

CONTRIBUTIONS TO THE BRYOPHYTE FLORA OF TURKEY: III

D. M. HENDERSON

This third enumeration follows the same course as the former (Notes Roy. Bot. Gard. Edinb. xxii, p. 29, 1955, and p. 189, 1956, and deals with collections made in 1956, in spring by Dr. P. H. Davis and Mr. O. Polunin, and in summer by Mr. J. McNeill. Davis and Polunin collected in west and south-west Turkey, whereas McNeill travelled through central Turkey to the Amanus mountains and the Lake Van area, so that the collections overlap only as regards common species. To both collectors I am indebted for their care in making good collections when other aspects of the flora must have seemed much more exciting in the field.

***Distichium capillaceum* (Hedw.) B. & S.**

PROV. BITLIS: N. cliffs above crater of Nemrut Dağ, 2750 m., moist rock ledges and cracks, 12 Aug. 1956, McNeill 572.

***Dicranella varia* (Hedw.) Schimp.**

PROV. MUĞLA: Marmaris, 30 m., shady banks in *Pinetum brutiae*, on serpentine, 26 March 1956, Davis 23,386b, & O. Polunin.

***Dicranum majus* Turn.**

PROV. ISTANBUL: Belgrade forest nr. Bahce Köy, 100 m., on ground in oak forest, 17 March 1956, Davis 25,125, & O. Polunin.

***Polytrichum aloides* Hedw.**

PROV. ISTANBUL: Belgrade forest nr. Bahce Köy, 100 m., on ground in oak forest, 17 March 1956, Davis 25,129b, & O. Polunin.

***Encalypta vulgaris* Hedw.**

PROV. DENİZLİ: nr. Çukarköy, 1200 m., north limestone slopes, 4 April 1956, Davis 25,614a, & O. Polunin.

PROV. ANTALYA: dist. Akseki; gorge below Erenkaya between Manavgat & Akseki, 700 m., limestone rocks facing north, 10 April 1956, Davis 25,802c, & O. Polunin.

PROV. GAZİANTEP: Gaziantep—Adana, c. 1200 m., stony slopes of Amanus mts. in oak scrub, 13 Sept. 1956, McNeill 829a.

***Tortula ruralis* (Hedw.) Crome**

PROV. MERSİN: dist. Anamur; Kaldöken dağ above Anamur, 1500 m., north limestone rocks in *Abies cilicica* forest, 13 April 1956, Davis 25,943c, & O. Polunin; *ibid.*, Davis 25,942b, & O. Polunin.

PROV. DENİZLİ: nr. Çukarköy, 1200 m., north limestone slope, 4 April 1956, Davis 25,612, & O. Polunin; *ibid.*, Davis 25,613c, & O. Polunin.

PROV. ANTALYA: dist. Akseki; gorge below Erenkaya between Manavgat & Akseki, 700 m., limestone rocks facing north, 10 April 1956, Davis

25,803a, & O. Polunin; *ibid.*, Davis 25,802d, & O. Polunin; pass above Akseki, 1500 m., *Abies* forest, 9 April 1956, Davis 25,794, & O. Polunin. PROV. VAN: Artos Dağ, northern slopes above Gevaş, 2750 m., rock ledges above snow patch with *Asplenium* sp., 2 Sept. 1956, McNeill 777b; Van—Hoşap, c. 2 km. from Hoşap, 1900 m., dry stony field, 26 Aug. 1956, McNeill 679.

PROV. ANKARA: shore of Tuz Gölü 25 km. north of Koçhisar, c. 900 m., fixed sand, vegetation above salt lake approaching typical plateau habitat, 28 July 1956, McNeill 305; Gerede—Ankara, nr. Kizilcahamam, c. 1200 m., very dry limestone, on bare rock, 22 July 1956, McNeill 286.

PROV. GAZIANTEP: 25 km. W. of Gaziantep, c. 900 m., stony ground in oak scrub, 13 Sept. 1956, McNeill 834a.

***Tortula papillosissima* (Copp.) Broth.**

PROV. GAZIANTEP: 25 km. W. of Gaziantep 900 m., stony ground in oak scrub, 13 Sept. 1956, McNeill 834b.

***Tortula subulata* Hedw.**

PROV. ANTALYA: dist. Akseki; gorge below Erenkaya between Manavgat & Akseki, 700 m., limestone rocks facing north, 10 April 1956, Davis 25,802e, & O. Polunin; *ibid.*, Davis 25,804b, & O. Polunin; dist. Elmali, Sariyer dağ, between Elmali & Korkuteli, 1700 m., rocky north slope, 7 April 1956, Davis 25,758a, & O. Polunin.

PROV. GAZIANTEP: Gaziantep—Adana, east side of summit of Amanus mts., c. 1200 m., stony slopes in oak scrub, 13 Sept. 1956, McNeill 827.

***Tortula inermis* Mont.**

PROV. ANKARA: banks of Kizilirmak, Ankara—Kayseri, 100 km. from Ankara, c. 900 m., rock ledges and faces, 2 Aug. 1956, McNeill 359.

PROV. MALATYA: Gürün—Malatya, c. 50 km. from Malatya, c. 1400 m., base of overhanging boulder, 7 Aug. 1956, McNeill 435.

PROV. DENİZLİ: nr. Çukurköy, 1200 m., north limestone slopes, 4 April 1956, Davis 25,614d, & O. Polunin.

***Crossidium squamigerum* (Viv.) Jur.**

PROV. MALATYA: Gürün—Malatya, c. 50 km. south east of Darende, c. 1200 m., cracks in rocks, 5 Aug. 1956, McNeill 441b.

***Aloina ambigua* (B. & S.) Limpr.**

PROV. URFA: Urfa—Gaziantep, c. 15 km. from Urfa, c. 700 m., grazed stony slopes, 12 Sept. 1956, McNeill 803b.

***Cinclidotus nigricans* (Brid.) Dix.**

PROV. VAN: Başkale—Hakkari (Cölemerik), c. 50 km. from Başkale, 1800 m., boulders beside river under flood level, 31 Aug. 1956, McNeill 706.

PROV. ANTALYA: dist. Akseki; gorge below Erenkaya, between Manavgat & Akseki, 700 m., limestone rocks partially submerged in stream, 10 April 1956, Davis 25,800, & O. Polunin.

Barbula trifaria (Hedw.) Mitt.

PROV. ANTALYA: Alanya promontory, 100 m., north banks, 11 April 1956, Davis 25,848d, & O. Polunin.

Barbula cylindrica Schimp.

PROV. DENİZLİ: nr. Çukurköy, 1200 m., north limestone slope, 4 April 1956, Davis 25,613b, & O. Polunin.

Barbula vinealis Brid.

PROV. URFA: Harran, c. 40 km. south of Urfa, 409 m., stones among ruins of old town, 11 Sept. 1956, McNeill 793.

PROV. GAZİANTEP: Gaziantep—Adana, c. 1200 m., stony slopes of Amanus mts. in oak scrub, 13 Sept. 1956, McNeill 829b.

PROV. ANKARA: banks of Kizilirmak, Ankara—Kayseri, 100 km. from Ankara, c. 900 m., rock ledges and faces, 2 Aug. 1956, McNeill 356.

PROV. MERSİN: dist. Anamur; Kaldöken dağ above Anamur, 1500 m., north limestone rocks in *Abies cilicica* forest, 13 April 1956, Davis 25,943g, & O. Polunin.

PROV. DENİZLİ: nr. Çukurköy, 1200 m., north limestone slopes, 4 April 1956, Davis 25,614c, & O. Polunin.

Gymnostomum aeruginosum Sm.

PROV. KAYSERİ: Kayseri—Pınarbaşı, c. 40 km. north east of Kayseri, c. 100 m., edge of drinking trough, very moist, 4 Aug. 1956, McNeill 421.

Gymnostomum calcareum Nees & Hornsch.

PROV. MUĞLA: Marmaris, 30 m., shady banks in *Pinetum brutiae*, on serpentine, 26 March 1956, Davis 25,386a, & O. Polunin; *ibid.*, Davis 25,387b, & O. Polunin; *ibid.*, Davis 25,385c, & O. Polunin; Fethiye, 30 m., limestone rocks facing north west, 27 March 1956, Davis 25,430a, & O. Polunin.

PROV. URFA: Urfa—Gaziantep, c. 1 km. from Urfa, 600 m., calcareous rock under overhang, 11 Sept. 1956, McNeill 795.

Eucladium verticillatum (With.) B. & S.

PROV. MUĞLA: Marmaris, 30 m., damp rocks in *Pinetum brutiae* on serpentine, 24 March 1956, Davis 25,235, & O. Polunin.

Tortella tortuosa (Hedw.) Limpr.

PROV. DENİZLİ: nr. Çukurköy, 1200 m., north limestone slopes, 4 April 1956, Davis 25,611b, & O. Polunin.

PROV. MERSİN: dist. Anamur; Kaldöken dağ above Anamur, 1500 m., north limestone rocks in *Abies cilicica* forest, 13 April 1956, Davis 25,943f, & O. Polunin.

PROV. MUĞLA: Marmaris—Emecik, 350 m., maquis on serpentine, 25 March 1956, Davis 25,370b, & O. Polunin.

Tortella nitida (Lindb.) Broth.

PROV. AYDIN: Çine—Yatağan, 300 m., *Quercus coccifera* maquis, on metamorphic rock, 23 March 1956, Davis 25,223b, & O. Polunin.

Tortella flavovirens (Bruch) Broth.

PROV. ANTALYA: Manavgat—Kara point, 3 m., fixed sand dunes, 10 April 1956, Davis 25,819, & O. Polunin.

Timmiella barbuloidea (Brid.) Moenk.

PROV. MUĞLA: Marmaris, 30 m., shady banks in *Pinetum brutiae*, on serpentine, 26 March 1956, Davis 25,385a, & O. Polunin.

PROV. ANTALYA: Alanya promontory, 100 m., N. banks, 11 April 1956, Davis 25,848a, & O. Polunin.

Trichostomum crispulum Bruch

PROV. MUĞLA: Marmaris, 30 m., shady banks in *Pinetum brutiae*, on serpentine, 26 March 1956, Davis 25,385b, & O. Polunin; *ibid.*, Davis 25,387a, & O. Polunin.

PROV. ANTALYA: dist. Elmali; Sariyer dağ, between Elmali & Korkuteli, 1700 m., rocky N. slope, 7 April 1956, Davis 25,758b, & O. Polunin.

PROV. MERSIN: dist. Anamur; Kaldöken dağ, above Anamur, 1500 m., north limestone rocks in *Abies cilicica* forest, 13 April 1956, Davis 25,943d, & O. Polunin.

Trichostomum brachydontium Bruch

PROV. AYDIN: Çine—Yatağan, 300 m., *Quercus coccifera* maquis, growing on metamorphic rock, 23 March 1956, Davis 25,203c, & O. Polunin; *ibid.*, Davis 25201b, & O. Polunin.

Weisia controversa Hedw.

PROV. MUĞLA: Fethiye, 30 m., limestone rocks facing northwest, 27 March 1956, Davis 25,430c, & O. Polunin.

Grimmia apocarpa Hedw.

PROV. ANKARA: Gerede—Ankara, nr. Kizilcahamam, c. 1200 m., very dry limestone, on bare rock, 22 July 1956, McNeill 287b.

Grimmia cucullata, Henderson, sp. nov.

Subgenus *Schistidium* (Brid.) Schimp. pertinet. Autoica. Dense caespitosa. *Caules* 5–10 mm. alti, erecti, paulum radiculosi. *Folia*, sicca adpressa, madida erecto-patentia, obscure fusca ad apicem caulis sordide virides, lanceolata, ad apicem obtusa, cucullata, marginibus involutis. Costa angusta, ante apicem evanescens. Cellulae basiliares rectangulae duplo longiores quam latae, suprabasiliares biseriatae rotundatae vel ovatae, incrassatae, laeves; folia perichaetiales duplo longiores quam folia caulina. Seta vix 2 mm. alta, rigida, pallide rubescens. *Theca* ovato-oblonga aurantiaco-rubescens. Calyptra operculumque ignota. *Peristomii dentes* brevis, incompleti, rubescentes.

PROV. ANKARA: above Tuz Gölü 25 km. north of Kochisar, c. 925 m., on bare rock and faces up to 45°, 29 July 1956, McNeill 342, (Holotype E, isotypes K, BM, ANK).

Although the taxonomy of the subgenus *Schistidium* is already very confused and a wealth of taxa have been described, this present collection seems quite distinct. It is undoubtedly closely allied to *Grimmia atrofusca* and *G. conferta*. Macroscopically *G. cucullata* resembles the latter most closely, but differs in having an imperfect peristome and hairless leaves,

although it should be noted that Schimper described var. *obtusifolia* with blunt hairless leaves. As regards peristome and bistratose lamina, it matches *G. atrofusca* but differs in the hooded leaf apex and in growth habit. Within the same affinity lies *G. singarensis* Schiffner described from calcareous rocks in northern Iraq, but with a well-developed peristome according to the original description (Schiffner in Ann. naturh. Hofmus. Wien, xxvii, 17, 1913).

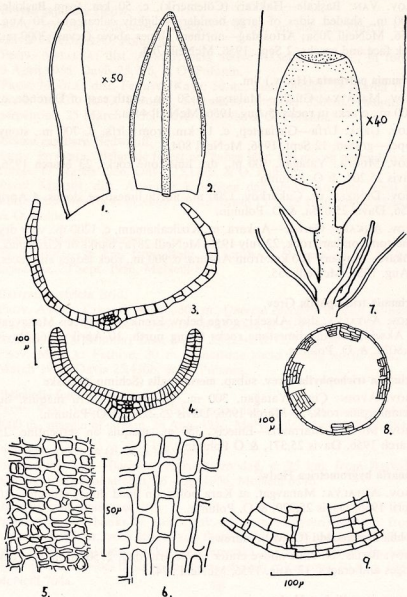


FIG. 1. *Grimmia cucullata*. 1 & 2. Detached leaves. 3. Section of leaf base. 4. Section of median part of lamina. 5. Laminar cells. 6. Basal cells. 7. Inflorescence and capsule. 8. Peristome. 9. Peristome detail.

***Grimmia conferta* Funck**

PROV. URFA: Urfa—Gaziantep, c. 15 km. from Urfa, c. 700 m., grazed stony slopes, 12 Sept. 1956, McNeill 804.

PROV. VAN: Artos dağ, northern slopes above Gevaş, 2900 m., stony slopes, 2 Sept. 1956, McNeill 778a.

***Grimmia anodon* B. & S.**

PROV. VAN: Başkale—Hakkari (Cölemerik), c. 50 km. from Başkale, 1800 m., shaded sides of large boulders—slightly calcareous, 30 Aug. 1956, McNeill 705a; Artos dağ—northern slopes above Gevaş, 3000 m., rock face and cracks, 2 Sept. 1956, McNeill 780.

***Grimmia pulvinata* (Hedw.) Sm.**

PROV. MALATYA: Gürün—Malatya, c. 50 km. south east of Darende, c. 1200 m., cracks in rocks, 5 Aug. 1956, McNeill 441a.

PROV. URFA: Urfa—Gaziantep, c. 15 km. from Urfa, c. 700 m., stony slopes—grazed, 12 Sept. 1956, McNeill 804.

PROV. MUĞLA: Yatağan, 100 m., dry limestone rocks, 23 March 1956, Davis 25,204, & O. Polunin.

PROV. DENİZLİ: nr. Çukurköy, 1200 m., north limestone slopes, 4 April 1956, Davis 25,615a, & O. Polunin.

PROV. ANKARA: Gerede—Ankara, nr. Kizilcahamam, c. 1200 m., very dry limestone, on bare rock, 22 July 1956, McNeill 287a; banks of Kizilirmak, Ankara—Kayseri, 100 km. from Ankara, c. 900 m., rock ledges and faces, 2 Aug. 1956, McNeill 355.

***Grimmia trichophylla* Grev.**

PROV. ANTALYA: dist. Akseki; gorge below Erenkaya between Manavgat & Akseki, 700 m., limestone rocks facing north, 10 April 1956, Davis 25,802a, & O. Polunin.

***Grimmia trichophylla* Grev. subsp. *meridionalis* (Schimp.) Loeske**

PROV. AYDIN: Çine—Yatağan, 300 m., *Quercus coccifera* maquis, on metamorphic rock, 23 March 1956, Davis 25,223c, & O. Polunin.

PROV. MUĞLA: Marmaris—Emecik, 350 m., maquis on serpentine, 25 March 1956, Davis 25,371, & O. Polunin.

***Funaria hygrometrica* Hedw.**

PROV. ANTALYA: Manavgat, at Kara point, on fixed dunes after fire, 10 April 1956, Davis 25,820, & O. Polunin.

***Pohlia drummondii* (C. M.) Andrews**

PROV. BITLİS: N. cliffs above crater of Nemrut dağ, 2750 m., moist rock ledges and cracks, 12 Aug. 1956, McNeill 574.

***Bryum caespitium* Hedw.**

PROV. ANKARA: banks of Kizilirmak, Ankara—Kayseri, 100 km. from Ankara, c. 900 m., rock ledges and faces, 2 Aug. 1956, McNeill 357.

Bryum caespititium var. **kunzei** (Hornsch.) Braithw.

PROV. MALATYA: Gürün—Malatya, c. 50 km. from Malatya, c. 1400 m., base of overhanging boulder, 7 Aug. 1956, McNeill 456.

PROV. ANTALYA: dist. Elmali; Sariyer dağ, between Elmali & Korkuteli, 1700 m., rocky N. slope, 7 April 1956, Davis 25,758c, & O. Polunin.

PROV. VAN: Halanduran dağ, Başkale—Van, c. 25 km. from Başkale, 300 m., 2 Sept. 1956, McNeill 741.

Bryum capillare Hedw.

PROV. ISTANBUL: Alemdağ Taşdelen, 150 m., on soil, 18 March 1956, Davis 25102b, & O. Polunin.

PROV. ANTALYA: dist. Akseki; pass above Akseki, 1500 m., in forest, 9 April 1956, Davis 25,796, & O. Polunin.

PROV. MUĞLA: dist. Fethiye; Kaya, 50 m., shady banks, 28 March 1956, Davis 25,439, & O. Polunin; Marmaris—Emecik, 350 m., maquis on serpentine, 25 March 1956, Davis 25,369b, & O. Polunin.

Bryum capillare Hedw. aff.

PROV. ISTANBUL: Belgrade forest nr. Bahçe köy, 100 m., on ground in oak forest, 17 March 1956, Davis 25,127b, & O. Polunin.

PROV. MERSİN: dist. Anamur; Kaldöken dağ above Anamur, 1500 m., north limestone rocks in *Abies cilicica* forest, 13 April 1956, Davis 25,943b, & O. Polunin.

Mnium rostratum Schrad.

PROV. BOLU: 96 km. from Bolu, in scrub of *Quercus* sp. & *Paliurus aculeatus*, 20 Sept. 1956, McNeill 851.

Bartramia stricta Brid.

PROV. AYDIN: Çine—Yatağan, 300 m., *Quercus coccifera* maquis on metamorphic rock, 23 March 1956, Davis 25,202a, & O. Polunin; *ibid.*, Davis 25,203b, & O. Polunin; *ibid.*, Davis 25,223d, & O. Polunin.

PROV. MUĞLA: Fethiye, 30 m., limestone rocks facing north west, 27 March 1956, Davis 25,430b, & O. Polunin.

Philonotis fontana (Hedw.) Brid.

PROV. VAN: Van—Başkale; Halanduran dağ, c. 25 km. from Başkale, 3000 m., margin of stream, 26 Aug. 1956, McNeill 659, and McNeill 684d.

Philonotis calcarea (B. & S.) Schimp.

PROV. VAN: Van—Başkale; Halanduran dağ, c. 25 km. from Başkale, 3000 m., margin of stream, 26 Aug. 1956, McNeill 684b.

Orthotrichum cupulatum Brid.

PROV. ANKARA: banks of Kizilirmak, (Ankara—Kayseri) 100 km. from Ankara, c. 900 m., rock ledges and faces, 2 Aug. 1956, McNeill 358.

PROV. VAN: Başkale—Hakkari (Cölemerik), c. 50 km. from Başkale, 1800 m., shaded sides of large boulders—slightly calcareous, 30 Aug. 1956, McNeill 704a.

Leucodon sciurioides (Hedw.) Schwaegr.

PROV. GAZİANTEP: 25 km. west of Gaziantep, c. 900 m., stony ground in oak scrub, 13 Sept. 1956, McNeill 832b.

PROV. MUĞLA: Fethiye, 30 m., limestone rocks facing north west, 27 March 1956, Davis 25,429, & O. Polunin.

PROV. ANTALYA: dist. Akseki; gorge below Erenkaya between Manavgat & Akseki, 700 m., limestone rocks facing north, 10 April 1956, Davis 25,806, & O. Polunin.

Leucodon sciurioides (Hedw.) Schwaegr. var. *morensis* (Schwaegr.) De Not.

PROV. MUĞLA: dist. Fethiye; Eren dağ, on road to Seki yayla, 1300 m., *Juniperus oxycedrus* dominant, 1 April 1956, Davis 25,564b, & O. Polunin.

Pterogonium gracile (Hedw.) Sm.

PROV. DENİZLİ: nr. Çukurköy, 1200 m., north limestone slopes, 4 April 1956, Davis 25,611c, & O. Polunin.

Pseudoleskea atrovirens B. & S.

PROV. VAN: Artos dağ, northern slopes above Gevaş, 2750 m., clay beside melting snow-patch, 2 Sept. 1956, McNeill 776.

Cratoneuron commutatum (Hedw.) Roth var. *falcatum* (Brid.) Moenk.

PROV. VAN: Van—Başkale, Halanduran dağ, c. 25 km. from Başkale, 3000 m., margin of stream, 26 Aug. 1956, McNeill 684c and McNeill 685.

Cratoneuron decipiens (De Not.) Loeske

PROV. VAN: Başkale—Van, Halanduran dağ, c. 25 km. from Başkale, 3000 m., margin of stream, 31 Aug. 1956, McNeill 719.

Cratoneuron filicinum (Hedw.) Roth

PROV. KAYSERİ: Kayseri—Pinarbaşı, c. 40 km. N.E. of Kayseri, c. 1000 m., edge of drinking trough, very moist, 4 Aug. 1956, McNeill 421b.

Hygroamblystegium tenax (Hedw.) Jennings

PROV. KAYSERİ: Kayseri—Pinarbaşı, c. 40 km. N.E. of Kayseri, c. 1000 m., edge of drinking trough, very moist, 4 Aug. 1956, McNeill 420a.

Hygroamblystegium fluviatile (Hedw.) Loeske fo. *spinifolia* Moenk.

PROV. KAYSERİ: Kayseri—Pinarbaşı, c. 40 km., N.E. of Kayseri, c. 1000 m., edge of drinking trough, under continuous flow of water, 4 Aug. 1956, McNeill 419.

Drepanocladus aduncus (Hedw.) Warnst.

PROV. BITLİS: crater of Nemrut dağ, 2400 m., in water at margin of lake, 11 Aug. 1956, McNeill 564.

Scorpiurium circinatum (Brid.) Fleisch. et Loeske

PROV. MUĞLA: dist. Fethiye; Kaya, 50 m., trunk of *Fraxinus*, 28 March 1956, Davis 25,440, & O. Polunin; Fethiye, 30 m., limestone rocks facing north west, 27 March 1956, Davis 25,428, & O. Polunin.

Camptothecium sericeum (Hedw.) Kindb.

PROV. ANTALYA: Alanya promontory, 100 m., north banks, 11 April 1956, Davis 25,848b, & O. Polunin.

PROV. VAN: Başkale—Van; Halanduran dağ c. 25 km. from Başkale, 3000 m., margin of stream, 31 Aug. 1956, McNeill 720.

PROV. ISTANBUL: Alem dağ, Taşdelen, 150 m., tree stumps, 18 March 1956, Davis, 25,101b, & O. Polunin; *ibid.*, Davis 25,102c, & O. Polunin; Belgrade forest, nr. Bahçe köy, 100 m., on ground in oak forest, 17 March 1956, Davis 25,126c, & O. Polunin.

PROV. ANTALYA: dist. Akseki; gorge below Erenkaya, between Manavgat and Akseki, 700 m., limestone rocks facing north, 10 April 1956, Davis 25,803, & Polunin; *ibid.*, Davis 25,804a, & O. Polunin; pass above Akseki, 1500 m., *Abies* forest, 9 April 1956, Davis 25,795, & O. Polunin.

PROV. DENİZLİ: nr. Çukurköy, 1200 m., north limestone slope, 4 April 1956, Davis 25,613a, & O. Polunin; *ibid.*, Davis 25,611a, & O. Polunin; *ibid.*, Davis 25,614b, & O. Polunin.

PROV. MERSİN: dist. Anamur; Kaldöken dağ above Anamur, 1500 m., north limestone rocks in *Abies cilicica* forest, 13 April 1956, Davis 25,943a, & O. Polunin; *ibid.*, Davis 25,942a, & O. Polunin; *ibid.*, Davis 25,941, & O. Polunin.

PROV. MUĞLA: dist. Fethiye; Eren dağ, on road to Seki yayla, 1300 m., *Juniperus oxycedrus* dominant, 1 April 1956, Davis 25,565, & O. Polunin.

PROV. SEYHAN (Adana): Gaziantep—Adana, W. side of summit of Amanus, 1150 m., oak scrub on steep slope, 13 Sept. 1956, McNeill 843.

PROV. ANKARA: banks of Kizilirmak, Ankara—Kayseri, 100 km. from Ankara, c. 900 m., rock ledges and faces, 2 Aug. 1956, McNeill 360.

***Camptothecium aureum* (Lagasca) B. & S.**

PROV. MUĞLA: dist. Fethiye; Eren dağ, 1300 m., *Juniperus oxycedrus* dominant, 1 April 1956, Davis 25,564a, & O. Polunin.

***Camptothecium lutescens* (Hedw.) Brid.**

PROV. ANTALYA: dist. Akseki; gorge below Erenkaya between Manavgat and Akseki, 700 m., limestone rocks facing north, 10 April 1956, Davis 25,802b, & O. Polunin.

PROV. MUĞLA: Fethiye, 30 m., limestone rocks facing north west, 27 March 1956, Davis 25,427, & O. Polunin.

PROV. MERSİN: dist. Anamur; Kaldöken dağ above Anamur, 1500 m., north limestone rocks in *Abies cilicica* forest, 13 April 1956, Davis 25,943h, & O. Polunin.

***Brachythecium rivulare* (Bruch) B. & S.**

PROV. VAN: Van—Başkale; Halanduran dağ, c. 25 km. from Başkale, 3000 m., margin of stream, 26 Aug. 1956, McNeill 684a.

***Brachythecium collinum* (Schleich.) B. & S.**

PROV. BITLİS: Nemrut dağ, c. 2000 m., very steep parts of slope—on otherwise bare ground, 11 Aug. 1956, McNeill 576.

PROV. VAN: Artos dağ, northern slopes above Gevaş, 2750 m., rock ledges above snow patch with *Asplenium* sp., 2 Sept. 1956, McNeill 777a.

***Brachythecium trachypodium* (Brid.) B. & S.**

PROV. VAN: Artos dağ, northern slopes above Gevaş, 2900 m., stony slopes, 2 Sept. 1956, McNeill 779a.

Scleropodium illecebrum (Hedw.) B. & S.

PROV. MUĞLA: Akçapinar, between Marmaris & Muğla, 30 m., shady mossy bank, on serpentine, 26 March 1956, Davis 25,380, & O. Polunin.

Pseudoscleropodium purum (Limpr.) Fleisch.

PROV. BOLU: 96 km. from Bolu, in scrub of *Quercus* sp. and *Paliurus aculeatus* etc., growing under *Paliurus* bush, 20 Sept. 1956, McNeill 850.

Hypnum cupressiforme Hedw.

PROV. ISTANBUL: Belgrade forest nr. Bahce köy, 100 m., on ground in oak forest, 17 March 1956, Davis 25,126b, & O. Polunin; *ibid.*, on tree stump, 17 March 1956, Davis 25,128b, & O. Polunin.

PROV. MUĞLA: Marmaris—Emecik, 350 m., maquis on serpentine, 25 March 1956, Davis 25,370, & O. Polunin.

Hypnum cupressiforme var. **resupinatum** Wils.

PROV. ISTANBUL: Alemdag Taşdelen, tree trunks, 150 m., 18 March 1956, Davis 25,100b, & O. Polunin.

Targionia hypophylla L.

PROV. MUĞLA: Akçapinar, between Marmaris & Muğla, 30 m., shady mossy bank on serpentine, 26 March 1956, Davis 25,390, & O. Polunin.

PROV. AYDIN: Çine—Yatağan, 300 m., *Quercus coccifera* maquis, on metamorphic rock, 23 March 1956, Davis 25,202d, & O. Polunin.

Reboulia hemispherica (L.) Raddi

PROV. ANKARA: banks of Kizilirmak, (Ankara—Kayseri) 100 km. from Ankara, c. 900 m., rock ledges and faces, 2 Aug. 1956, McNeill 362.

PROV. ANTALYA: Alanya promontory, 100 m., north banks, 11 April 1956, Davis 25,848c, & O. Polunin.

Conocephalum conicum (L.) Dum.

PROV. MUĞLA: Akçapinar, between Marmaris & Muğla, 30 m., shady mossy bank on serpentine, 26 March 1956, Davis 25,391, & O. Polunin; *ibid.*, Davis 25,389, & O. Polunin.

Anthoceros punctatus L.

PROV. MUĞLA: Marmaris, 30 m., shady bank, 24 March 1956, Davis 25,291, & O. Polunin.

Anthoceros levis L.

PROV. ANTALYA: Alanya bay, 2 m., damp fields, 12 April 1956, Davis 25,908, & O. Polunin.

PROV. AYDIN: Çine—Yatağan, 300 m., *Quercus coccifera* maquis, on metamorphic rock, 23 March 1956, Davis 25,202c, & O. Polunin.

Scapania compacta (Roth) Dum.

PROV. ISTANBUL: Belgrade forest nr. Bahce köy, 100 m., on ground in oak forest, 17 March 1956, Davis 25,129c, & O. Polunin.