

THE FLORA OF BOMBED SITES IN CANTERBURY

By DOUGLAS H. KENT.

Canterbury, the ecclesiastical capital of England, is situated on the River Stour in East Kent, 62 miles south-east of London. Few English towns can boast of greater antiquity, and there is good evidence that a Romano-British town existed on the site of the present City. The great cathedral was founded in 597 A.D., and the City was probably almost entirely built up by the end of the 13th century. The area contained within the City walls is about 143 acres, and it is probable that, except for short periods when rebuilding took place, many of the sites now levelled must have been covered with houses, churches and shops for nearly seven hundred years.

During the recent war Canterbury, owing to its geographical situation, was in the front line and suffered severe damage from enemy action. Although "tip and run" raiders caused damage as early as the summer of 1940, the first serious air raid took place on the night of May 31, 1942, as a reprisal for the Allied 1000 bomber raid on Cologne the previous night. As a result of this attack and continuous raids during the following week an area of approximately 15 acres bounded by Burgate Street, Butchery Lane, St Margaret's Street, Watling Street, St George's Lane and Burgate Lane was largely devastated by fire. A daylight attack on 31st October 1943 caused further widespread damage in various other parts of the town.

The bombed sites of Canterbury present, therefore, an interesting parallel with those of the City of London, the flora of which has been dealt with by J. E. Lousley (1944, *B.E.C. 1941-2 Rep.*, 528-31; 1946, *1943-44 Rep.*, 875-83). Whereas, however, the City of London is surrounded by the built-up area of the metropolis, Canterbury is, in contrast, apart from its small area of suburbs, surrounded by orchards, hop gardens, small holdings, fields, pastures, woods and downs. Thus the chance of a plant being introduced on to the Canterbury sites is probably considerably greater than in London. Another important factor is that many more species existed in the open spaces of pre-war Canterbury than in the similar areas of the City of London. The walls of the City of Canterbury also maintained an interesting denizen flora, the most notable plants being *Cheiranthus Cheiri* L., *Sagina procumbens* L., *Kentranthus ruber* (L.) DC., *Linaria Cymbalaria* (L.) Mill., *Parietaria diffusa* Mert. & Koch and *Festuca rigida* (L.) Kunth. Various churchyards, the cathedral precincts and Dane John, produced various other plants among which may be mentioned *Sambucus nigra* L., *Erigeron canadensis* L. and *Buddleja Davidii* Franch. The banks of the Stour and allotments to the north of the river also provided a

number of weeds, e.g. *Capsella Bursa-pastoris* (L.) Medik., *Achillea Millefolium* L., *Artemisia vulgaris* L., *Senecio vulgaris* L., etc.

The records contained in this paper were made during many visits to Canterbury between the Spring of 1943 and the Summer of 1950, and although the area of the survey has been confined to the old City, i.e. within the walls, plants of special interest which have occurred just outside the boundaries are included within square brackets. Although I believe the following list to be fairly complete it is possible that a number of plants may have escaped my notice and that additional species will continue to arrive on the sites.

In conclusion I should like to offer my sincere thanks to Mr John Boyle, LL.B., Town Clerk of Canterbury, for statistical information relating to the City and to Mr C. E. Hubbard for assistance in naming certain species of Gramineae.

- 1/1. *Clematis Vitalba* L. Rare. Watling Street, Gravel Walk and near St George's Lane.
- 6/2. *Ranunculus repens* L. Apparently rare. Seen only in Watling Street.
- 6/3. *R. acris* L. Rare. St George's Street and Stour Street.
- †13/3. *Delphinium Gayanum* Wilmott. Near the West Gate, 1944; St Peter's Street, 1945.
- †21/1. *Papaver somniferum* L. St George's Street, 1944-45, possibly deliberately sown.
- 21/2. *P. Rhoas* L. Frequent.
- †21/13. *P. lateritium* Koch. Not uncommon in Burgate Street and St Peter's Street. [Abundant on several sites in St George's Place from whence it has probably spread into the old city.]
- [25/1. *Chelidonium majus* L. Broad Street.]
- 34/1. *Cheiranthus Cheiri* L. Rare. Sparingly naturalised on brick rubble in St George's Street.
- †41/1. *Aubrieta deltoidea* DC. Near the West Gate, 1945, probably deliberately introduced; it has not persisted.
- †45/1. *Cochlearia Armoracia* L. Rare. Pound Lane.
- †49/3. *Sisymbrium altissimum* L. Rare. Two plants on brick rubble, Burgate Lane, 1949.
- †49/4. *S. orientale* L. Burgate Lane, abundant.
- 49/6. *S. officinale* (L.) Scop. Frequent.
- 49/8. *S. Alliaria* Scop. Rare. St George's Street.
- 54/14. *Brassica Kaber* (DC.) Wheeler. Common.
- 54/15. *B. hirta* Moench. Rare. St George's Street.
- [†54/16. *B. juncea* Coss. Rare. Lower Chantry Lane, 1950.]
- 55/1. *Diptotaxis tenuifolia* (L.) DC. Rare. St George's Terrace and Burgate Lane.
- 55/2b. *D. muratis* (L.) DC. var. *caulescens* Kittel. Very rare. St George's Lane, 1949.
- 59/1. *Capsella Bursa-pastoris* (L.) Medik. Frequent.
- †60/1. *Coronopus didymus* (L.) Sm. Rare. St Margaret's Street, 1944.
- †60/2. *C. procumbens* Gilib. Rare. Burgate Street, 1948.
- 61/3. *Lepidium Draba* L. Not common, though locally abundant at the junction of Watling Street and Marlowe Avenue. [Common outside the City as at Old Ruttington Lane, Union Street, Borough, etc.]
- †61/4. *L. ruderale* L. Burgate Lane, one plant, 1950.
- [†61/12. *L. sativum* L. Station Road West, a solitary plant, 1949.]
- †65/2. *Iberis umbellata* L. Near the Cattle Market, 1944, deliberately sown.

- †74/2. *Bunias orientalis* L. St George's Street, a single large plant, 1949.
 95/1. *Reseda Luteola* L. Near the West Gate, 1944-47.
 95/1. *Saponaria officinalis* L. Rare. Near Burgate Lane, 1949.
 [96/2. *Silene Cucubatus* Wibel. Opposite St Paul's Church.]
 98/3. *Melandrium album* (Mill.) Garcke. Occasional.
 98/4. *M. dioicum* (L.) Coss. & Germ. Rare. St George's Street.
 100/5. *Cerastium vulgatum* L. Frequent.
 †100/12. *C. tomentosum* L. Abundant and well established near the Cattle Market, 1946.
 101/3. *Stellaria media* Vill. Very common.
 102/5. *Arenaria serpyllifolia* L. Frequent on stony rubble in St George's Street and Burgate Lane.
 102/6. *A. leptoclados* (Rchl.) Guss. Occasional.
 103/11. *Sagina procumbens* L. Not uncommon on stony ground.
 [112/14. *Hypericum perforatum* L. St George's Place.]
 †115/3. *Althaea rosea* L. Occasional.
 117/2. *Malva sylvestris* L. Rare. Burgate Street.
 117/3. *M. neglecta* Wallr. Rare. Watling Street and St Peter's Lane.
 127/7. *Geranium pyrenaticum* Burm. f. Several large patches near the site of the Cathedral Library. [Monastery Street, in profusion.]
 †140/1. *Vitis vinifera* L. St George's Terrace.
 †140/2. *V. hederacea* L. Burgate Street and St Peter's Street.
 [†141/1. *Aesculus Hippocastanum* L. Havelock Street, a single large seedling, 1949.]
 †142/1. *Acer Pseudo-platanus* L. Abundant throughout the city as seedlings and saplings.
 †146/1. *Laburnum anagyroides* Medik. Several seedlings by St George's Church, 1949; a single seedling, Watling Street, 1949.
 †153/3. *Medicago sativa* L. St George's Street.
 [153/5. *M. arabica* (L.) Hud. St George's Place, Union Street and Broad Street.]
 153/7. *M. lupulina* L. Occasional.
 †154/2. *Melilotus alba* Desr. Rare. Near the Cattle Market, 1944.
 155/2. *Trifolium pratense* L. Occasional.
 155/16. *T. repens* L. Frequent.
 155/21. *T. dubium* Sibth. Rare. Watling Street.
 160/5. *Lotus corniculatus* L. Rare. Sparingly on grass-covered sites in St George's Street and St George's Lane.
 [†163/1. *Galega officinalis* L. A large patch nearly opposite the Baptist Church, 1946.]
 176/13. *Vicia angustifolia* (L.) Reichard. St George's Street and Watling Street.
 †178/1. *Lathyrus latifolius* L. St George's Terrace, 1944. Not there in 1947.
 183/. *Prunus* sp. Cherry seedlings are frequent as the result of stones being thrown on to the sites.
 185/. *Rubus* sp. Rare. St George's Street and Burgate Street.
 187/1. *Geum urbanum* L. Rare. St George's Street.
 [188/2. *Fragaria vesca* L. St George's Place, 1949.]
 [189/7. *Potentilla replans* L. Broad Street and Monastery Street.]
 196/1. *Crataegus monogyna* Jacq. St George's Street, a single seedling, 1950.
 211/6. *Sedum acre* L. Stony rubble, St George's Street and Burgate Street.
 220/1. *Chamaenerion angustifolium* (L.) Scop. In the greatest abundance throughout the City.
 220/3. *Epilobium hirsutum* L. Rare. Iron Bar Lane and Canterbury Lane.
 220/5. *E. tetragonum* L. Gravel Lane.
 220/8. *E. roseum* Schreb. St Peter's Street, 1945.
 220/10. *E. montanum* L. Common.
 223/. *Oenothera* spp. Frequent. There appear to be several distinct plants within the radius of the City.
 243/1. *Conium maculatum* L. Rare. Watling Street.

- 244/1. *Smyrniololus atrum* L. Rare. Several large plants by St George's Church; Rose Lane; by the West Gate.
- 251/1. *Sison Amomum* L. Rare. Opposite St George's Church, 1945.
- [254/1. *Aegopodium Podagraria* L. St George's Place and Havelock Street.]
- 259/1. *Scandix Pecten-veneris* L. Rare. Watling Street.
- 261/1. *Anthriscus sylvestris* (L.) Hoffm. Rare. St George's Street.
- 266/1. *Aethusa Cynapium* L. Rare. Knotts Lane, 1950.
- [276/3. *Peucedanum sativum* (L.) Bent. & Hook. Broad Street.]
- 277/2. *Heracleum Sphondylium* L. Occasional.
- 283/3. *Torilis Anthriscus* (L.) C. C. Gmel. Rare. Near Rose Lane, 1950.
- 284/1. *Hedera Helix* L. Occasional.
- 287/2. *Sambucus nigra* L. Frequent.
- [287/2b. — var. *laciniata* L. West Gate Street.]
- 296/9. *Galium verum* L. Rare. A small patch on a grass-covered site near St George's Street.
- 296/11. *G. Aparine* L. Abundant.
- †302/1. *Kentranthus ruber* (L.) DC. In the greatest abundance on broken walls and brick rubble.
- 306/1. *Dipsacus fullonum* L. Watling Street and Pound Lane.
- †312/6. *Solidago canadensis* L. Occasional.
- 314/1. *Bellis perennis* L. Rare. Marlowe Avenue.
- †318/2. *Aster paniculatus* Lam. Occasional.
- †318/4. *A. novi-belgii* L. Occasional.
- †320/3. *Erigeron canadensis* L. Frequent.
- †347/4. *Helianthus annuus* L. Occasional.
- 365/1. *Achillea Millefolium* L. Frequent.
- 365/11. *A. Ptarmica* L. St George's Street.
- 368/4. *Anthemis Cotula* L. St George's Street and Burgate Street.
- [370/4. *Chrysanthemum Leucanthemum* L. St George's Place.]
- 370/13. *C. Parthenium* (L.) Bernh. f. *hortense* (Schur) Beck. Common.
- 371/1. *Matricaria inodora* L. Occasional.
- 371/2. *M. Chamomilla* L. Occasional.
- 371/3. *M. matricarioides* (Less.) Porter. Frequent.
- 378/3. *Artemisia vulgaris* L. Abundant.
- [†378/21. *A. Verlotorum* Lam. About 15-20 small patches on a grass-covered site at the Borough by Union Street.]
- 379/1. *Tussilago Farfara* L. Frequent.
- 383/5. *Senecio Jacobaea* L. Frequent.
- †383/7. *S. squalidus* L. A few plants on the floor of the bombed St George's Church, 1944. In 1945 the plants increased in number and by 1946 had spread to two other sites in St George's Street. By 1948 the plant had formed colonies on about a dozen sites in the area. It is now abundant and still spreading.
- 383/10. *S. vulgaris* L. Frequent.
- †385/1. *Calendula officinalis* L. Occasional.
- 393/3. *Arctium minus* (L.) Bernh. Rare. Watling Street.
- 396/2. *Cirsium vulgare* (Savi) Ten. Frequent.
- 396/8. *C. arvense* (L.) Scop. Frequent.
- 411/1. *Lapsana communis* L. St Peter's Street.
- [416/3. *Crepis biennis* L. St George's Place.]
- 416/5. *C. capillaris* (L.) Wallr. Common.
- 416/10. *C. taraxacifolia* Thuill. Abundant.
- 419/1. *Hieracium Pilosella* L. Rare. St George's Street.
- 421/2. *Hypochoeris radicata* L. Frequent
- [422/1. *Leontodon hispidus* L. St George's Place.]
- 423/1. *Taraxacum officinale* Weber. Common.
- 425/1. *Lactuca virosa* L. St George's Street.
- 425/2. *L. Serriola* L. Frequent.
- 427/2. *Sonchus arvensis* L. St George's Street and St Peter's Street.
- 427/3. *S. asper* Hill. Near the West Gate, and King Street.

- 427/4. *S. oleraceus* L. Occasional.
 428/2b. *Tragopogon minor* Mill. St George's Street and St George's Lane.
 471/1. *Fraxinus excelsior* L. St George's Street, seedlings and saplings.
 †474/2. *Buddleja Davidii* Franch. In the greatest abundance throughout the City.
 †500/1. *Anchusa sempervirens* L. Canterbury Lane.
 507/3. *Lithospermum arvense* L. Rare. Watling Street, 1949.
 509/1. *Echium vulgare* L. Rare. Knotts Lane, three plants, 1949.
 511/1. *Calystegia sepium* (L.) R.Br. St George's Street.
 †511/2. *C. sylvestris* (Willd.) Roem. & Schult. Watling Street, Best Lane and Castle Row.
 513/1. *Convolvulus arvensis* L. Occasional.
 †516/1. *Lycopersticon esculentum* Hill. St George's Street.
 517/1. *Solanum Dulcamara* L. St George's Street, St John's Lane and Watling Street.
 517/2. *S. nigrum* L. Frequent.
 †517/10. *S. tuberosum* L. St George's Street and Burgate Street.
 †527/1. *Verbascum phlomoides* L. St George's Street.
 527/3. *V. Thapsus* L. Watling Street.
 532/1. *Linaria vulgaris* Mill. St George's Street and St George's Lane.
 †532/2. *L. purpurea* (L.) Mill. Abundant on the site of the White Lion Inn, St George's Street; Gravel Lane.
 †532/2b. *L. Cymbalaria* (L.) Mill. Frequent on brick rubble.
 †534/1. *Antirrhinum majus* L. St George's Street.
 577/3. *Stachys sylvatica* L. Rare. Rose Lane, 1950.
 581/1. *Lamium album* L. Best Lane.
 581/3. *L. purpureum* L. St George's Lane.
 583/1. *Ballota nigra* L. St George's Street.
 587/1. *Ajuga reptans* L. Rare. Grass-covered site, St George's Street.
 588/8. *Plantago lanceolata* L. Canterbury Lane and Rose Lane.
 588/10. *P. major* L. Common.
 600/8. *Chenopodium album* L. Frequent.
 604/4. *Beta maritima* L. Pound Lane, 1950.
 606/3. *Atriplex patula* L. Common.
 606/5. *A. hastata* L. Common.
 615/2. *Polygonus Convolvulus* L. Burgate Street and Stour Street.
 615/7. *P. Persicaria* L. Occasional.
 615/14. *P. aviculare* L. Frequent.
 †615/32. *P. cuspidatum* Sieb. & Zucc. St George's Street and Iron Bar Lane.
 618/3. *Rumex crispus* L. St George's Lane.
 [618/3 × 6. *R. crispus* × *obtusifolius*. Broad Street.]
 618/6. *R. obtusifolius* L. St George's Street.
 [618/9. *R. conglomeratus* Murr. St George's Place.]
 618/16. *R. Acetosella* L. St George's Street.
 628/7. *Euphorbia Helioscopia* L. St Peter's Street.
 632/2. *Mercurialis annua* L. St George's Street and St George's Terrace.
 [634/1. *Humulus Lupulus* L. Opposite St Paul's Church.]
 637/1. *Urtica dioica* L. Frequent.
 637/2. *U. urens* L. Rare. Knotts Lane, 1950.
 638/1. *Parietaria diffusa* Mert. & Koch. Frequent.
 642/. *Betula* sp. St George's Street, seedlings and saplings.
 646/1. *Quercus Robur* L. St George's Street and Burgate Street, seedlings.
 650/2. *Salix fragilis* L. St George's Street, saplings.
 650/8. *S. caprea* L. Frequent.
 650/10. *S. atrocinerea* Brot. Occasional.
 706/3. *Scilla non-scripta* (L.) Hoffm. & Link. Rare. St George's Lane.
 770/1. *Alopecurus pratensis* L. Rare. Watling Street.
 777/1g. *Phleum nodosum* L. Frequent.
 780/2f. *Agrostis stolonifera* L. var. *stolonifera*. Frequent.
 780/3. *A. tenuis* Sibth. Common.

- 792/2. *Holcus lanatus* L. St George's Street, St George's Lane and Gravel Walk
- 793/1. *Trisetum flavescens* (L.) Beauv. Burgate Street.
- 794/2. *Helictotrichon pubescens* (Huds.) Pilger. Rare. A single clump in St George's Lane.
- 794/3. *H. pratense* (L.) Pilger. Rare. St George's Lane.
- †794/7. *Avena sativa* L. Occasional.
- 795/1. *Arrhenatherum elatius* (L.) J. & C. Presl. St George's Street and Burgate Lane.
- 819/1. *Dactylis glomerata* L. Frequent.
- 824/2. *Poa pratensis* L. Common.
- 824/2b. *P. angustifolia* L. Common.
- 824/6. *P. trivialis* L. Frequent.
- 824/10. *P. compressa* L. St George's Lane.
- 826/1. *Festuca rigida* (L.) Kunth. On stony ground at The Friars, St George's Lane, St John's Lane and Rose Lane.
- [826/3b. *F. arundinacea* Schreb. subvar. *strictior* (Hack.). Near St Paul's Church, 1949, confirmed by C. E. Hubbard.]
- 826/7. *F. rubra* L. Occasional.
- 826/17. *Vulpia bromoides* (L.) S. F. Gray. Frequent.
- 826/18. *V. myuros* (L.) C. C. Gmel. St John's Lane.
- 827/3. *Bromus sterilis* L. Abundant.
- [827/7. *B. erectus* Huds. St George's Place.]
- 827/19. *B. mollis* L. Frequent.
- 827/19b. — var. *letostachyus* Hartm. St George's Street, det. C. E. Hubbard.
- 827/19(3). *B. Thomini* Hard. St George's Street, confirmed by C. E. Hubbard.
- 829/1. *Lolium perenne* L. Frequent.
- 829/4. *L. multiflorum* Lam. Occasional.
- 830/4. *Agropyron repens* (L.) Beauv. Common.
- †831/1. *Secale cereale* L. Canterbury Lane, 1950.
- †832/4. *Triticum aestivum* L. Canterbury Lane, 1950.
- 835/2. *Hordeum murinum* L. Frequent.
- 847/1. *Pteridium aquilinum* (L.) Kuhn. Frequent.
- 856/1. *Dryopteris Filix-mas* (L.) Schott. Rare. Watling Street.