. xylosteum L.

T — A7 Trabzon: Meyremana forest, below ruins of Sumela monastery, stream valley, 23.5.1975, B - Z 338

Viburnum lantana L.

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, 2300 m, thicket by road, 5.6.1975, B - Z 451

12. CELASTRACEAE

Evonymus europaeus L.

T — A7 Trabzon: Meryemana forest, below ruins of Sumela monastery, on rocks, 23.5.1975, B - Z 326

E. latifolius (L.) Mill. subsp. *latifolius*

T — C6 Hatay: Amanus Mts. ca 1100 m, N slope, common, 20.8.1973, I - W 15

I — Mazandaran: Elburs Mts., ca 10 km N of Kandavan pass, Chalus valley, thicket on slope, 5.6.1975, B - Z 474

— subsp. *cauconis* Coode et Cullen

T — A7 Trabzon: Meryemana forest, below ruins of Sumela monastery, rocks near stream, 23.5.1975, B - Z 330

E. verrucosus Scop.

T — B5 Yozgat: ca 27 km W of Akdagmadeni, road to Yozgat-Sivas, edge of *Quercus* scrub, ca 1350 m, 16.6.1975, B - Z 571

Gymnosporia royleana (Wall.) Laws.

P — Islamabad: suburban forest, 5.9.1975, SE 23, 24

13. CHAENOPODIACEAE

Anabasis aphylla L.

I — 5 km N of Tabriz, road to Maku, dry flat area, 9.6.1975, B - Z 535.

Halocnemum strobilaceum (Pall.) M.B.

I — S of Karaj, near village Abbasabad-Salenhabad, desert region, 4.6.1975, B - Z 433

Hammada eigii Iljin

S — Desert region between Palmyre and Homs, common, 3.9.1973, I - W 52

Noea mucronata (Forsk.) Asch. et Schweinf.

S — Desert region between Palmyre and Homs, common, 3.9.1973, I - W 52

Salsola ericoides MB.

I — 55 - 60 km NE of Zanjan, road to Mianeh, eroded slope by road, communities of *Rosa persica*, 31.5.1975, B - Z 398.

14. CISTACEAE

Cistus laurifolius L.

T — A4 Ankara: Kizilcahamam-Ankara, ca 25 km S of Kizilcahamam, chalky slope near road, common, 14.6.1975, B - Z 583a

C. salvifolius L.

- T — **A2(E)** Istanbul: forest near Bahceköy, 1.5.1975, B - Z 2; Istanbul, between Sariyer and Kilyos, common, 3.5.1975, B - Z 13; **B1** Balikesir: near Edremit, S slope of Kazdagi Mt., ca 800 - 900 m, common, 27.10.1973, KB; **C4** Antalya: between Gazipasa and Anamur, 25.7.1974, BW 69; **C6** Hatay: Dört Yol, near stream, 21.8.1973, I - W 23

Fumana thymifolia (L.) Spach var. *thymifolia*

- T — **C2** Denizli: road Aydin-Denizli, sandy hills near village Köprübasi, 9.5.1975, B - Z 100

15. COMPOSITAE

Helichrysum italicum (Roth.) D. Don

- T — **B1** Balikesir: SW of Burhaniye, near Pelit, thicket by Aegean Sea, 7.5.1975, B - Z 84

16. CONVULVACEAE

Convolvulus compactus Boiss.

- T — **B4** Ankara: dry hills 2 km W of Kirikkale, N side of road, among vineyards, 13.6.1975, B - Z 583

17. CORNACEAE

Cornus sanguinea L. subsp. *australis* (C. A. Mey.) Jáv.

- T — **A2(E)** Istanbul: between Sariyer and Kilyos, thicket, 3.5.1975, B - Z 15; **A3** Sakarya: road Adapazari-Istanbul, NW side of Sapanca Gölü, thicket, 14.6.1975, B - Z 584; **C5** Icel: Cilician Gate, 1050 - 1200 m, 15.5.1975, B - Z 204
I — Mazandaran: ca 10 km of Kandavan pass, Chalus valley, thicket on slope, 5.6.1975, B - Z 475

C. mas L.

- T — **A3** Sakarya: road Adapazari-Istanbul, NE side of Sapanca Gölü, thicket, 14.6.1975, B - Z 589

18. CORYLACEAE

Carpinus betulus L.

- I — Mazandaran: forest remnant near village Dshal, region of Sahsarar, 31.8.1972, SC; Khorasan: Reza Pahlavi Park, ca 100 km W of Bonjurd, near river, 26.9.1975, SE 57

C. orientalis Mill. subsp. *orientalis*

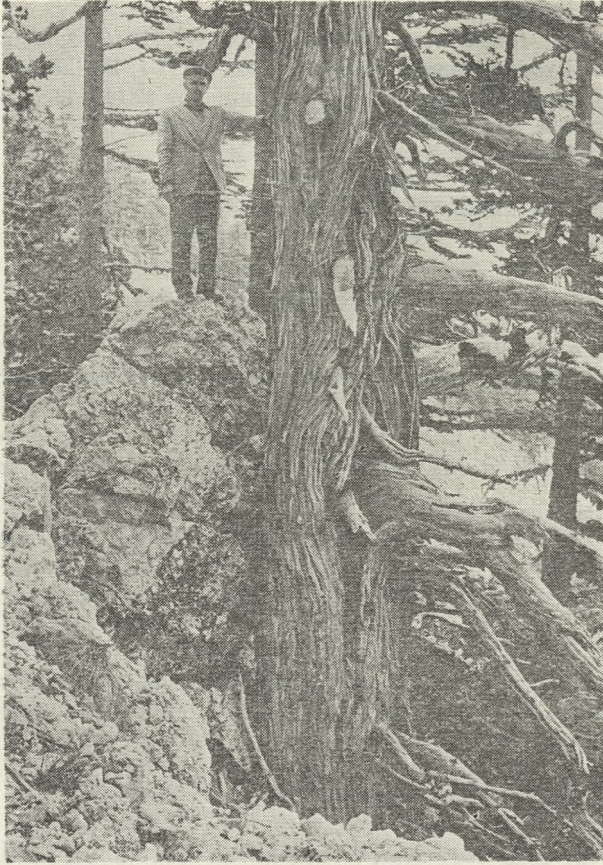
- T — **A8** Trabzon: near Arakli, between Trabzon and Rize, mixed forest, 22.5.1975, B - Z 319; **C5** Icel: Taurus Mts., ca 50 km N of Tarsus, 18.8.1974, BW 143
I — Khorasan: Reza Pahlavi Park, ca 100 km W of Bonjurd, near river, 26.9.1975, SE 56
— subsp. *macrocarpa* (Willk.) Browicz
I — Mazandaran: Chalus valley, ca 11 km S of village Chalus, thicket on slope, E side of road, 5.6.1975, B - Z 495

Corylus avellana L.

- T — **A8** Rize: W of Rize, near village Hazara, slope over river, 22.5.1975, B - Z 311

Ostrya carpinifolia Scop.

- T — **C4** Icel: Cilician Gate, calcareous rocks, ca 1100 m, 15.5.1975, B - Z 205; **C6** Hatay: Amanus Mts. ca 1140 m, forest, 20.8.1973, I - W 6



Phot. K. Browicz

Fig. 3. Stem of an old juniper tree (*Juniperus excelsa*) on calcareous rocks in Ciglikara forest (south of Elmali, vilayet Antalya)

19. CUPRESSACEAE

Cupressus sempervirens L.

T — C3 Antalya: near Side, by sea, cult. ?, 22.7.1974, BW 52; C6 Hatay: near Serinyol, ca 800 m, cult.?, 14.8.1974, BW 137

S — Road Haleb-Lattakia, Djebel Ansarieh, 600 - 800 m, 27.7.1974, BW 76

IQ — Ca 45 km SW of Arbil, near road, cult.?, 7.9.1973, I - W 50

I — Mazandaran: Pol-e-Zoghal, valley of E tributary of Chalus river, chalky slope, 5.6.1975, B - Z 484a

Juniperus communis L. subsp. *hemisphaerica* (J. et C. Presl.) Nyman

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, rocks, ca 2300 m, 5.6.1975, B - Z 467 (new for Iran).

— subsp. *nana* Syme

T — B8 Gümüsane: Bayburt-Askale, Kopdagi pass, ca 2350 m, 21.5.1975; B - Z 281, 282

J. drupacea Labill.

T — C5 Icel: Cilician Gate, ca 1200 m, 15.5.1975, B - Z 217; Icel: Taurus Mts., ca 50 km N of Tarsus, 18.8.1974, BW 139

J. excelsa Bieb.

- T — **B7** Erzincan: Erzincan-Sivas, W of Refahiye, ca 2 km E of Altköy and 3 km from cross-road Sivas-Susehri, ca. 1600 m, stony slope, 12.6.1975, B - Z 566b; **C2** Denizli: NW side of Acigöl, between Denizli and Dinar, rocky slope, ca 900 m, 10.5.1975, B - Z 108, 110; **C4** Icel: road from Anamur to Silifke, 25.7.1974, BW 73; **C5** Icel: Cilician Gate, ca 1100 m, 15.5.1975, B - Z 219
- I — Elburs Centr.: 40 km N of Karaj, after dam on Rud-e-Karaj, rocky slope, rare, 2.6.1975, B - Z 423

J. oxycedrus L.

- T — **A2(E)** Istanbul: rocky slope by Black Sea, near Kilyos, 15.6.1975, B - Z 598; **A2(A)** Kocaeli: ca 6 km E from Tasköprü, 17 km E of Yalova, *Quercus coccofer* thicket, 5.5.1975, B - Z 27; **A7** Gümüsane: near Torul, 21.5.1975, B - Z 296; **B6** Yozgat: ca 27 km W of Akdagmadeni, open *Quercus* scrub, 1350 m, 13.6.1975, B - Z 578a; **B7** Erzincan: Erzincan-Sivas, W of Refahiye, ca 2 km E of Altköy and 3 km from cross-road Sivas-Susehri, 1600 m, stony slope, 12.6.1975, B - Z 566a; **C3** Isparta: Isparta-Aglasun, pine forest, 1000 - 1500 m, 21.7.1974, BW 33; **C5** Icel: Cilician Gate, 15.5.1975, B - Z 218; Icel: ca 5 - 6 km S of Cilician Gate, road to Tarsus, near bridge, 15.5.1975, B - Z 216; **C6** Hatay: Amanus Mts., W slope, ca 1120 m, 20.8.1973, I - W 5
- S — Road Haleb-Lattakia, Djebel Ansarieh, 600 - 800 m, 27.7.1974, BW 78, 63
- IQ — Kurdistan: ca 7 km SW of Shaqlawa, NE slope, ca 820 m, 10.9.1975, I - Z 62

20. EBENACEAE

Diospyros lotus L.

- T — **A8** Rize: W of Rize, near village Hazara, slope of river valley, common, 22.5.1975, B - Z 310
- I — Mazandaran: Chalus valley, ca 11 km S of village Chalus, thicket and forest by E side of road, 5.6.1975, B - Z 495a; Khorasan, Reza Pahlavi Park, ca 100 km W of Bonjurd, near river, 26.9.1975, SE 63

21. ELAEAGNACEAE

Elaeagnus angustifolia L. var. *angustifolia*

- I — Azerbaijan: ca 80 km NW of Marand, road to Maku, valley of Ag Chay river, 10.8.1972, SC
- var. *orientalis* (L.) Kuntze
- P — Chirtal: Bumburet valley, near village Ayun, along river, ca 2000 m, 27.8.1975, SE 11

Hippophaë rhamnoides L. subsp. *caucasica* Rousi

- T — **A7** Gümüsane: ca 40 km SE of Gümüsane, road to Bayburt, common, along stream, 21.5.1975, B - Z 295

22. EPHEDRACEAE

Ephedra intermedia Schrenk

- I — Between Tehran and Karaj, near Ariamer Botanical Garden, semidesert, 4.6.1975, B - Z 436
- E. major* Host.
- T — **B7** Malatya: Malatya-Elazig, N of Kale, rocky slope near bridge on Euphrat, 18.5.1975, B - Z 258; **B9** Erzurum: ca 20 km S of Horasan, road to Agri, 1700 m, rocky slope, 26.5.1975, B - Z 363
- E. procera* Fisch. et Mey.

- I — Between Tehran and Karaj: Chitgar, Vardavard valley, stony slope, 1750 m, 8.6.1975, B - Z 531; Mazandaran: Elburs Mts., ca 10 km N of Kandavan pass, single shrub on small rock, near road to Chalus, 5.6.1975, B - Z 479; Mazandaran: Pol-e-Zoghal, E tributary of Chalus river, cypress forest, 5.6.1975, B - Z 487

23. ERICACEAE

Arbutus andrachne L.

- T — **B2** Balikesir: ca 50 km N of Balikesir, road to Bursa, edge of pine forest, 28.10.1973, KB; **C3** Antalya: 31 km NW of Antalya, road to Korkuteli, 12.5.1975, B - Z 166; **C4** Antalya: between Gazipasa and Anamur, 600 m, 25.7.1974, BW 70; **C6** Hatay: Amanus Mts., N slope, ca 1100 m, 20.8.1973, I - W 7

S — Djebel Ansarieh between Haleb and Lattakia, 600 - 800 m, 27.7.1974, BW 84

A. unedo L.

- T — **A2(E)** Istanbul: Belgrad Forest near Bahceköy, 1.5.1975, B - Z 5; **B2** Balikesir: ca 50 km N of Balikesir, road to Bursa, edge of pine forest, 28.10.1973, KB

Calluna vulgaris (L.) Salisb.

- T — **A2(A)** Istanbul: between Beykoz and Polonezköy, in open *Quercus* scrub, 30.10.1973, KB

Erica arborea L.

- T — **A2(A)** Istanbul: between Beykoz and Polonezköy, in open *Quercus* scrub, 30.10.1975, KB; **C4** Icel: ca 5 km of Anamur, road to Silifke, *Pinus brutia* forest, 13.5.1975, B - Z 176, 180

E. verticillata Forsk.

- T — **A2(A)** Istanbul: between Beykoz and Polonezköy, near Mahmutsevketspa, open slope, common, 30.10.1973, KB

Rhododendron luteum Sweet.

- T — **B1** Balikesir: between Edremit and Balikesir, ca 25 km E of Edremit, stream valley, 6.5.1975, B - Z 57

Rh. ponticum L.

- T — **A7** Trabzon: near Arsin, E of Trabzon, thicket near road, 22.5.1975, B - Z 304a

Vaccinium arctostaphylos L.

- T — **A7** Trabzon: near Arsin, E of Trabzon, thicket near road, 22.5.1975, B - Z 301

V. myrtillus L.

- T — **A7** Trabzon: 3 - 4 km S of Zigana pass, road to Torul, edge of pine forest, 23.5.1975, B - Z 344

24. EUPHORBIACEAE

Arachne colchica (Fisch. et Mey.) Pojark.

- I — Mazandaran: Chalus valley, 11 km S of village Chalus, on the rocks, small clumps, 5.6.1975, B - Z 503

25. FAGACEAE

Castanea sativa Mill.

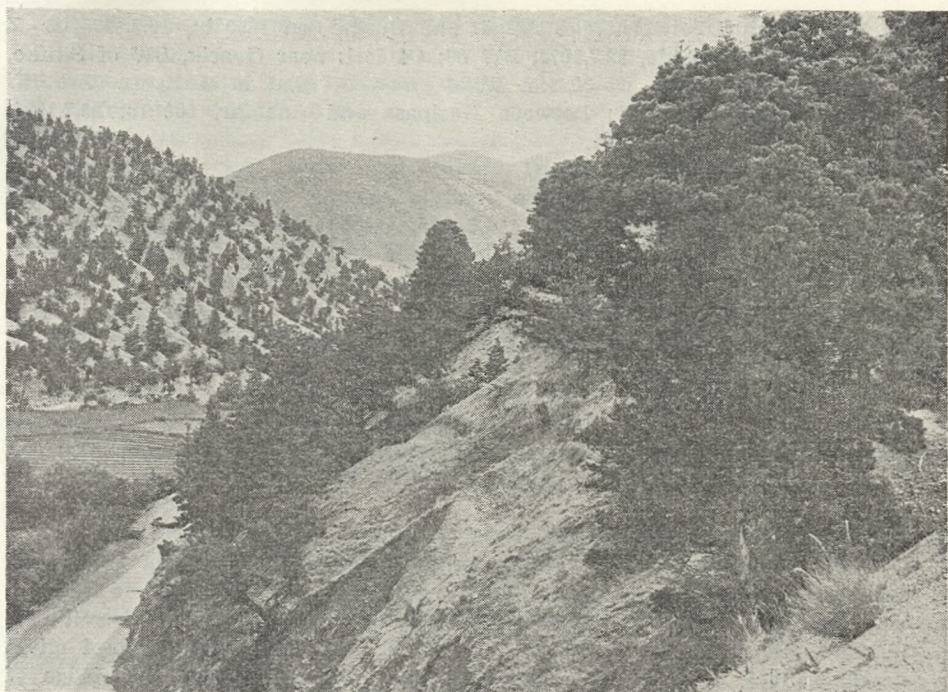
- T — **A8** Rize: W of Rize, near village Hazara, slope of river valley, dense thicket, 22.5.1975, B - Z 312; **B1** Balikesir: near Edremit, Kazdagi Mt., stream valley, mixed forest, 27.10.1973, KB

Fagus orientalis Lipsky

- T — **B1** Balikesir: near Edremit, Kazdagi Mt., forest of *Abies equi-trojani*, ca 1400 m, 27.10.1973, KB

Quercus baloot Griff.

- P — Chitral: Bumburet valley, near village Ayun, NE slope, ca 2000 m, 23.8.1975, SE 6



Phot. K. Browicz

Fig. 4. Iran, prov. Mazandaran. Forest of *Cupressus sempervirens* near Pol-e-Zoghal*Q. brantii* Lindl.

T — **B7** Tunceli: 5 km N of Tunceli, road to Pülümür, open oak forest, near river, 18.5.1975, B - Z 264; **C6** Maras: between Türkoglu and Maras, single, old tree near road, 16.5.1975, B - Z 238; Maras: 10 km N of Pazarcik, road to Malatya, remnant of forest, 17.5.1975, B - Z 243

I — Kermanshah: ca 100 km SE of Kermanshah, 5.10.1975, SE 76, 77

Q. castaneifolia C. A. Mey.

I — Khorasan: Reza Pahlavi Park, ca 100 km W of Bonjurd, near river, 26.9.1975, SE 55

Q. cerris L.

T — **B1** Balikesir: near Edremit, Kazdagi Mt., lower part of S slope, 27.10.1975, KB; Balikesir: ca 25 km E of Edremit, road to Balikesir, small valley, 6.5.1975, B - Z 56; **C3** Isparta: N of Aglasun, 1000 - 1500 m, 21.7.1974, BW 39; Antalya, near Side, 22.7.1974, BW 50, 50a; Antalya: Taurus Mts., between Gazipasa and Anamur, 25.7.1974, BW 64, 65, 71, 72, 114, 117; *ibid.*, in *Pinus brutia* forest, 13.5.1975, B - Z 175a; **C6** Maras: ca 10 km N of Pazarcik, road to Malatya, remnant of forest, 17.5.1975, B - Z 241; Malatya: ca 50 km S of Malatya, road to Pazarcik, open *Quercus* scrub, 17.5.1975, B - Z 255

Q. coccifera L. subsp. *coccifera*

T — **A2(A)** Kocaeli: 6 km E of Tasköprü, 17 km E of Yalova, small scrub, 5.5.1975, B - Z 28, 29; **B1** Balikesir: near Altinoluk, Edremit bay, 18.7.1974, BW 9; Balikesir: near Edremit, S foot of Kazdagi Mt., 27.10.1975, KB; **C2** Antalya: 4 - 5 km S of Elmali, road to Finike, rocky slope, 11.5.1975, B - Z 150; Denizli: N side of Aydin-Denizli road, hills near Köprübasi, 9.5.1975, B - Z 98; **C3** Ispar-

ta: N of Burdur, between lake Acigöl and Burdur, ca 1200 m, 10.5.1975, B - Z 106, Antalya: near Side, 22.7.1974, BW 80; **C4** Icel: near Ovacik, SW of Silifke, 12.10.1975, SE 91; Icel: ca 30 km W of Anamur, road to Gazipasa *Arbutus* scrub, 13.5.1975, B - Z 172; Between Gazipasa and Anamur, 600 m, 25.7.1974, BW 68.

— subsp. *calliprinos* (Webb) Menits.

T — **C4** Icel: ca 14 km W of Silifke, road to Anamur, 21.9.1972, SC; Icel: road Silifke-Mut, W of Degirmendere, 14.5.1975, B - Z 198; **C5** Adana: road Tarsus-Pozanti, ca 40 km N of Tarsus, single tree near village, 15.5.1975, B - Z 222; **C6** Adana: N part of Amanus Mts., road Osmaniye-Fevzipasa, ca 10 km E of Osmaniye, 16.5.1975, B - Z 234

S — Djebel Ansarieh, between Haleb and Lattakia, 600 - 800 m, 27.7.1974, BW 81, 82

L — Near Byblos, rocky slope by sea, ca 50 m, 29.7.1974, BW 103

Q. frainetto Ten.

T — **A1(E)** Canakkale: between Kesan and Gelibolu, slope of Kuru dagi, open oak forest, 26.10.1973, KB; **A2(E)** Istanbul: Belgrad Forest, near village Bahceköy, 1.5.1975, B - Z 3

Q. infectoria Oliv. subsp. *infectoria*

T — **A1(E)** Canakkale: between Kesan and Gelibolu, slope of Kuru dagi, open oak forest, 26.10.1973, KB; **B1** Balikesir: 8 km W of Balikesir, road to Edremit, open thicket, 6.5.1975, B - Z 59, 63, 65; Balikesir: near Altinöyük, Edremit bay, 18.7.1974, BW 5; Balikesir: SW of Burhaniye, near Pelit, plantation of olive-trees, 6.5.1975, B - Z 72, 75; Balikesir: near Edremit, Kazdagi Mt., edge of plantation of olive-trees, 27.10.1973, KB; **B2** Balikesir: 25 km NE of Balikesir, road to Bursa, 6.5.1975, B - Z 48; **B7** Tunceli: 5 km N of Tunceli, road to Pülümür, small oak forest near river, 18.5.1975, B - Z 265; **C4** Antalya: Taurus Mts., between Gazipasa and Anamur, 600 m, 25.7.1974, BW 63, 66, 113; Icel: road Silifke-Mut, W of Degirmendere, small valley on N side of road, 14.5.1975, B - Z 195, 197; **C6** Malatya: ca 50 km S of Malatya, road to Pazarcik, open oak forest, 17.5.1975, B - Z 253; Hatay: Amanus Mts., 18 km N of Antakya, near Serinyol, 14.8.1974, BW 123; Adana: 10 - 15 km E of Osmaniye, road to Fevzipasa, thicket on loamy slope, 16.5.1975, B - Z 229; Maras: 10 km N of Pazarcik, road to Malatya, thicket by road, 17.5.1975, B - Z 245

— subsp. *boissieri* (Reut.) O. Schwarz

T — **B7** Tunceli: 5 km of Tunceli, road to Pülümür, small oak forest near river, 18.5.1975, B - Z 266, 266a; **C5** Adana: ca 40 km N of Tarsus, road to Pozanti, single old tree near village, 15.5.1975, B - Z 223; **C6** Adana: 10 km E of Osmaniye, road to Fevzipasa, old trees near road, 16.5.1975, B - Z 236, 237

S — Djebel Ansarieh, between Haleb and Lattakia, 600 - 800 m, 27.7.1974, BW 81

L — Near Byblos, rocky slope by sea, ca 50 m, 29.7.1974, BW 104, 105

Q. libani Oliv.

T — **B7** Tunceli: ca 5 km N of Tunceli, road to Pülümür, small oak forest, near river, 18.5.1975, B - Z 263

Q. macranthera Fisch. et Mey.

T — **B7** Erzincan: Erzincan-Sivas, W of Refahiye, ca 2 km E of Altköy, and 3 km from cross-road Sivas-Susehri, ca 1600 m, thicket by stream, 12.6.1975, B - Z 549; **B8** Erzurum: N of Askale, road to Bayburt, near Pirnakapan, ca 2000 m, oak thicket, 21.5.1975, B - Z 274

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, thicket near road to Chalus, ca 2300 m, 5.6.1975, B - Z 454

Q. macrolepis Kotschy

T — **B1** Canakkale: Truva, among ruins, 16.7.1974, BW 3, 4; Balikesir: near Edre-

mit, S slope of Kazdagi Mt., ca 800 m, 27.10.1973, KB; C6 Malatya: ca 50 km S of Malatya, road to Pazarcik, open oak forest, 17.5.1975, B - Z 251, 252

Q. macrolepis Kotschy × *Q. infectoria* Oliv.

T — C6 Malatya: *ibid.*, B - Z 254

Q. petraea (Mattuschka) Liebl. subsp. *iberica* (Stev.) Krassiln.

T — A7 Trabzon: near Arsin, E of Trabzon, by road to Rize, 22.5.1975, B - Z 308

Q. pubescens Willd.

T — A2(A) Kocaeli: 6 km E of Tasköprü, 17 km E of Yalova, 5.5.1975, B - Z 31;

B1 Balikesir: 8 km W of Balikesir, road to Edremit, 6.5.1975, B - Z 66; Balikesir: 25 km E of Edremit, road to Balikesir, small valley near road, 6.5.1975, B - Z 55; Balikesir: N of Balikesir, single trees among cultivated fields, 28.10.1973, KB; B5 Yozgat: 10 km E of Yozgat, road to Sorgun, 13.6.1975, B - Z 580; Yozgat: ca 27 km W of Akdagmadeni, road Sivas-Yozgat, open oak thicket near road, 1350 m, 13.6.1975, B - Z 579

Q. pubescens Willd. × *Q. petraea* (Mattuschka) Liebl. s.l.

T — B7 Erzincan: near Tanyeri, cross-road Erzurum-Erzincan-Tunceli, 19.5.1975, B - Z 271

Q. trojana Webb.

T — C2 Antalya: Ciglikara forest, S of Elmali, single old trees among cedar forest, ca 1600 m, 12.5.1975, B - Z 155a, 160

26. GROSSULARIACEAE

Ribes alpinum L.

T — A7 Trabzon: Meryemana forest, below ruins of Sumela monastery, forest over stream, 23.5.1975, B - Z 335

R. bibersteinii Berl.

T — A7 Trabzon: Meryemana forest, below ruins of Sumela monastery, by stream, 23.5.1975, B - Z 336

R. nigrum L.

T — A8 Gümüsane: S of village Kop, road Bayburt-Askale, along stream, together with *Betula litwinowii*, 21.5.1975, B - Z 288 (sterile specimen, may be belongs to *R. armenum* Pojark.).

R. orientale Desf.

T — A8: Erzurum, near Kopdagi pass, by stream, ca 2200 m, very rare, 21.5.1975, B - Z 284; Gümüsane: S of village Kop, road Bayburt-Askale, rocky slope over road, 21.5.1975, B - Z 286; B8 Erzurum: Laleli E of Erzurum, mountain steppe, among rocks, ca 2000 m, very rare, 25.5.1975, B - Z 347, 351; B9 Erzurum: ca 20 km S of Horasan, road to Agri, ca 1700 m, rocky slope, 26.5.1975, B - Z 356, 360, 365; Agri: Tahir pass, among rocks, ca 2400 m, very rare, 26.5.1975, B - Z 369

27. GUTTIFERAE

Hypericum androsaemum L.

T — A8: Trabzon: near Arakli, road to Rize, edge of forest, 22.5.1975, B - Z 316

I — Mazandaran: near village Dshal, region of Shahsavar, along stream, 22.8.1972, SC.

H. calycinum L.

T — A2(A) Istanbul: Beykoz-Polonezköy, near Mahmutsevketpasa, open oak forest, 30.10.1973, KB; Bursa: Gemlik-Kumla, thicket, slope over Marmara sea, 5.5.1975, B - Z 37

H. nanum Poir.

S — 56 km N of Damas, E slope of Antilebanon, ca 1620 m, 29.8.1973, I - W 39

28. HAMAMELIDACEAE

Parrotia persica C. A. Mey.

- I — Mazandaran: Chalus valley, 5 km S of village Chalus, Hyrcanian Forest, 5.6.1975, B - Z 513; Mazandaran: beech forest near village Dshal, region of Shahsavar, 22.8.1972, SC.

29. JUGLANDACEAE

Pterocarya fraxinifolia (Poir.) Spach

- I — Mazandaran: Chalus valley, ca 5 km S of village Chalus, Hyrcanian Forest edge, 5.6.1975, B - Z 514

30. LAURACEAE

Laurus nobilis L.

- T — A2(A) Kocaeli: 6 km E of Tasköprü, 17 km E of Yalova, 5.5.1975, B - Z 30; C3 Antalya: 31 km NW of Antalya, road to Korkuteli, evergreen thicket, 12.5.1975, B - Z 165; Antalya: near Side, ruins of amphitheater, 22.7.1974, BW 43; C6 Hatay: Amanus Mts., W slope, 20.8.1973, I - W 17
L — Near Byblos, rocky slope, ca 50 m, 29.7.1974, BW 100

31. LABIATAE

Ajuga chamaecistus L.

- I — Tehran-Karaj, Chitgar, Vardavard valley, stony slope, 1750 m, 8.5.1975, B - Z 526

Lavandula stoechas L. subsp. *stoechas*

- T — C4 Icel: ca 5 km E of Anamur, road to Silifke, sunny place by road, 13.5.1975, B - Z 181
— subsp. *cariensis* (Boiss.) Rozeira
T — A2(A) Bursa: Gemlik bay, between Gemlik and Kumla, 5.5.1975, B - Z 41

Phlomis fruticosa L.

- T — C3 Antalya: ca 30 km E of Korkuteli, road to Antalya, 11.5.1975, B - Z 133

Plectranthus rugosus Wall.

- P — Dir, 3 km in direction to Lowari pass, NW slope, 23.8.1975, SE 2

Salvia pisidica Boiss. et Heldr.

- T — C3 Antalya: ca 25 km N of Elmali, road to Korkuteli, degraded rocks, 11.5.1975, B - Z 139

Satureja thymbra L.

- T — C4 Icel: 1 km N of Silifke, road to Mut, slope of Göksu valley, 14.5.1975, B - Z 185, 190

32. LEGUMINOSAE

Adenocarpus complicatus (L.) Gay

- T — A2(A) Istanbul: near Polonezköy, 30.10.1973, KB; B1 Balikesir: near Edremit, Kazdagi Mt., ca. 1300 - 1400 m, open places, common, 27.10.1973, KB

Albizia julibrissin Durazz.

- I — Mazandaran: beech forest near village Dshal, region of Shahsavar, along stream, 22.8.1972, SC; Mazandaran: Chalus valley, 5 km S of village Chalus, edge of Hyrcanian Forest, 5.6.1975, B - Z 515

A. procera (Roxb.) Benth.

- P — Near Islamabad, 17.9.1975, SE 38

Anagyris foetida L.

T — **B1** Balikesir: SW of Burhaniye, near Pelit, rocky slope over sea, 7.5.1975, B-Z 78; Izmir: Bergama, slope of Akropolis, 7.5.1975, B-Z 87; **C3** Antalya: 2-3 km N of village Dag, S of cross-road Antalya-Korkuteli, calcareous rocks, 900 m, 10.5.1975, B-Z 113

IQ — Mountain valley N of road Salahaddin-Shaqlawa, 820 m, 10.9.1973, I-W 59

Anthyllis hermanniae L.

T — **B1** Balikesir: SW of Burhaniye, near Pelit, rocky slope over sea, 7.5.1975, B-Z 74, 76

Astragalus glaucacanthus Fisch.

I — Tehran-Karaj, near Ariamehr Botanical Garden, semidesert, 1.6.1975, B-Z 410; Tehran-Karaj, Chitgar, Vardavard valley, stony slope, 8.6.1975, B-Z 527

Calicotome villosa (Poir.) Link.

T — **A2(E)** Istanbul: N of Sariyer, road to Kilyos, S slope, common, 3.5.1975, B-Z 11, 12; **B1** Balikesir: SW of Burhaniye, near Pelit, olive-trees plantation, 6.5.1975, B-Z 73; **C6** Hatay: Amanus Mts. ca 1120 m, open rocky slope, 20.8.1973, I-W 9

Ceratonia siliqua L.

T — **C3** Antalya: near Side, ruins of amphitheater, 22.7.74, B-W 42; **C4** Antalya: near Alanya, 13.10.1975, SE 98; Antalya, road between Alanya and Gazipasa, 13.5.1975, B-Z 170; Icel: ca 14 km W of Silifke, road to Anamur, 21.9.1972, SC

L — Near Byblos, rocky slope, ca 50 m, 29.7.1974, BW 104

Cercis siliquastrum L.

T — **B1** Balikesir: near Edremit, S slope of Kazdagi Mt., edge of olive-trees plantation, ca 400-500 m, 27.10.1973, KB; **C3**: Antalya: near Side, 22.7.1974, BW 45; **C4** Icel: road Silifke-Mut, W of Degirmendere, small valley near road, 14.5.1975, B-Z 191

S — 20 km S of Lattakia, near village Kabu, sea-side, 24.8.1973, I-W 29

Chamaecytisus albus (Hacq.) Rothm.

T — **A2(E)** Istanbul: Belgrad Forest, near Bahceköy, 1.5.1975, B-Z 6

Ch. cassius (Boiss.) Roth.

T — **C6** Hatay: Amanus Mts., ca 1120 m, dry, rocky slope, common, 20.8.1973, I-W 12

Ch. hirsutus (L.) Link

T — **B1** Balikesir: near Edremit, S slope of Kazdagi Mt., rocky place, ca 800-1000 m, 27.10.1973, KB; **C6** Hatay: Amanus Mts., ca 1120 m, near road, 20.8.1973, I-W 13

Ch. pygmaeus (Willd.) Rothm.

T — **C2** Antalya: Ciglikara forest, S of Elmali, rocky slope in cedar forest, 1600-1800 m, 12.5.1975, B-Z 154, 157

Colutea buhsei (Boiss.) Shap.

I — Mazandaran: ca 10 km N of Kandavan pass, slope of Chalus valley, common, 5.6.1975, B-Z 469; Ca 55 km N of Karaj, road to Kandavan pass, rocky slope by road, 5.6.1975, B-Z 437

C. cilicica Boiss. et Bal.

T — **B5** Nevsehir: near Göreme, 18.8.1974, BW 15; **B9** Bitlis: NE side of lake Van, massif of Süphan Dagi, ca 1600-1800 m, near stream, 7.8.1972, SC; **C3** Antalya: 2-3 km N of village Dag, S of cross-road, Antalya-Korkuteli, calcareous rocks,

10.5.1975, B - Z 121; C6 Hatay: Amanus Mts., W slope, 1100 - 1380 m, rocky place, 20.8.1973, I - W 2, 14

Coronilla emerus L. subsp. *emeroides* (Boiss. et Sprun.) Uhrova

T — C3 Antalya: 2 - 3 km N of village Dag, S of cross-road Antalya-Korkuteli, calcareous rocks, 10.5.1975, B - Z 122

Cytisopsis pseudocytisus (Boiss.) Fertig subsp. *pseudocytisus*

T — C2 Denizli: road Aydin-Denizli, sandy hills near Köprübasi, N side of road, 9.5.1975, B - Z 101; C6 Adana: 10 - 15 km E of Osmaniye, road to Fevzipasa, N part of Amanus Mts., loamy slope, oak scrub, 16.5.1975, B - Z 225

Dalbergia sissoo Roxb.

P — Islamabad, suburban forest, 5.9.1975 SE 28

Halimodendron holodendron (Pall.) Voss.

I — Road from Takestan to Qazvin, near Qazvin, fields edge, 31.5.1975, B - Z 403

Genista anatolica Boiss.

T — B1 Balikesir: SW of Burhaniye, near Pelit, rocky slope by sea, 7.5.1975, B - Z 85

G. carinalis Gris.

T — B1 Balikesir: near Edremit, Kazdagi Mt., ca 1400 - 1500 m, common, open places, 27.10.1973, KB

G. involucrata Spach

T — B6 Sivas: ca 57 km E of Akdagmadeni, road Sivas-Yozgat, *Juniperus excelsa* — *Berberis crataegina* scrub, 13.6.1975, B - Z 567, 567a

G. sessilifolia DC.

T — B5 Yozgat: ca 10 km E of Yozgat, road to Sivas, road side, 13.6.1975, B - Z 580

Gleditsia caspica Desf.

I — Mazandaran: Chalus valley, ca 5 km S of village Chalus, forest edge, 5.6.1975, B - Z 508; Gilan: 15 km E of Bandar Pahlavi, ca 300 m from Caspian Sea, 20.8.1972, SC

Indigofera gerardiana Wall.

P — Chitral: near Drosh, E slope, 2.9.1975, SE 20

Onobrychis cornuta (L.) Desv.

T — A8 Gümüşhane: S of village Kop, road Askale-Bayburt, rocky slope, common, 21.5.1975, B - Z 293

Oreophysa microphylla (Jaub. et Spach) Browicz

I — Ca 40 km N of Karaj, N of dam on Rud-e-Karaj, rocky slope over road, common, 2.6.1975, B - Z 427

Prosopis farcta (Banks. et Sol.) Macbride

S — Desert region between Homs and Palymre, common, 3.9.1973, I - W 53

IQ — Ca 40 km S of Zakho, road to Mosul, mountain steppe, 17.9.1972, SC

I — Ca 100 km SE of Kermanshah, 5.10.1975, SE 76a; Tehran-Karaj, near Ariamchr Botanical Garden, semidesert, 1.6.1975, B - Z 408

Spartium junceum L.

T — A2(A) Bursa: Gemlik bay, between Gemlik and Kumla, slope over sea, 5.5.1975, B - Z 40; C6 Hatay: Amanus Mts., ca 1100 m, rocky slope, 20.8.1973, I - W 8

33. LILIACEAE

Danaë racemosa (L.) Moench.

T — A7 Trabzon: near Arsin, road E of Trabzon, scrub of *Rhododendron ponticum*, 22.5.1975, B - Z 305

Ruscus aculeatus L.

T — C6 Icel: S of Cilician Gate, road to Tarsus, slope over stream, 15.5.1975, B - Z 215; C6 Hatay: Amanus Mts., ca 1120 m, N slope, I - W 11

R. hyrcanus Woronow

I — Mazandaran: remnant of forest near village Dshal, region of Shahsawar, 22.8.1972, SC

Smilax aspera L.

T — C3 Antalya: N of Antalya, near cross-road Isparta-Korkuteli, *Pinus brutia* forest, common, 11.5.1975, B - Z 129

S. excelsa L.

T — A2(E) Istanbul: Between Sariyer and Kilyos, oak scrub, 3.5.1975, B - Z 17

34. MORACEAE

Ficus carica L. var. *carica*

I — Mazandaran: near village Dshal, region of Shahsawar, stream valley, 22.8.1972, SC

— var. *rupestris* Hausskn.

IQ — Kurdistan: mountain gorge N of road Salahaddin-Shaqlawā, 850 m, rocky place, 10.9.1973, I - W 56

I — Lorestan; near Babazeyd, between Seykan, and Halush by river Seymareh, 8.9.1972, SC

F. palmata Forsk.

P — 3 km of Dir, in direction to Lowari pass, slope, 23.8.1975, SE 3

Morus alba L.

T — C4 Antalya, between Gazipasa and Anamur, ca 600 m, 25.7.1974, BW 11

A — Road Kandahar-Farah, ca 4 km W of Kandahar, near village, 23.9.1975, SE 46, 48, 50

35. MYRTACEAE

Myrtus communis L.

T — C3 Antalya: near Side, by sea, 22.7.1974, BW 46; C4 Antalya: near Alanya, 13.10.1975, SE 99; Antalya: near Gazipasa, 23.7.1974, BW 56; Icel: 4 km W of

Anamur, road to Antalya, *Paliurus spina-christi* scrub, 13.5.1975, B - Z 177;

C6 Hatay: Dörtöyl, compact scrub, gorge of stream, ca 60 m, 21.8.1973, I - W 20

36. OLEACEAE

Fontanesia phillyreoides Labill.

T — C3 Antalya: ca 25 km E of Korkuteli, road to Antalya, 11.5.1975, B - Z 134; Antalya: ca 30 km E of Korkuteli, road to Antalya, 11.5.1975, B - Z 131; C4

Antalya: road from Alanya to Gazipasa, dunes near sea, 13.5.1975, B - Z 170a;

C6 Adana: 10 - 15 km E of Osmaniye, road to Fevzipasa, scrub on loamy slope, N part of Amanus Mts., 16.5.1975, B - Z 227

Fraxinus excelsior L.

T — C6 Hatay: Amanus Mts., N slope ca 1140 m, 28.8.1973, I - W 4

I — Mazandaran: 11 km S of village Chalus, E side of road to Karaj, forest edge, 6.6.1975, B - Z 498

F. ornus L.

T — **B2** Balıkesir: 25 km NE of Balıkesir, road to Bursa, near road 6.5.1975, B - Z 50, 53

F. oxycarpa Willd.

T — **C5** Icel: Cilician Gate, 1200 m, calcareous rock, 15.5.1975, B - Z 207, 213; **C6** Maras: ca 4 km N of Pazarcik, road to Malatya, open, rocky slope near road, *Quercus coccifera* scrub, 17.5.1975, B - Z 240

Jasminum fruticans L.

T — **A2(E)** Kocaeli: 6 km of Tasköprü, 17 km E of Yalova, *Quercus coccifera* scrub, 5.5.1975, B - Z 32

S — Ca 20 km S of Lattakia, near village Kabu, among rocks, 26.8.1973, I - W 26

J. officinale L.

I — Mazandaran: Chalus valley, scrub near village Chalus, 5.6.1975, B - Z 516.

Ligustrum vulgare L.

T — **A2(E)** Istanbul: Belgrad Forest, near Bahceköy, 1.5.1975, B - Z 10

Phillyrea latifolia L.

T — **A2(E)** Istanbul: near Bahceköy, 1.5.1975, B - Z 4; **A3** Sakarya: Ne side of lake Sapanca, W of Adapazari, road to Istanbul, 14.6.1975, B - Z 588; **B1** Balıkesir: SW of Burhaniye, near Pelit, slope over sea, 7.6.1975, B - Z 76; **C3** Antalya: 2 - 3 km N of village Dag, S of cross-road Antalya-Korkuteli, calcareous rocks, 10.5.1975, B - Z 125; **C5** Icel: Taurus Mts, ca 50 km N of Tarsus, 18.8.1974, BW 146; **C6** Hatay: Amanus Mts., near Serinyol, N of Antakya, ca 800 m, 14.8.1974, BW 124

S — Djebel Ansariéh, between Haleb and Lattakia, 600 - 800 m, 27.7.1974, BW 80, 85; 20 km S of Lattakia, near village Kabu, near sea, on rocks, 21.8.1973, I - W 31

37. PINACEAE

Abies equi-trojani Aschers. et Sint.

T — **B1** Balıkesir: near Edremit, Kazdagi Mt., ca 1400 m, dense forest, 27.10.1973, KB

Cedrus deodara (D. Don) G. Don

T — Chitral: near Drosh, E slope, 2.9.1975, SE 19

Pinus brutia Ten.

T — **B1** Balıkesir: near Edremit, Kazdagi Mt., S slope, ca 1000 m, open forest, 27.10.1973, KB; Balıkesir: road to Edremit, ca 8 km W of Balıkesir, forest, 6.6.1975, B - Z 69; **C3** Isparta: mountain slope between Isparta and Aglasun, 1000 - 1500 m, 21.7.1974, BW 34; **C4** Icel: ca 14 km W of Silifke, road to Anamur, forest, 21.9.1972, SC; Icel: near Ovacik, by sea, 12.10.1975, SE 95; **C5** Icel: Taurus Mts., ca 50 km N of Tarsus, 18.8.1974, BW

P. gerardiana Wall.

P — Chitral: Bumburet valley, 2500 - 2800 m, W slope, 28.8.1975, SE 15

P. nigra Arn. subsp. *pallasiana* (Lam.) Holmboe

T — **C3** Antalya: near Side, 22.7.1974, BW 55

P. silvestris L.

T — **B7** Erzincan: road to Sivas, W of Refahiye, 2 km E of village Altköy and 3 km from cross-road Sivas-Susehri, open forest, 1600 - 1700 m, 12.6.1975, B - Z 579a

38. PLATANACEAE

Platanus orientalis L.

- T — **B1** Balikesir: Edremit bay, near village Altinoluk, 18.7.1974, BW 10; **C4** Antalya: between Gazipasa and Anamur, 600 m, 25.7.1974, BW 112
 IQ — Great Zab valley, ca 45 km SW of Arbil, 7.9.1973, I - W 49

39. POLYGONACEAE

Atraphaxis billardieri Jaub. et Spach var. *billardieri*

- T — **C2** — Antalya: 4-5 km S of Elmali, road to Finike, calcareous slope, *Quercus coccifera* scrub, 11.5.1975, B - Z 149; **C3** Antalya: 2-3 km N of village Dag, S of cross-road Antalya-Korkuteli, calcareous rocks, 900 m, 10.5.1975, B - Z 116, 124

— var. *tournefortii* (Jaub. et Spach) Cullen

- T — **B5** Yozgat: ca 10 km E of Yozgat, road to Sivas, scrub near road, 13.6.1975, B - Z 582

A. spinosa L.

- I — Ca 25 km NW of Mianeh, road to Tabriz, rocky slope, N side of road, 30.5.1975, B - Z 388, 390

Calligonum leucocladum (Schrenk) Bge.

- I — Ca 15-20 km S of Karaj, desert region, communities of *Peganum harmala*, 4.6.1975, B - Z 429

Polygonum paronychioides C. A. Mey.

- T — **B8** Erzurum: Laleli, E of Erzurum, mountain steppe, ca 2000 m, common, 25.5.1975, B - Z 352

Pteropyrum olivieri Jaub. et Spach

- I — Tehran-Karaj, near Ariamehr Botanical Garden, semidesert, common, 1.6.1975, B - Z 411, 411a

40. PUNICACEAE

Punica granatum L.

- T — **C6** Hatay: near Dörtüyl, E slope over stream, 21.8.1973, I - W 24
 I — Mazandaran: Chalus valley, ca 5 km S of village Chalus, forest edge, 5.6.1975, B - Z 506; Gilan: ca 15 km E of Bandar Pahlavi, near small village, ca 100 m from sea, 20.8.1972, SC

41. RANUNCULACEAE

Clematis cirrhosa L.

- T — **B1** Balikesir: near Edremit, S slope of Kazdagi Mt., small rocks among *Q. macrolepis* thicket, ca 800 m, rare, 27.10.1973, KB; **C3** Antalya: ca 2-3 km N of village Dag, S of cross-road Antalya-Korkuteli, calcareous rocks, 10.5.1975, B - Z 126

C. flammula L.

- T — **C3** Antalya: near Side, ca 200 m from sea, 22.6.1974, BW 51a
 L — Near Byblos, rocky slope, 29.7.1974, BW 106

42. RHAMNACEAE

Frangula alnus Mull. subsp. *alnus*

- T — **A7** Trabzon: near Arsin, E of Trabzon, scrub near road to Rize, 22.5.1975, B - Z 297a; **B7** Erzincan: road to Sivas, W of Refahiye, 2 km E of village Altköy and 3 km from cross-road Sivas-Susehri, thicket of *Betula litwinowii*, near stream, 1600 m, 12.6.1975, B - Z 564

Paliurus spina-christi Mill.

- T — **A1(E)** Edrine: near Uzunköprü, 16.7.1974, BW 2; **C4** Antalya: near Gazipasa, by sea, 23.7.1974, BW 60; **C5** Icel: Taurus Mts., ca 50 km N of Tarsus, 600 - 800 m, 18.8.1974, BW 147a
- S — 20 km S of Lattakia, near village Kabu, common, 24.8.1973, I - W 30
- I — Mazandaran: Chalus valley, ca 11 km S of village Chalus, near river, common, 5.6.1975, B - Z 501; Khorasan: Reza Pahlavi Park, ca 100 km W of Bonjurd, near river, 26.9.1975, SE 62

Rhamnus catharticus L. var. *catharticus*

- T — **B7** Erzincan: road to Sivas, W of Refahiye, 2 km E of village Altköy, 3 km from cross-road Sivas-Susehri, thicket near stream, 12.6.1975, B - Z 559; **B9** Agri: between Tutak and Homur, meadow near road, *Ulmus* scrub, very rare, 28.5.1975, B - Z 380; **C5** Icel: Cilician Gate, ca 1200 m, calcareous rock, E side of road, 15.5.1975, B - Z 212
- var. *caucasicus* Kusnetzov
- I — Mazandaran: ca 5 km N of Kandavan pass, among rocks, only one specimen, ca 2300 m, 5.6.1975, B - Z 460



Phot. K. Browicz

Fig. 5. Northern Iran. View from Kandavan pass in Central Elburs Mts.

Rh. kurdicus Boiss. et Hohen.

- IQ — Kurdistan: ca 8 km SW of Shaqlawa, rocky slope, ca 800 m, 9.10.1973, I - W 67

Rh. nitidus Davis

- T — **C3** Isparta: N of Burdur, between lake Acigöl and Burdurgözü, *Quercus coccifera* scrub near Keciborlu, 10.5.1975, B - Z 105; Antalya: 2 - 3 km N of village Dag, S of cross-road Antalya-Korkuteli, calcareous rocks, 10.5.1975, B - Z 114;

C4 Antalya: 31 km W of Anamur, road to Gazipasa, rocks inside *Pinus brutia* forest, 13.5.1975, B - Z 174

Rh. oleoides L. subsp. *graecus* (Boiss. et Reut.) Holmboe

T — **C4** Antalya: 31 km W of Anamur, road to Gazipasa, rocks inside *Pinus brutia* forest, 13.5.1975, B - Z 174a; Antalya: near Gazipasa, 23.7.1974, BW 59; Icel: near Ovacik, SW of Silifke. 12.10.1975, SE 94; Icel: 1 km N of Silifke, road to Mut, Göksu valley, 14.5.1975, B - Z 184a, 186, 187, 188; Icel: road Silifke-Mut, W of Degirmendere, small gorge near road, 14.5.1975, B - Z 200; **C5** Icel: Cilician Gate, W side of road, ca 1100 m, 15.5.1975, B - Z 220; Icel: Taurus Mts., ca 50 km N of Tarsus, 18.8.1974, BW 145, 147; **C6** Adana: 10 - 15 km E of Osmaniye, road to Fevzipasa, N part of Armanus Mts., *Quercus infectoria* scrub, 16.5.1975, B - Z 232, 233; Maras: 10 km N of Pazarcik, road to Malatya, thicket remnant, 17.5.1975, B - Z 244

S — 20 km S of Lattakia, near village Kabu, not far away of sea, 21.8.1973, I - W 32

Rh. palaestina Boiss.

S — S slope of E Antilebanon, ca 1620 m, 29.8.1973, I - W 38

Rh. pallasii F. et M. subsp. *pallasii*

(division into subspecies see „Flora Iranica” — *Rhamnaceae*)

T — **A8** Gümüsane: between Bayburt and Maden, slope, over road, common, 21.5.1975, B - Z 294; **B9** Erzurum: ca 20 km S of Horasan, road to Agri, ca 1700 m, rocky place 26.5.1975, B - Z 361, 362, 364, 367

I — Near frontier-post, N of Maku, rocky place, 10.6.1975, B - Z 537, 538, 539, 543; Ca 85 km NE of Mianeh, road to Tabriz, near village Seyah Chaman, rocky slope, rare, 30.5.1975, B - Z 393; Between Tehran and Karaj, Chitgar, Vardavard valley, stony slope, 1750 m, 8.6.1975, B - Z 529

— subsp. *sintensisii* (Rech. f.) Browicz et J. Zieliński

I — Between Tehran and Karaj, Chitgar, Vardavard valley, stony slope, 1750 m, 8.6.1975, B - Z 519, 522, 523; Rud-e-Karaj valley, ca 18 km N of Karaj, road to Chalus, rocky slope, 2.6.1975, B - Z 416; Mazandaran: ca 5 km N of Kandavan pass, ca 2300 m, 5.6.1975, B - Z 466; Mazandaran: ca 10 km N of Kandavan pass, Chalus valley, among stones, 5.6.1975, B - Z 480; Mazandaran: Pol-e-Zoghal, E tributary of Chalus river, near road, 5.6.1975, B - Z 489; Mazandaran: Haraz valley, near Ask, dry slope, 6.6.1975, B - Z 517

Rh. pichleri Schneid. et Bornm.

T — **C3** Antalya: ca 25 km N of Elmali, road to Korkuteli, degraded rocks, 11.5.1975, B - Z 138, 140, 145; Antalya: 2 - 3 km N of village Dag, S of cross-road Antalya-Korkuteli, calcareous rocks, 900 m, 10.5.1975, B - Z 119

Rh. rhodopeus Vel. subsp. *anatolicus* (Grub.) Browicz et J. Zieliński

comb. nov. (= *Rh. anatolica* Grub. Not. Syst., Leningrad 14: 238 (1951))

T — **B1** Balikesir: ca 8 km W of Balikesir, road to Edremit, valley slope, near road, 6.5.1975, B - Z 61; **C3** Antalya: ca 25 km N of Elmali, road to Korkuteli, degraded rocks, 11.5.1975, B - Z 142

Rh. × *spathulifolius* F. et M.

I — Mazandaran: Chalus valley, 11 km S of village Chalus, 5.6.1975, B - Z 202

Rh. thymifolius Bornm.

T — **A2** Antalya: Ciglikara forest, S of Elmali, calcareous rocks among cedar forest, 1600 - 1800 m, 12.5.1975, B - Z 159, 162

Ziziphus nummularia (Burm. f.) Wight-Arnott

I — Fars: ca 100 km W of Shiraz, road to Bushehr, 2.10.1975, SE 75; Lorestan: near Babazeyd, between Seykan, and Halush by river Seymareh, 31.8.1972, SC

Z. spina-christi (L.) Willd.

I — Fars: ca 100 km W of Shiraz, road to Bushehr, 2.10.1975, SE 74a

43. ROSACEAE

Amelanchier rotundifolia (Lam.) Dum.-Courset subsp. *integrifolia* (Boiss. et Hoh.)
Browicz

T — C2 Antalya: Ciglikara forest, S of Elmali, cedar-juniper forest, 1400 - 1800 m,
12.5.1975, B - Z 155, 168; B6 Sivas: ca 57 km E of Akdagmadeni, road to Sivas,
Juniperus excelsa scrub, 13.6.1975, B - Z 568

Amygdalus × *balansae* Boiss.

T — C3 Antalya: ca 2 - 3 km N of village Dag, S of cross-road Antalya-Korkuteli,
calcareous rocks, ca 900 m, 10.5.1975, B - Z 118

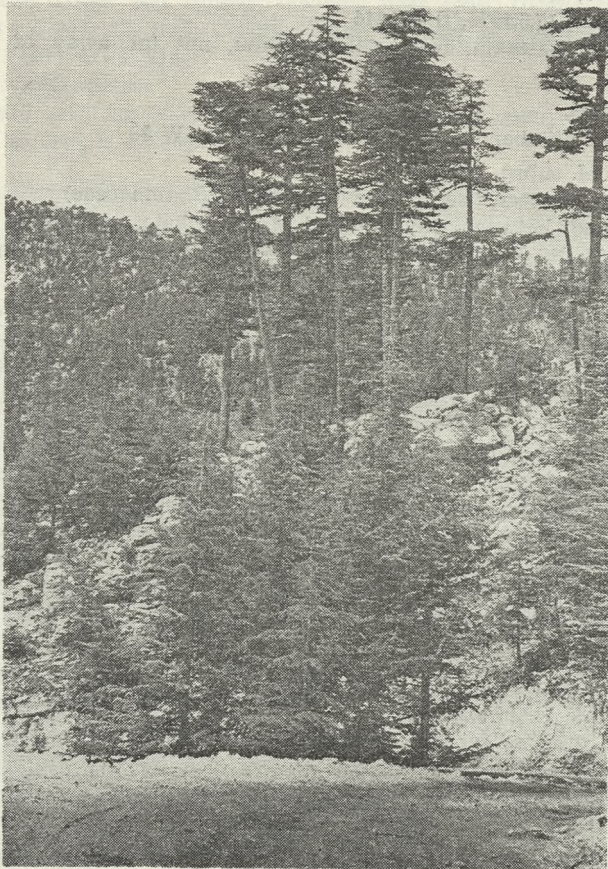


Fig. 6. Forest of *Cedrus libani* — Ciglikara, south of Elmali, in vilayet Antalya, south-western Anatolia

Phot. K. Browicz

A. graeca Lindl.

T — C2 Antalya: 4 - 5 km S of Elmali, road to Finike, rocky slope, degraded scrub
of *Quercus coccifera*, 11.5.1975, B - Z 148; Denizli: NW side of lake Acigöl, road
Denizli-Dinar, rocky slope, 10.5.1975, B - Z 109, 112

A. fenzliana (Fritsch) Lipsky

I — Near frontier-post, N of Maku, rocky slope, rare, 10.6.1975, B - Z 536

A. × *keredjensis* Browicz

- I — Between Tehran and Karaj, Chitgar, Vardavard valley, stony slope, 1750 m, together with *A. scoparia* and *A. lycioides*, 8.6.1975, B - Z 525
- A. kuramica* Korsh.
- P — Chitral: Bumburet valley, W slope over river, 2500 - 2800 m, SE 16
- A. lycioides* Spach
- I — Azerbaijan: ca 25 km NW of Mianeh, road to Tabriz, dry, stony slope, 30.5.1975, B - Z 386, 387; Tehran-Karaj, near Ariamehr Botanical Garden, stony slope of small valley, 1.6.1975, B - Z 406; Tehran-Karaj, Chitgar, Vardavard valley, stony W exposure slope, 1750 m, 8.6.1975, B - Z 521; Ca 40 km N of Karaj, N of dam on Rud-e-Karaj, rocky slope, 2.6.1975, B - Z 422; Fars: ca 100 km W of Shiraz, road to Bushehr, 2.10.1975, SE 74
- A. orientalis* Duh.
- T — C2 Antalya: ca 4 - 5 km S of Elmali, road to Finike, calcareous rocks, degraded *Quercus coccifera* scrub, common, 11.5.1975, B - Z 146, 147
- S — Antilebanon, SE slope, 29.8.1973, I - W 42
- A. scoparia* Spach
- I — Tehran-Karaj, Chitgar, Vardavard valley, stony W exposure slope, 1750 m, 8.6.1975, B - Z 524, 528
- A. trichamygdalus* (Hand.-Mazz.) Woronow
- T — C10 Hakkari: ca 70 km W from frontier-post, near cross-road Hakkari-Yüksekova, 8.10.1975, SE 78
- A. webbii* Spach
- T — B1 Izmir: Bergama, slope of Akropolis, 7.5.1975, B - Z 89
- Cerasus angustifolia* (Spach) Browicz var. *angustifolia*
- T — B7 Erzincan: road Sivas-Erzincan, W of Refahiye, 2 km E of Altköy, and 3 km from cross-road Sivas-Susehri, ca 1600 m, stony, slope, 12.6.1975, B - Z 565
- I — Azerbaijan: near frontier-post, N of Maku, rocky slope, rare, 10.6.1975, B - Z 541
- var. *sintensisii* (Schneid.) Browicz
- T — B7 Erzincan: road Sivas-Erzincan, W of Refahiye, 2 km E of Altköy, and 3 km from cross-road Sivas-Susehri, ca 1600 m, stony, slope, 12.6.1975, B - Z 557
- C. bifrons* (Fritsch) Pojark.
- P — Chitral: Bumburet valley, over river, 2500 - 2800 m, 28.8.1975, SE 17
- C. jacquemontii* (Hook. f.) Buser
- P — Chitral: near Drosh, W slope, 2.9.1975, SE 21
- C. mahaleb* (L.) Mill.
- T — A2(E) Istanbul: between Sariyer and Kilyos, 3.5.1975, B - Z 16
- C. microcarpa* (C. A. Mey.) subsp. *microcarpa*
- T — C2 Antalya: Ciglikara forest, S of Elmali, lower part of cedar-juniper forest, stony places, 12.5.1975, B - Z 153a (new for W Anatolia)
- I — Ca 18 km N of Karaj, Rud-e-Karaj valley, road to Chalus, rocky slope, 2.6.1975, B - Z 417; Mazandaran: Elburs Mts., ca 10 km N of Kandavan pass, scrub near road to Chalus, 5.6.1975, B - Z 473; Mazandaran: Pol-e-Zoghal, foot of *Cupressus* forest, 5.6.1975, B - Z 494
- subsp. *tortuosa* (Boiss et Hausskn.) Browicz
- T — B7 Malatya: 50 km S of Malatya, road to Pazarcik, open *Quercus* thicket, 17.5.1975, B - Z 256; Malatya: between Elazig and Malatya, N of Kale, rocky slope over Euphrat, near bridge, 18.5.1975, B - Z 258a; C6 Maras: ca 10 km N of Pazarcik, road to Malatya, 17.5.1975, B - Z 246; B6 Malatya, 71 km S of Malatya, road to Pazarcik, stony, naked slope, 17.5.1975, B - Z 249

C. prostrata (Lab.) Ser. var. *prostrata*

T — C2 Antalya: Ciglikara forest S of Elmali, open places among cedar forest, calcareous stones, 12.5.1975, B - Z 151, 153, 153b; C3 Antalya: ca 25 km N of Elmali, road to Korkuteli, degraded rocks, 11.5.1975, B - Z 141

C. pseudoprostrata Pojark.

T — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, on rock, ca 2300 m, 6.6.1975, B - Z 450

Cotoneaster integerrimus Medik.

T — B8 Erzurum: Laleli, E of Erzurum, mountain steppe, ca 2000 m, 25.5.1975, B - Z 349

C. melanocarpus (Bunge) Fischer

T — B9 Erzurum: ca 20 km S of Horasan, road to Agri, ca 1700 m, 26.5.1975, B - Z 358, 363a, 368

I — Mazandaran: Elburs Mts, ca 5 km N of Kandavan pass, among rocks, ca 2300 m, 5.6.1975, B - Z 464, 465

C. nummularia F. et M.

T — B5 Yozgat: ca 27 km W of Akdagmadeni, road to Yozgat, ca 1350 m, open *Quercus* thicket, 13.6.1975, B - Z 569; A7 Gümüsane: S of Torul, road to Gümüsane, 23.5.1975, B - Z 342; B9 Erzurum: ca 20 km S of Horasan, road to Agri, ca 1700 m, 26.5.1975, B - Z 366; C2 Antalya: Ciglikara forest S of Elmali, cedar forest, 1600 - 1800 m, 12.5.1975, B - Z 161; C5 Icel: S of Cilician Gate, road to Taurus, slope over stream, 15.5.1975, B - Z 221

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, rocks, 2300 m, 5.6.1975, B - Z 459, 463

C. nummularioides Pojark.

I — Rud-e-Karaj valley, ca 18 km N of Karaj, road to Chalus, stony slope, 2.6.1975, B - Z 414

C. pruinosus Klotz

P — Chitral: Bumburet valley, near village Ayun, ca 2000 m, near river, 23.8.1975, SE 7

C. racemiflorus (Desf.) Booth

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, ca 2300 m, 5.6.1975, B - Z 462

Crataegus aronia (L.) Bosc. var. *aronia*

T — B1 Balikesir: 8 km W of Balikesir, road to Edremit, slope of valley, 6.5.1975, B - Z 67; Izmir: Bergama, slope of Akropolis, 7.5.1975, B - Z 90; B5 Nevsehir: near Göreme, 19.3.1974, BW 149, 152; C3 Antalya: ca 25 km N of Elmali, road, to Korkuteli, near road, 11.5.1975, B - Z 144; Antalya: ca 30 km N of Elmali, road to Korkuteli, 11.5.1975, B - Z 136; C4 Icel: ca 4 - 5 km N of Silifke, slope of Göksu valley, 15.5.1975, B - Z 203; C6 Maras: 10 km N of Pazarcik, road to Malatya, among fields, 17.5.1975, B - Z 242

S — Ca 56 km N of Damas, SE slope of E Antilebanon, 1270 - 1620 m, 29.8.1973, I - W 37, 41

— var. *minuta* Browicz

T — C2 Denizli: near Pamukkale, 9.5.1975, B - Z 102, 104; C3 Antalya: 2 - 3 km N of village Dag, S of cross-road Antalya-Korkuteli, calcareous rocks, 10.5.1975, B - Z 117; C4 Antalya: ca 31 km W of Anamur, road to Antalya, 13.5.1975, B - Z 173; Icel: ca 5 km E of Anamur, road to Silifke, 13.5.1975, B - Z 179

C. curvisepala Lindm.

T — B7 Erzincan: Sivas-Erzincan: W of Refahiye, 2 km N of Altköy and 3 km from cross-road Sivas-Susehri, ca 1600 m, stony slope, 12.6.1975, B - Z 553

C. meyeri Pojark.

- T — **B5** Nevşehir: near Göreme, 19.8.1974, BW 153; **C6** Hatay: Amanus Mts., NE slope, 1450 m, 20.8.1973, I - W 1
- I — Rud-e-Karaj valley, ca 18 km N of Karaj, road to Kandavan pass, rocky slope, 2.6.1975, B - Z 412
- C. microphylla* C. Koch
- T — **A2(A)** Kocaeli: Istanbul-Izmit, ca 50 km E of Istanbul, 22.8.1974, BW 2
- I — Mazandaran: Chalus valley, ca 5 km S of village Chalus, forest edge, 5.6.1975, B - Z 511
- C. monogyna* Jacq. subsp. *monogyna*
- T — **B1** Balıkesir: ca 8 km W of Balıkesir, road to Edremit, thicket on slope of valley, 6.5.1975, B - Z 62; **B2** Balıkesir: ca 25 km NE of Balıkesir, road to Bursa, 6.5.1975, B - Z 43; **B5** Yozgat: ca 27 km W of Akdagmadeni, road Sivas-Yozgat, open oak forest, ca 1350 m, 13.6.1975, B - Z 574; **B7** Erzincan: cross-road Erzincan-Erzurum-Tunceli, near Tanyeri, 19.5.1975, B - Z 270; Elazığ: ca 30 km SE of Elazığ, near stream, 18.5.1975, B - Z 260; **C3** Isparta: mountain slope between Isparta and Aglasun, 1000-1500 m, 21.7.1974, BW 38; Antalya: near Side, pine forest, 22.7.1974, BW 49; **C4** Antalya: near Gazipasa, 23.7.1974, BW 57, 58; **C6** Hatay: between Dörtöyl and Iskanderun, ca 60 m, 21.8.1973, I - W 19
- IQ — Kurdistan: mountain gorge N of road Salahaddin-Shaqlawa, 10.9.1973, I - W 58
- I — Rude-e-Karaj, valley, ca 18 km N of Karaj, road to Kandavan, pass, 2.6.1975, B - Z 418
- subsp. *azarella* (Gris.) Franco
- T — **C2** Antalya: Ciglikara forest, S of Elmali, lower of cedar forest, 12.5.1975, B - Z 164; **C3** Antalya: 30 km of Elmali, road to Korkuteli, single specimen among fields, 11.5.1975, B - Z 137
- C. orientalis* Pall. var. *orientalis*
- T — **B7** Tunceli: 10 km of Tunceli, road to Pülümür, near road, 18.5.1975, B - Z 268; **B8** Erzurum: Laleli E of Erzurum, mountain steppe, 2000 m, very rare, 25.5.1975, B - Z 354; **B9** Agri: near Tutak, between Agri and Patnos, among fields, 28.5.1975, B - Z 382; Bitlis/Van: S side of lake Van, 9.10.1975, SE 87
- C. pentagyna* Waldst. et Kit.
- T — **B2** Balıkesir: ca 25 km NE of Balıkesir, road to Bursa, small scrub, 6.5.1975, B - Z 47, 51
- I — Mazandaran: ca 5 km N of Kandavan pass, slope below road, ca 2300 m, 5.6.1975, B - Z 452; Khorasan: Reza Pahlavi Park, ca 100 km W of Bonjurd, near river 26.9.1975, SE 59
- C. songarica* C. Koch.
- P — Chitral: Bumburet valley, slope over river, 2300 m, 28.8.1975, SE 13
- C. tanacetifolia* (Lam.) Pers.
- T — **B5** Yozgat: ca 27 km W of Akdagmadeni, road Yozgat-Sivas, open oak thicket, ca 1350 m, 13.6.1975, B - Z 575
- C. tanacetifolia* (Lam.) Pers. × *C. monogyna* Jacq.
- T — **B5** Yozgat: ibid., 13.6.1975, B - Z 574a
- Cydonia oblonga* Mill.
- IQ — Kurdistan: ca 7 km SW of Shaqlawa, oak forest, ca 820 m, 10.9.1973, I - W 64
- Laurocerasus officinalis* Roem.
- I — Mazandaran: beech forest near village Dsahl, region of Shabsavar, 22.8.1972, SC

Malus sylvestris Mill. subsp. *orientalis* (Uglitzk.) Soó
 T — **A7** Trabzon: Meryemana forest, below ruins of Sumela monastery, in forest, 23.5.1975, B - Z 340; **C10** Hakkari: ca 70 km W from frontier-post, near cross-road Hakkari-Yüksekova, 8.10.1975, SE 79

Mespilus germanica L.

T — **A2(E)** Istanbul: Belgrad Forest, near Bahçeköy, 1.5.1975, B - Z 1; **A7** Gümüşane, near Torul, 21.5.1975, B - Z 297

I — Mazandaran: Chalus valley, ca 5 km S of village Chalus, forest edge, 5.6.1975, B - Z 507

Prunus spinosa L. subsp. *dasyphylla* (Schur). Domin

T — **B1** Balıkesir: 8 km W of Balıkesir, road to Edremit, 6.5.1975, B - Z 64

P. divaricata Ledeb. subsp. *divaricata*

T — **B8** Erzurum: Laleli E of Erzurum, mountain steppe, ca 2000 m, very rare, 25.5.1975, B - Z 353

I — Ca 85 km NW of Mianeh, road to Tabriz, grazing land, near river, 30.5.1975, B - Z 394

— subsp. *caspiica* (Kov. et V. Ekim.) Browicz

I — Khorasan: Reza Pahlavi Park, ca 100 km W of Bonjurd, near river, 26.9.1975, SE 60

— subsp. *ursina* (Kotschy) Browicz

T — **B7** Malatya: ca 70 km S of Malatya, road to Pazarcik, near road, 17.5.1975, B - Z 248a; **B8** Erzurum: N of Askale, road to Bayburt, near Pirnakapan, ca 2000 m, oak scrub, 21.5.1975, B - Z 272

Pyracantha coccinea Roem.

T — **A2(E)** Istanbul, between Sariyer and Kilyos, 3.5.1975, B - Z 14; **A3** Sakarya: W of Adapazari, road to Istanbul, NW side of lake Sapanca, 14.6.1975, B - Z 587

Pyrus boissieriana Buhse

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, open scrub, 2300 m, 5.6.1975, B - Z 457; Chalus valley, ca 11 km S of village Chalus, forest edge, 6.6.1975, B - Z 499

P. communis L. subsp. *caucasica* (Fed.) Browicz

T — **B7** Trabzon: Meryemana forest, below ruins of Sumela monastery, in forest 23.5.1975, B - Z 339

P. elaeagnifolia Pall. subsp. *elaeagnifolia*

T — **A8** Gümüşane: S of village Kop, road Askale-Bayburt, rocky slope, 21.5.1975, B - Z 292; **B5** Yozgat: ca 27 km W of Akdagmadeni, road Yozgat-Sivas, open oak forest, ca 1350 m, 13.6.1975, B - Z 576, 577; **B9** Agri: near Tutak, between Agri and Patnos, single specimens among fields, 28.5.1975, B - Z 383

— subsp. *bulgarica* (Kuth. et Sachok.) Valev

T — **A2(E)** Istanbul: Kilyos, rocky slope over sea, 15.6.1975, B - Z 597; Istanbul: 7 km S of Kilyos, road to Istanbul, scrub of *Sarcopoterium spinosum*, 3.5.1975, B - Z 24, 25

Pyrus spinosa Forsk. var. *spinosa*

T — **A1(E)** Canakkale: between Kesan and Gelibolu, foot of Kuru dagi, open oak forest, 26.10.1973, KB; **B1** Izmir: ca 20 km N of Torbali, road to Izmir, *Quercus coccifera* scrub, 7.5.1975, B - Z 92, 93; **C3** Antalya: ca 30 km N of Elmali, road to Korkuteli, single trees among fields, 11.5.1975, B - Z 135

— var. *lanceolata* (Diap.) Browicz, comb. nov. (= *P. amygdaliformis* Vill. var. *lanceolata* Diap., Feddes Repert. 34 : 41 (1933)).

- T — **C3** Antalya: ca 25 km N of Elmali, road to Korkuteli, single tree near road, 11.5.1975, B-Z 143; **C2** Denizli: rocky slope, NW side of lake Acigöl, road Denizli-Dinar, 900 m, 10.5.1975, B-Z 107
- var. *microphylla* (Decne) Browicz, *comb. nov.* (= *P. amygdaliformis* Vill. var. *microphylla* Decne, Jardin Fruit. Museum Hist. Nat. Paris, pl. 13c (1871-1872)).
- T — **B1** Balikesir: near Edremit, S foot of Kazdagi Mt., olive-trees plantation, 27.10.1973, KB; Izmir: ca 20 km N of Torbali, road to Izmir, *Quercus coccifera* scrub, 7.5.1975, B-Z 94; **C1** Aydın: ruins of Efes, 7.5.1975, B-Z 97
- P. spinosa* Forsk. × *P. elaeagnifolia* Pall.
- T — **B1** Balikesir: 8 km W of Balikesir, road to Edremit, 6.5.1975, B-Z 68
- P. syriaca* Boiss. var. *syriaca*
- T — **C4** Icel: W of Degirmendere, road Silifke-Mut, SW slope of Göksu valley, single trees, 14.5.1975, B-Z 194; **C10** Hakkari: ca 70 km W of frontier-post, near cross-road Hakkari-Yüksekova, 8.10.1975, SE 83
- S — Ca 56 km N of Damas, S slope of E Antilebanon, ca 1500 m, 29.8.1973, I-W 44
- IQ — Kurdistan: mountain gorge N of road Salahaddin-Shaqlawa, ca 820 m, near stream, 10.9.1973, I-W 61
- Rosa boissieri* Crépin
- I — Ca 85 km NW of Mianeh, road to Tabriz, near village Seyah Chaman, 30.5.1975, B-Z 396
- R. canina* L.
- T — **A2(E)** Istanbul: near Kilyos, rocky slope over sea, 15.6.1975, B-Z 595; **A2(A)** Bursa: Gemlik bay, between Gemlik and Kumla, rocky slope, 5.5.1975, B-Z 35; **B8** Trabzon: near Arakli, mixed forest edge, road to Trabzon, 22.5.1975, B-Z 320; **B7** Erzincan: road to Sivas, W of Refahiye, 2 km E of Altköy, and 3 km from cross-road Sivas-Susehri, ca 1500 m, near stream, 12.6.1975, B-Z 566; Tunceli: 5 km SW of Tunceli, near road, 18.5.1975, B-Z 262; **B9** Bitlis/Van: S side of lake Van, 9.10.1975, SE 89
- IQ — Kurdistan: mountain gorge N of road Salahaddin-Shaqlawa, ca 820 m, near stream, 10.9.1973, I-W 57
- I — Azerbaijan: near frontier-post, N of Maku, rocky slope, 10.6.1975, B-Z 540; 35 km NW of Mianeh, road to Tabriz, near road, 30.5.1975, B-Z 384; ca 25 km NW of Mianeh, road to Tabriz, rocky slope, 30.5.1975, B-Z 389; Rud-e-Karaj valley, ca 18 km N of Karaj, below road, 2.6.1975, B-Z 421
- R. canina* L. × *R. boissieri* Crépin
- I — Elburs Mts., ca 40 km S of village Chalus, stones near river Chalus, 5.6.1975, B-Z 482; Elburs Mts., ca 10 km N of Kandavan pass, Chalus valley, 5.6.1975, B-Z 471
- R. foetida* J. Herrm.
- T — **B7** Tunceli: ca 5 km NE of village Hazar, S of Tunceli, near road, 18.5.1975, B-Z 261; **B9** Van: below ruins of Old Van fortress, 28.5.1975, B-Z 379
- R. heckeliana* Tratt. subsp. *orientalis* (Dupont) Meikle
- T — **E8** Erzurum: Laleli, E of Erzurum, mountain steppe, ca 2000, common, 25.5.1975, B-Z 355
- R. hemisphaerica* J. Herrm.
- T — **B5** Yozgat: ca 10 km E of Yozgat, 13.6.1975, B-Z 581
- R. iberica* Stev.
- I — Rud-e-Kadaj valley, ca 18 km N of Karaj, road to Chalus, below road, 2.6.1975, B-Z 420, 420a; Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, 2300 m, 5.6.1975, B-Z 442, 444, 446, 447, 449; Mazandaran: ca 10 km N of Kandavan pass, Chalus valley, 5.6.1975, B-Z 478

- R. iberica* Stev. × *R. pulverulenta* Bieb.
 I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, 2300 m, 5.6.1975, B - Z 445
- R. micrantha* Sm.
 T — A7 Trabzon: between Trabzon and Macka, rocky slope, 23.5.1975, B - Z 445
- R. persica* Michx.
 I — 55 - 60 km NW of Zanjan, road to Mianeh, eroded slope near road, common, 31.5.1975, B - Z 401; between Takestan and Qazvin, ca 30 km SW of Qazvin, common, 31.5.1975, B - Z 404; Ca 15 - 20 km S of Karaj, desert region, communities of *Peganum harmala*, 4.6.1975, B - Z 431
- R. pisiformis* (Christ.) D. Sosn.
 T — B7 Erzincan: road Erzincan-Sivas, W of Refahiye, 2 km E of Altköy, and 3 km from cross-road Sivas-Susehri, ca 1600 m, over stream, 12.6.1975, B - Z 555
- R. pulverulenta* Bieb.
 T — B8 Erzurum: Laleli E of Erzurum, mountain steppe, ca 2000 m, 25.5.1975, B - Z 350; B9 Erzurum: ca 20 km S of Horasan, road to Agri, rocky slope, 1700 m, 26.5.1975, B - Z 357; Agri: 10 km NW of Tahir pass, road to Horasan, 11.6.1975, B - Z 544
- I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, 2300 m, 5.6.1975, B - Z 456
- Rubus canescens* DC. var. *glabratus* (Gordon) Davis et Meikle
 T — A2(E) Istanbul: forest edge near Bahçeköy, 14.6.1975, B - Z 591
- R. caucasicus* Focke
 T — A7 Trabzon: near Arsin E of Trabzon, road to Rize, 22.5.1975, B - Z 302
- R. discolor* Weihe et Nees agg.
 T — A3 Sakarya: W of Adapazari, NE side of lake Sapanca, road to Istanbul, 14.6.1975, B - Z 586
- R. hirtus* Waldst. et Kit. agg.
 T — A7 Trabzon: Meryemana forest, below runis of Sumela monastery, near stream, 23.5.1975, B - Z 332
- R. leptostemon* Juz. aff.
 T — A8 Trabzon: near Arakli, mixed forest, 22.5.1975, B - Z 317, 318
- R. sanctus* Schreb.
 I — Mazandaran: Pol-e-Zoghal, valle of E tributary of Chalus river, below, cypress forest, 5.6.1975, B - Z 486, 490; Khorasan: Reza Pahlavi Park, near river, 26.9.1975, SE 61
- S — Road Haleb — Lattakia, Djebel Ansariyeh, 600 - 800 m, 27.7.1974, BW 89
- R. sanctus* Scherb. × *R. caesius* L.
 I — Mazandaran: Pol-e-Zoghal, valley of E tributary of Chalus river, 5.6.1975, B - Z 488
- R. sanctus* Schreb. × *R. canescens* DC
 T — A2(E) Istanbul: Kilyos, rocky slope over sea, 15.6.1975, B - Z 592, 593, 594
- Sarcopoterium spinosum* (L.) Spach
 T — A2(E) Istanbul: 7 km S of Kilyos, common, 3.5.1975, B - Z 26; B1 Balikesir: SW of Burhaniye, near Pelit, slope over sea, 7.5.1975, B - Z 82
- Sorbaria tomentosa* (Lindl.) Rehd.
 P — Chitral: Bumburet valley, near river, ca 2000 m, 27.8.1975, SE 10
- Sorbus aucuparia* L.
 I — Mazandaran: Elburs Mts., ca 5 km of Kandavan pass, near road, 2300 m, 5.6.1975, B - Z 455
- S. kuznetovii* Zinserl.

T — **B7** Erzincan: Erzincan-Sivas, W of Refahiye, 2 km of Altköy and 3 km from cross-road Sivas-Susehri, ca 1600 m, over stream, 12.6.1975, B - Z 562

S. roopiana Bordz.

T — **B7** Erzincan, *ibid.*, 12.6.1975, B - Z 551, 552, 563

S. subfusca (Ledeb.) Boiss.

I — Mazandaran: Elburs Mts., ca 5 km N of Kandavan pass, thicket of *Quercus macranthera*, slope over road, 2300 m, 5.6.1975, B - Z 438 (det. E. Gabrielian — new for Iran).

S. torminalis (L.) Crantz var. *torminalis*

T — **A2(E)** Istanbul: Belgrad Forest near Bahçeköy, 1.5.1975, B - Z 8; **B5** Yozgat: ca 27 km W of Akdagmadeni, road Sivas-Yozgat, open oak thicket, ca 1350 m, 13.6.1975, B - Z 578

S. umbellata (Desf.) Fritsch (s. l.)

T — **B1** Balikesir: near Edremit, Kazdagi Mts., rocky slope in open forest. 1000 m, 27.10.1973, KB; **B7** Erzincan: road Erzincan-Sivas, W of Refahiye, 2 km E of Altköy and 3 km from cross-road Sivas-Susehri, ca 1600 m, stony slope, 12.6.1975, B - Z 556; **C2** Antalya: Ciglikara forest S of Elmali, cedar forest 1600 - 1800 m, 12.5.1975, B - Z 163a

44. RUBIACEAE

Putoria calabrica (L.f.) DC

T — **C2** Denizli: hills near Köprübasi, road Aydin-Denizli, 9.5.1975, B - Z 103; **C3** Isparta: mountain slope between Isparta and Aglasun, pine forest, 1000 - 1500 m, 21.7.1974, BW 35; **C6** Hatay: Dörtüol, slope over stream, 21.8.1973, I - W 21

Rubia florida Boiss.

I — Mazandaran: Tehran-Karaj, Chitgar, Vardavard valley, stony slope, 1750 m, 8.6.1975, B - Z 520.

45. SALICACEAE

Populus alba L.

T — **B2** Balikesir: ca 25 km NE of Balikesir, road to Bursa, 6.5.1975, B - Z 45

P. caspica Bornm.

I — Khorasan: Reza Pahlavi Park, ca 100 km W of Bonjurd, near river, 26.9.1975, SE 64

P. euphratica Oliv.

T — **C4** Antalya: along Göksu river, S of Degirmendere, road Silifke-Mut, common, 14.5.1975, B - Z 189

P. nigra L.

T — **B7** Tunceli: ca 10 km N of Tunceli, road to Pülümür, near river, 18.5.1975, B - Z 267

P. tremula L.

T — **A7** Trabzon: near Arsin, E of Trabzon, 22.5.1975, B - Z 298

Salix alba L.

T — **B2** Balikesir: ca 25 km NE of Balikesir, road to Bursa, 6.5.1975, B - Z 42a; **B9** Agri: between Hamur and Tutak, S of Agri, along river, 27.5.1975, B - Z 371, 374, 375; Van/Bitlis: S side of lake Van, 9.10.1975, SE 88; **C6** Adana: 10 km E of Osmaniye, road to Fevzipasa, N part of Amanus Mts., along stream, 16.5.1975, B - Z 235; Maras: 28 km S of Gölbası, road to Pazarcık, 17.5.1975, B - Z 248; **C10** Hakkari: ca 70 km W of frontier-post, near cross-road Hakkari-Yüksekova, 8.10.1975, SE 85

S. alba L. × *S. excelsa* S. G. Gmelin

I — 60 km E of Tehran, road to Gorgan, 26.9.1975, SE 66

S. aegyptiaca L.

- I — Mazandaran: Elburs Mts., ca 40 km S of Chalus, stones near river, 5.6.1975, B - Z 483
- S. acmophylla* Boiss.
- I — Tehran-Karaj, near Ariamehr Botanical Garden, mountain slope, solitary tree, 1.6.1975, B - Z 405; Khorasan: ca 21 km W of Afghan frontier, between Tayyabad and Mashad, near river, 25.9.1975, SE 54
- A — 3-4 km W of Kandahar, road to Farah, near village, 23.9.1975, SE 49
- S. armeno-rossica* A. Skv.
- T — A8 Gümüsane: S of village Kop, road to Bayburt, along stream, 21.5.1975, B - Z 290
- S. caprea* L.
- T — B1 Balikesir: near Edremit, Kazdagi Mt., forest of *Abies equi-trojani*, ca 1400 m, 27.10.1973, KB; A7 Trabzon: near Arsin, E of Trabzon, 22.5.1975, B - Z 299; A8 Erzurum: S side of Kopdagi pass, near stream, among *Betula pendula* thicket, 21.5.1975, B - Z 280
- S. elbursensis* Boiss.
- T — A8 Gümüsane; S of village Kop, road to Bayburt, along stream, 21.5.1975, B - Z 291; B9 Agri: between Tutak and Hamur, S of Agri, along river, 27.5.1975, B - Z 375a
- I — Rud-e-Karaj valley, ca 18 km N of Karaj, stony slope, 2.6.1975, B - Z 413; Ca 40 km N of Karaj, N of dam on Rud-e-Karaj, road to Kandavan Pass, near river, 2.6.1975, B - Z 425
- S. excelsa* S. G. Gmelin
- I — Khorasan: 21 km W of Afghan frontier, road Tayyebad-Mashad, near river, 25.9.1975, SE 53; Khorasan; Reza Pahlavi Park, ca 100 km W of Bonjurd, near river, 26.9.1975, SE 58
- S. iliensis* Regel
- A — Ca 30 km NE of Ghazni, road Kabul-Ghazni, near road, 22.9.1975, SE 44
- S. linearifolia* E. Wolf.
- P — Chitral: Bumburet valley, ca 2000 m, near river, 27.8.1975, SE 8
- S. pseudomedemii* E. Wolf.
- T — B7 Erzincan: road Erzincan-Sivas, W of Refahiye, 2 km of Altköy, and 3 km from cross-road Sivas-Susehri, near stream, 1600 m, 12.6.1975, B - Z 561; Erzurum: S side of Kopdagi pass, near stream, among *Betula pendula* thicket, ca 2200 m, 21.5.1975, B - Z 279
- S. triandra* L. subsp. *triandra*
- I — Ca 85 km NW of Miانه, road to Tabriz, near village Seyah Chaman, by river, 30.5.1975, B - Z 392, 395, 397
- subsp. *bornmuellerii* (Hauskn.) A. Skv.
- T — B2 Balikesir: ca 25 km NE of Balikesir, road to Bursa, near river, 6.5.1975, B - Z 42; B7 Tunceli: 40 km S of Tunceli, road to Elazig, near road, 18.5.1975, B - Z 258b; B9 Agri: between Hamur and Tutak, S of Agri, near river, 27.5.1975, B - Z 372, 373
- S. wilhelmsiana* M. B.
- I — Pasargades, N of Shiraz, road to Isfahan, 1.10.1975, SE 68; Fars: ca 100 km W of Shiraz, road to Bushehr, 2.10.1975, SE 72

46. SANTALACEAE

Osyris alba L.

- T — A2(A) Bursa: between Gemlik and Kumla, Gemlik bay, slope over sea, 5.5.1975, B - Z 38; B1 Balikesir: SE of Burhaniye, near Pelit, rocky slope over sea, 7.5.1975, B - Z 71, 80

47. SOLANACEAE

Lycium depressum Stocks subsp. *depressum*

I — 15 km S of Achachi, road Zanjan-Mianeh, dry hills, 9.6.1975, B - Z 532, 533

L. ruthenicum Murr.

T — B9 Van: foot of Old Van fortress, 29.5.1975, B - Z 378

I — 55 - 60 km NW of Zanjan, road to Mianeh, eroded slope, communities of *Rosa persica*, 31.5.1975, B - Z 400; 15 km S of Achachi, road Zanjan-Mianeh, dry hills, 9.6.1975, B - Z 531a; S of Karaj, near village Abbasabad-Salenhabad, desert region, 4.6.1975, B - Z 434



Phot. K. Browicz

Fig. 7. Northern Iran. Valley of river Rud-e-Qezel Owzan, near Achachi south of Mianeh — association of *Tamarix-Lycium-Dendrostellera*

48. STAPHYLEACEAE

Staphylea pinnata L.

T — A7 Trabzon: Meryemana forest, below ruins of Sumela monastery, near stream, 23.5.1975, B - Z 333; A8 Trabzon: W of Rize, near Hazara, slope over river, 22.5.1975, B - Z 309

49. STYRACACEAE

Styrax officinalis L.

T — B1 Balikesir: Edremit bay, near Altinoluk, W of Edremit, 18.7.1974, BW 7; Balikesir: near Edremit, S slope of Kazdagi Mt., 800 - 1000 m, common, 27.10.1973, KB; C3 Antalya: 31 km NW of Antalya, road to Korkuteli, thicket, 12.5.1975, B - Z 167, 168; Antalya: 2 - 3 km N of village Dag, S of cross-road An-

- talya-Korkuteli, calcareous rocks, 10.5.1975, B - Z 123; Antalya: near Side, ruins of amphitheater, 22.7.1974, BW 44; C4 Antalya: near Gazipasa, 23.7.1974, BW 61; Antalya: between Gazipasa and Anamur, ca 600 m, 25.7.1974, BW 122, 115; C5 Icel: Taurus Mts., ca 50 km N of Tarsus, 600 - 800 m, 13.8.1974, BW 148; C6 Hatay: N slope of Amanus Mts., 1135 m, 20.8.1973, I - W 3; Maras; 4 km N of Pazarcik, road to Malatya, scrub of *Quercus coccifera*, 17.5.1975, B - Z 239 S — 20 km S of Lattakia, near village Kabu, near small river, among rocks, 24.8.1973, I - W 35

50. TAMARICACEAE

Myricaria germanica (L.) Desv.

- I — Ca 40 km N of Kraj, N of dam on Rud-e-Kraj, near river, 2.6.1975, B - Z 426

Tamarix aphylla (L.) Karst.

- A — 5 km W of Pakistanian frontier-post (Khyber pass), road to Kabul, 19.9.1975, SE 43

T. ramosissima Ledeb.

- IQ — 45 km SW of Arbil, near river Great Zab, 250 m, common, 7.9.1973, I - W 47
I — Ca km NW of Mianeh, road to Tabriz, along river, 30.5.1975, B - Z 391; ca 40 km N of Kraj, N of dam on Rud-e-Kraj river, road to Kandavan pass, near river, 2.6.1975, B - Z 424

T. smyrnensis Bunge

- T — B9 Bitlis: NW side of lake Van, massif Süphan Dagi, E of Ahlat, along stream, 1600 - 1800 m, 5.8.1972, SC; C4 Icel: road Silifke-Mut, W of Degirmendere, in small gorge, 15.5.1975, B - Z 202; C10 Hakkari: ca 70 km W of frontier-post, near cross-road Hakkari-Yüksekova, 8.10.1975, SE 81

51. TILIACEAE

Tilia argentea Desf.

- T — A3 Sakarya: NE side of lake Sapanca, W of Adapazari, road to Istanbul, old tree, 14.6.1975, B - Z 590

T. caucasica Rupr.

- T — A7 Trabzon: Meryemana forest, below ruins of Sumela monastery, 23.5.1975, B - Z 341

52. THYMELAEACEAE

Daphne glomerata Lam. subsp. *glomerata*

- T — A7 Trabzon: 3 - 4 km S of Zigana pass, road to Torul, pine forest edge, 23.5.1975, B - Z 343

— var. *ziganae* Browicz, subsp. nov.

Folia ad 5 cm longa et ad 2 cm lata elliptica, acuta vel subacuta. Flores albi
Holotypus: Turkey A7 Trabzon: 3 - 4 km S of Zigana pass, road to Torul, pine forest edge, 23.5.1975, B - Z 345 (Herb. Kórnik).

Paratypus: A7 Trabzon: Zigana pass, ca 2000 m, alpine meadow, together with *Vaccinium myrtillus*, 23.5.1975, B - Z 346

D. gnidioides Jaub. et Spach

- T — C3 Antalya: 10 km S of cross-road Anatalya-Korkuteli, near village Dag, calcareous rocks, 10.5.1975, B - Z 115; C4 Antalya: near Alanya, 13.10.1975, SE 97; Icel: near Ovaciik, road Silifke-Anamur, 12.10.1975 SE 93; Icel: ca 5 km of Anamur, road to Silifke, stones among *Pinus brutia* forest, 13.5.1975, B - Z 182

D. mezereum L.

T — **A8** Gümüsane: S of Kopdagi pas, ca 2200 m, over small stream, *Betula pendula* thicket, 21.5.1975, B - Z 276, 277

D. mucronata Royle

T — **C10** Hakkari: ca 70 km W of frontier-post, near cross-road Hakkari-Yükse-kova, 8.10.1975, SE 82

I — Fars: ca 60 km W of Shiraz, road to Bushehr, 2.10.1975, SE 70



Phot. K. Jakusz

Fig. 8. *Daphne glomerata* Lam.: on the left subsp. *ziganae* Browicz (type specimen, B - Z 345), on the right subsp. *glomerata* (B - Z 343), from N Anatolia, Zigana Pass

D. oleoides Schreb.

T — **C5** Icel: Cilician Gate, calcareous rocks, 1050 - 1200 m, 15.5.1975, B - Z 206; **A8** Gümüsane: S of Kopdagi pass, ca 2000 m, alpine meadow, 21.5.1975, B - Z 283

D. pontica L.

T — **A2(E)** Istanbul: Belgrad forest, near Bahçeköy, 1.5.1975, B - Z 5; Istanbul: between Kilyos and Sariyer, oak scrub, 3.5.1975, B - Z 22; **A2(A)** Istanbul: between Beykoz and Mahmutsevketpasa, open oak thicket, 30.10.1973, KB; **A7** Trabzon: near Arsin E of Trabzon, road to Rize, *Rhododendron* scrub, 22.5.1975, B - Z 303

D. sericea Vahl.

T — **A2(A)** Bursa: Gemlik bay, between Gemlik and Kumla, slope over sea, 5.5.1975, B - Z 39; **C3** Antalya: 30 km E of Korkuteli, road to Antalya, 11.5.1975, B - Z 130; Isparta: mountain slope between Isparta and Aglasun, pine forest,

- 21.7.1974, BW 32; **C4** Icel: 63 km W of Silifke, road to Anamur, forest of *Pinus brutia*, B - Z 183; Icel: Silifke-Mut, W of Degirmendere, small gorge, 14.5.1975, B - Z 193; **C5** Icel: Cilician Gate, 1050 - 1200 m, calcareous rocks, 15.5.1975, B - Z 205; Icel: Taurus Mts., ca 50 km N of Tarsus, 18.8.1974, BW 140; **C6** Adana: 10 - 15 km E of Osmaniye, road to Fevzipasa, scrub of *Quercus infectoria*, 16.5.1975, B - Z 231

Dendrostellera lessertii (Wikstr.) Van Tiegh.

- I — 15 km S of Achachi, road from Zanjan to Mianeh, dry hills, common, 9.6.1975, B - Z 534; Tehran-Karaj, near Ariamehr Botanical Garden, B - Z 407

53. ULMACEAE

Celtis australis L.

- T — **A7** Trabzon: S of Trabzon, road to Macka, rocky slope, 23.5.1975, B - Z 321

C. caucasica Willd.

- I — Ca 18 km N of Karaj, road to Kandavan pass, Rud-e-Karaj valley, 2.6.1975, B - Z 415

C. glabrata Stev.

- T — **C2** Denizli: NW side of lake Acigöl, road Denizli-Dinar, single specimens among rocks, 10.5.1975, B - Z 111; **C5** Icel: S of Cilician Gate, road to Tarsus, near river, 15.5.1975, B - Z 210

- IQ — Kurdistan: ca 9 km SW of Shaqlawa, 1120 m, foot of rocky gorge, 10.9.1973, I - W 68

C. tournefortii Lam.

- T — **B1** Izmir: Bergama, slope of Akropolis, 7.5.1975, B - Z 91; **B7** Malatya: N of village Kop, rocky slope near bridge on Euphrat, 18.5.1975, B - Z 257

Ulmus minor Mill. subsp. *minor*

- T — **A3** Sakarya: NE side of lake Sapanca, W of Adapazari, road to Istanbul, 14.6.1975, B - Z 585; **A8** Trabzon: near Arakli, forest by left side of road to Trabzon, 22.5.1975, B - Z 314; **B7** Erzincan: near Avcilar, ca 30 km E of Erzincan, road to Erzurum, 12.6.1975, B - Z 545; Elazig: ca 30 km SW of Elazig, road to Malatya, by stream, common, 18.5.1975, B - Z 259; **B9** Agri: between Tutak and Hamur, meadow, near stream, grazed thicket, 28.5.1975, B - Z 381; Van: ca 25 km N of Van, road to Ercis, 28.5.1975, B - Z 377

- I — Elburs, Mts., ca 10 km N of Kandavan pass, Chalus valley, 5.6.1975, B - Z 472; Mazandaran: Pol-e-Zoghal, E tributary of Chalus river, below *Cupressus* forest, 5.6.1975, B - Z 492; Mazandaran: Chalus valley, 11 km S of village Chalus, thicket, 5.6.1975, B - Z 504

- subsp. *canescens* (Melville) Browicz et J. Zieliński, *stat. et. comb. nov.* (= *U. canescens* Melville, Kew Bull. 1957: 499 (1958)).

- T — **B2** Balikesir: ca 25 km NE of Balikesir, road to Bursa, small thicket near road, 6.5.1975, B - Z 44; **C1** Aydin: Efes, among ruins, 7.5.1975, B - Z 95; **C4** Icel: Silifke-Mut, W of Degirmendere, small gorge, 15.5.1975, B - Z 201

U. glabra Hudson

- T — **A7** Trabzon: Meryemana forest, below ruins of Sumela monastery, by stream, 23.5.1975, B - Z 328, 329

Zelkova carpiniifolia (Pall.) C. Koch

- I — Mazandaran: Pol-e-Zoghal, E tributary of Chalus river, below *Cupressus* forest, 5.6.1975, B - Z 484

54. VERBENACEAE

Vitex agnus-castus L.

T — C1 Aydin: Efes, among ruins, 7.5.1975, B - Z 96; C6 Hatay: Dörtiyol-Iskanderun, common, 21.8.1973, I - W 22

55. ZYGOPHYLLACEAE

Zygophyllum eurypterum Boiss. et Bushe subsp. *gontscharowii* (Boriss.) Hadidi
I — Ca 55 km N of Zanzjan, road to Mianeh, dry slope, communities of *Rosa persica*, 31.5.1975, B - Z 399

Institute of Dendrology
Kórnik nr. Poznań

KAZIMIERZ BROWICZ, JERZY ZIELIŃSKI

*Polskie zbiory zielnikowe drzew i krzewów z południowo-zachodniej
Azji zgromadzone w latach 1972 - 1975*

Streszczenie

Opierając się na zbiorach zielnikowych drzew, krzewów i krzewinek zgromadzonych w latach 1972 - 1975 przez polskich botaników i studentów w krajach południowo-zachodniej Azji, autorzy podają zestawienie stanowisk poszczególnych taksonów. Na materiały te, przechowywane w zielniku Instytutu Dendrologii Polskiej Akademii Nauk w Kórniku, zostały się następujące zbiory:

1. Zbiory S. Cabały (skrót oznaczeń zbiorów — SC) z wyprawy studentów Uniwersytetu Śląskiego w Katowicach do Turcji, Iraku i Iranu, 1972.
2. Zbiory I. Izydorka i G. Wiszniewskiego (skrót oznaczeń zbiorów — I - W) z wyprawy studentów Uniwersytetu i Akademii Rolniczej w Poznaniu do Turcji, Syrii i Iraku.
3. Zbiory K. Browicza z Turcji, 1973 (skrót oznaczeń zbiorów — KB).
4. Zbiory zgromadzone pod kierunkiem B. Wojciechowskiej z Instytutu Dendrologii w Kórniku (skrót oznaczeń zbiorów — BW) z wyprawy studentów wyższych uczelni Poznania „Orient 74” do Turcji, Syrii i Libanu, 1974.
5. Zbiory K. Browicza i J. Zielińskiego z Turcji i północno-zachodniego Iranu, 1975 (skrót oznaczeń zbiorów — B - Z).
6. Zbiory S. Egierszdorff z Instytutu Dendrologii w Kórniku, z północno-zachodniego Pakistanu, Afganistanu, Iranu i Turcji, 1975 (skrót oznaczeń zbiorów — SE).

Zestawienie stanowisk obejmuje prawie 350 taksonów należących do 55 rodzin. Wśród nich znajdują się taksony po raz pierwszy wykazane z danego kraju, czy też części kraju (np. *Sorbus subfusca* w Iranie; *Cerasus microcarpa* subsp. *microcarpa* w południowo-zachodniej Anatolii). Opisany został również jeden nowy takson — *Daphne glomerata* Lam. subsp. *ziganae* Browicz, a także wprowadzono kilka zmian w nazewnictwie (nowe kombinacje), w rodzaju *Pyrus*, *Rhamnus* i *Ulmus*. W wykazie zastosowano następujące skróty: T — Turcja, I — Iran, IQ — Irak, L — Liban, S — Syria, A — Afganistan i P — Pakistan. Oprócz tego, w przypadku zbiorów zielnikowych z Turcji posłużono się oznaczeniami przyjętymi we „Flora of Turkey” (system kwadratów).

