



Smyrna.

Smyrna, from the sea, in around 1877. From George Maw, *The Genus Crocus* (1886).

## EDWARD WHITTALL (1851–1917) AND HIS CONTRIBUTION TO THE ROYAL BOTANIC GARDENS, KEW

Alison and Martyn Rix

‘Mr E. Whittall, a merchant of Smyrna, and an ardent lover of plants, has considerably enriched the Kew collection of bulbous plants. He is collecting systematically, and the results promise to be very successful. Already several new things contributed to the herbarium have come to light, amongst them *Galanthus ikariae*, *Tulipa concinna* and *Fritillaria whittallii*.’ [From *Kew Bull.* Anon. 1893]:

Edward Whittall was one of a large family of English merchants based in Turkey. In 1782 his grandfather, Charlton, had left Liverpool for the flourishing Turkish port of Smyrna, now Izmir, and after a few years, he set up his own trading company, C. Whittall & Co,

which became a member of the British Levant Company; according to the last chaplain of the Company, this was:

‘...the most valuable body of merchants perhaps in the world: there were at one time 800 members, and they had a fleet of twenty four large vessels carrying thirty guns each, trading in different ports of the Turkish dominions...’

The Whittall company’s main trade was in exporting various Turkish products, including dye roots, dried fruits, cotton and valonea (for tanning) to England. In 1817 Charlton’s brother James came out to join him in the business. Both brothers married and had many children, but only two sons apiece each confusingly called Charlton and James. Charlton’s second son James (1819–1883) married his cousin Magdaleine Giraud and they had thirteen children, including Edward the botanist (Derrick, 1975).

The expatriate community was given great freedom, and, after 1869, foreigners were allowed to own land on the outskirts of Smyrna, where they built spacious villas, surrounded by shady gardens. Whilst the trading activities were concentrated in warehouses and offices around the docks, the merchants’ families could live in comfort, away from the heat and dust, with loyal and affordable staff for the house and garden. In addition to the British, there were French, Greek and Italian merchants, many of whom became gradually interrelated through marriage, and the Whittalls were no exception; they and their extensive family based themselves in and around the Bournabat (Bornova) area to the east of Smyrna.

Gertrude Bell, the traveller and archaeologist, summed up the situation in a letter to her mother dated March 3, 1902, writing:

‘On Sunday we had a great day with the tumulus.....  
..... The Van Heemstras came up to see our work, bringing with them a brother of hers, a Mr Whittall. The Whittalls are grain merchants, they’ve been settled here since 1809. All these people are connected with one another. They have married each other, or married into Smyrna families of Greeks.....  
Everybody in the Levant is cousin to everybody else, quite regardless of nationality. Indeed nationality doesn’t exist here.’

The office of C. Whittall & Co in Smyrna continued to be run by the family, by this time represented by James's three sons Richard, Edward and Herbert.

Edmund H. Giraud (1984), remembered:

‘...In appearance Richard was tall and of light and wiry build. He had a commanding presence and was always well dressed. Edward was more heavily built and more heavily limbed, without being stout. He never appeared as well dressed as Richard, his figure and gait perhaps lending themselves less to careful tailoring than that of his brother...all three brothers were great sportsmen...Edward did all his shooting south of Smyrna, chiefly around Kulluk. In his later years he possessed a very pleasantly situated shooting lodge at Sakiz Bornou, near Sokia...These three brothers differed somewhat in character. Richard was very open-handed, of a genial and gay disposition; kind and generous to a fault...Edward was likewise generous and open-handed, with perceptions perhaps a little less-refined than those of his brother Richard. He delighted in an open-air life and loved sea-fishing to an even greater degree than shooting. His particular hobby was gardening, to which he devoted himself throughout his life. He was perhaps least happy in the commercial atmosphere surrounding the important business operations carried on by C. Whittall & Co.’

Edward Whittall married Mary Maltass in Smyrna in 1875, and they had nine children. Edward appears to have been happy to leave much of the day-to-day running of the business to his efficient brother Herbert. He was a keen sportsman who much preferred outdoor life to the office, and loved to explore and hunt whenever he had the chance. There is no doubt that he came to know the mountains to the east of Izmir exceptionally well, as he had ridden across the hills and mountains, visiting areas which are hard to reach by road even today.

In 1874 Whittall organised a shooting trip for a visiting Englishman, Henry John Elwes (1846–1922). Elwes was a keen sportsman, an energetic traveller, collector of birds and butterflies, botanist, gardener and plant collector and prolific contributor of new plants for *Curtis's Botanical Magazine*. He also wrote *A Monograph of the genus Lilium* (1877–1880), and the seven volume *Trees of Great Britain and Ireland*

(1906–1913) on which he collaborated with the great Irish plant collector, Augustine Henry. As a result of meeting Elwes, Edward Whittall became increasingly interested in the local Turkish flora, until eventually his love of plants overtook his enthusiasm for field sports (Elwes, 1930). Elwes was famously opinionated, and after a critical letter in *The Garden* magazine of April 20, 1889, Whittall replied:

‘I do not wish in any way to question Mr Elwes’ authority as a traveller in these parts, especially as I owe to him my first inspiration to attempt in my garden a collection of native wild flowers, but at the same time I may call his attention to the possibility, nay probability, of both he and Boissier never having had the opportunity to see all that is to be seen in the shape of flora in a mountainous region covering some 10 000 to 15 000 sq miles. I have lived in Asia Minor since my childhood, and as a sportsman have roamed over a good part of this neighbourhood, and yet every day brings some new shrub or flower for me to admire.’

Edward seems to have been a good employer and a genuinely kind man, and he hit on the bright idea of sending his men out to collect little-known and new bulbs during the early summer when farm work was slack, principally as a way of offering them permanent employment. This started as a small venture ‘to give a few weeks work to the deserving poor in our village’, but became increasingly productive until ‘hundreds of families’ were employed and he had large numbers of bulbs, as well as other plants, to distribute. At times there was a considerable surplus of bulbs, and rather than destroy them, an additional garden was created at the top of Nif dağı, a mountain close to Smyrna, where a number of men were employed. To help defray his rising expenses he offered some bulbs to the trade in Britain and Holland, and in May 1890, wrote to the Director of Kew, W. J. Thiselton-Dyer, offering:

‘...to send you anything I may collect from this country. If not troubling too much [sic] I would ask you in return to give me the names as it would help me very considerably. I will hand you all the bulbs by post with a number attached and descriptions of the locality in which they are found growing.’

Thiselton-Dyer agreed, and by October of that year, Whittall had sent a parcel of bulbs, including *Anemone blanda*, *Chionodoxa tmolusi*, *C. gigantea*, *Colchicum*, *Crocus*, *Cyclamen*, *Fritillaria armena* (both green and red forms), *F. aurea* (see Fig. 1), two *Scilla* from the Anti Taurus ‘the first giving only a single flower & the second said to be an early and free-flowering Siberica [sic]’ and tulips from the Anti Taurus and Murat dağı. He apologised for the:

‘...few samples I am sending you but you must consider the terrible year we have passed through and that my collectors were absolutely driven away by the want of water – many of the bulbs I am sending you come from my own garden as on the mountains if they flowered at all the whole crop of flowers had disappeared a few days after the first had opened and some 25–30 days before our usual collecting season. You can understand how disappointing it has been to me not to be able to carry out my promises but please God, next year I will send you the whole series of those I already know of and some interesting additions.’

Though a keen naturalist, Whittall was not a trained botanist, and always diffident when it came to the proper naming of plants. A typical remark comes in a letter to Thiselton-Dyer dated July 23, 1891:

‘...I have no doubt my numerous samples must cause you annoyance but as I am not sufficient of a Botanist to judge of their value, you must take the bad with the good. . . .’

Despite this, the flow of plants continued, and he was becoming both more observant and more knowledgeable, writing in March 1892:

‘I have just received from the Sisyphus or Manussa dagh mountains a plant probably of the Grape Hyacinth kind but so much prettier than the many varieties growing in these parts, that it may prove of some interest to you. By this mail therefore, I am forwarding you a specimen of same and two or three bulbs – No 36.’ [*Hyacinthella lineata* (Steudel) Chouard – ed.]

‘Has the Dwarf Red Cyclamen I sent you, coming from the Taurus above Adalia flowered with you. I am curious to know as Mr Max Leichtlin seems to think it an Alpine kind of *Cilicicum*



Fig. 1. *Fritillaria aurea* Schott, painted by Matilda Smith from bulbs grown at Kew, supplied by Edward Whittall. From *Curtis's Botanical Magazine* 120: t. 7474 (1894).

whereas I cannot see the faintest resemblance to any known variety. I must not forget to mention that my collectors, in collecting the bulbs of this species, brought down by chance an Autumn flowering dwarf with white flowers- Possibly some of your bulbs turned out of the latter.’

Edward refused to accept payment for material sent to Kew, preferring instead that the plants should be seen and enjoyed by visitors to the garden, who had had little opportunity to get to know and appreciate the enormous variety of Turkish flowers. Several proved to be species new to science, including *Galanthus ikariae* Baker, and a few were named *whittallii* by Baker<sup>1</sup>. *Fritillaria whittallii*, green with purple tessellations from limestone screes and *Cedrus* forest, occurs mainly in the mountains north and west of Antalya, (Fig. 2), whilst *Tulipa whittallii* was from Sokum yayla; it is a tetraploid form of the widespread *T. orphanidea* Boiss. ex Held., illustrated in *Curtis’s Botanical Magazine*, t. 9649 (Hall, 1943; Mathew & Baytop, 1984).

He eventually agreed to be reimbursed for the cost of post and packing, writing in April 1893:

‘... I was as much surprised as pleased to receive from your Curator the offer of £20 to go towards defraying the expenses of my collectors as I know well enough how difficult it is for any Government office to squeeze even a small sum of money for extraordinary purposes- The bulbs you ask for will reach London about end July – The only variety I doubt being able to send is *Crocus sieberi* (Tauri) as I am far from positive that any letters will reach my collector now on the spot- In these out of the way regions no posts exist except in name. . .

. . . I am also very much obliged to Mr Baker for his monograph [on *Fritillaria*] which will however be difficult for me to appreciate as it will necessitate my looking up my Latin dictionary after 20 years of utter neglect. By this mail, I hand you pressed flowers No 46 to 66. The only ones which have attracted my attention are No 56–Fritillary yellowish green quite different in shape from *armena*.- No 57 – another green outside and brown yellow striped internally – No 61 – very handsome one from Samos reaching 18 inches in height, yellow with darker

<sup>1</sup>John Gilbert Baker (1834–1920) worked at Kew from 1866 and 1899, and was keeper of the herbarium from 1890 to 1899. He published a monograph of *Fritillaria* (Baker, 1874).

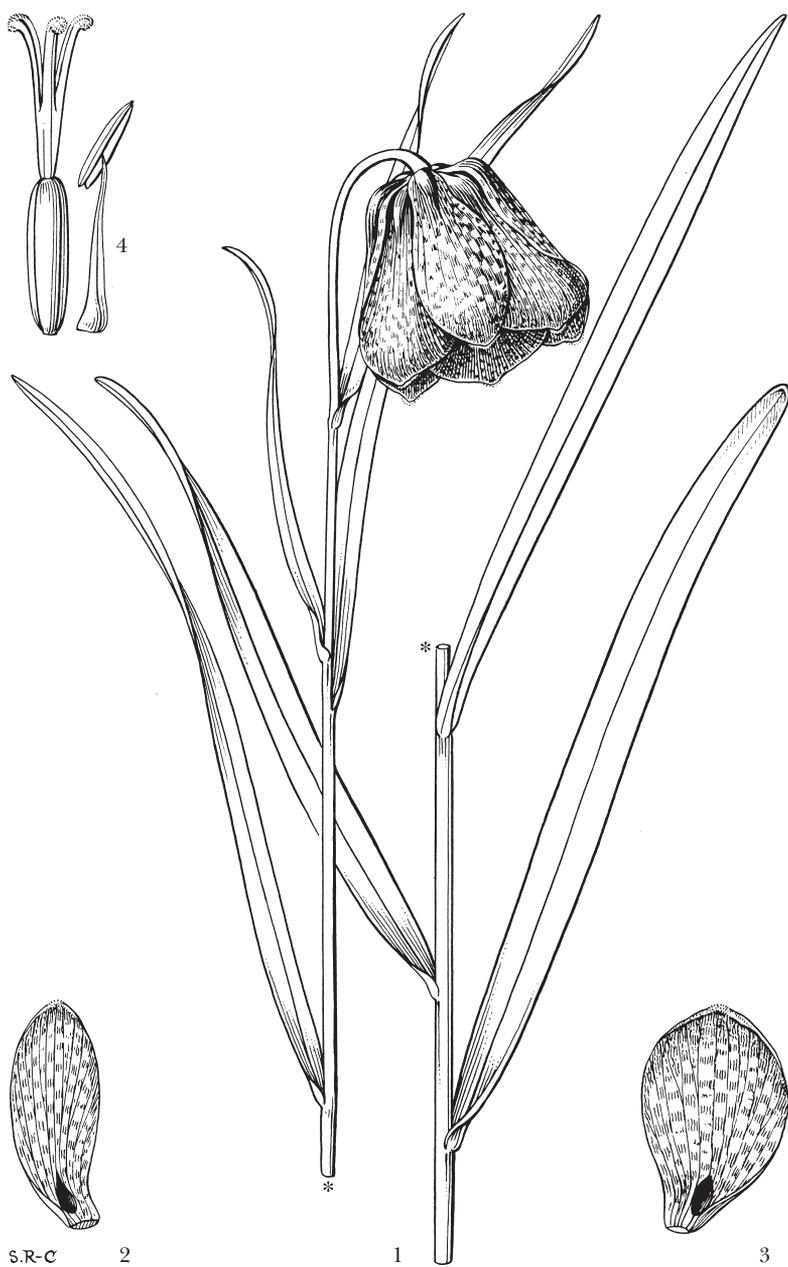


Fig. 2. *Fritillaria whittallii* Baker. 1, a flowering stem,  $\times 1$ ; 2, outer tepal,  $\times 1$ ; inner tepal,  $\times 1$ ; 4, stamen and gynoecium,  $\times 2$ . All from *Whittall* 89. Drawn by Stella Ross-Craig, from *Hooker's Icones Plantarum* vol. XXXIX, parts 1 & 2 (1980).

lines visible – So far as I can judge quite different to all former finds – . . . .’

[Whittall 56, 57, 61, and 74 are all forms of *F. bithynica* Baker, – ed.]

By the summer of 1897, times had become rather more difficult in Turkey, and Whittall wrote to Thiselton-Dyer:

‘My long delay in replying to your pleasant lines of the March 16 & May 10 was caused by my indifferent state of health as much as by the uncertain state of matters in this country – A second attack of Influenza followed by Ague and acute Rheumatism during the course of the winter prostrated me to such an extent that I almost lost all interest in my former pleasing occupations- If you add to this the exciting time we have had and are having in this country, you will be able to understand more easily my silence- The large stake of my firm in Turkey gave me ceaseless anxiety and even now that in Europe things appear quiet and settling down, we are far from easy in our minds, though we have had time to prepare for any eventualities that might arise – Thank God however I am well and strong again and ready to act when the critical moment is reached. . . . .

On politics, [there are] few in this unfortunate land, who do not lose their heads – So let me turn to peaceful flowers – I was so pleased to hear that [next line unreadable] . . . well with you and they make so much show during your early Spring – How I should like to be able to give them a look when at their best – Unfortunately March & April are busy months for us and I cannot easily get away to come home- This year as you will observe by my shipments to you, I have not been able to do much in the collecting line – I dared not risk my men outside the regions where I could bring my personal influence to bear directly in their favour. I was therefore not able to secure any more novelties.

I also forward you by the mail a dry plant, of which I would beg of you to send the name as soon as possible – it seems it has has some medicinal virtues which a young English Doctor would like to notify to the Medical papers for the good of the world in general’

[A marginal note reads '*Plantago coronopus* L.' The mucilaginous seeds of another species, *Plantago afra*, the psyllium, have long been used as a mild laxative.]

Despite Edward's gloomy prognostications, life in Bornova actually seems to have continued in a very pleasant fashion, as reported by Gertrude Bell in a letter to her mother dated March 11, 1902:

'These are most delightful people. . . . Mr Whittall joined us and there were also troops of cousins, for they all live out here. The house is a great big place, with high enormous rooms, set in a garden 200 years old across which a line of splendid cypresses runs. The old mother of the tribe, Mr Whittall's mother, lives here, . . . . . Mr and Mrs Whittall and I went to see a brother of his, Mr Edward Whittall, who is a great botanist and has a most lovely garden. He collects bulbs and sends new varieties to Kew and is well known among gardeners - an interesting man too, for he is the Vali's right hand and is consulted by him on all matters, a thing unknown before they say. But these people get on with the Turks. The old Sultan, uncle of Abdul Hamed stayed in this house; it is the only private house which has received a Sultan. We found Mr E. Whittall tying up his pelargoniums; he took us all round his garden and then out into a big garden above the village where he grows bulbs for the European market and makes experiments with them. There were ranks and ranks of narcissus and daffodils and hyacinths flowering and we came away with a bundle of them. We had a long talk about irises and daffodils and next Tuesday I am to come back here and go with him to the top of a mountain where he has his hill garden for wild bulbs. I think it will be enchanting.'

A few days later, on March 19, Gertrude Bell visited Ephesus with:

' . . . an enormous party, 12 of us. Mr and Mrs Edward Whittall took us - he is the botanist. He and I took poneyes and rode up to the top of the hill that I might see the walls of Lysimachus which I had never succeeded in seeing - they are a good long way off. But most interesting, the finest Greek fortification building and of enormous extent. It was moreover a delicious day and from the top of the hill all Ephesus lay spread before us, the Asiatic and the Greek town and the whole valley of the Cayster down to

the sea. I found besides a most charming little yellow fritillary<sup>2</sup> growing. . . .’

Five years later, in 1907, little had changed in Smyrna, and Gertrude wrote to her mother:

‘April 4. . . I spent yesterday afternoon at Burnabat [Bornova] which is the place where all the English people live, a charming little town of big houses and gardens under the hills. One of the Whittall girls met me at the station and we went together. . . to call on all my Whittall friends. . . they have the bulk of the English trade in their hands, branch offices all down the southern coast, mines and shooting boxes and properties scattered up and down the SW corner of Asia Minor and yachts on the seas. . . They are endlessly kind people and if one tells them of any difficulty, it vanishes in a trice.’

Meanwhile, Edward had remained busy on the botanical front, a note in the *Kew Bulletin* for 1899 reporting:

‘Bulbs from Asia Minor. Kew owes its unique display of early flowering spring bulbs in great measure to the constant liberality of Mr Edward Whittall, of Smyrna. We owe to him the sheets of white *Galanthus elwesii* and of blue *Chionodoxa* which each year produce more and more striking effects.’ (Anon, 1899)

The correspondence with Thiselton-Dyer continued until the end of 1907, and during those years Kew received an enormous number of bulbs, which formed a wonderful early spring display in the garden, enjoyed by hordes of visitors arriving by train and tram from central London. Today, the descendants of those bulbs, having seeded and hybridised, can still be seen, particularly in the woodland garden. An idea of the quantities he supplied can be seen in the following letter to Thiselton-Dyer:

‘The following will in all probability be the quantities at my disposal.

10 @ 50 000 Chio:Luc:  
10 @ 20 000 ditto Sard  
5 @ 10 000 ditto Gigantea

<sup>2</sup>*Fritillaria carica* Rix.

2 @ 5000 ditto Tmolusi  
2 @ 5000 ditto Alleni  
1 @ 5000 Scilla Bifolia  
500 @ 1000 Hyacinthus lineatus  
500 @ 1000 Colchicum Parkinsonii  
20 @ 60 000 Galanthus Elwesii  
50 @ 1000 Galanthus Icaria  
1000 @ 5000 Frit: Aurea... etc'.

Nowadays, the idea of digging up such enormous numbers of bulbs from the wild would be completely unacceptable, but one has to remember that at that time there appeared to be an inexhaustible supply; as we have seen, Whittall also grew a large number of bulbs both for himself and others, on the slopes of Nif dağı, east of Izmir.

Sadly, but perhaps inevitably, the comfortable expatriate life of the Whittalls began to change, as Gertrude Bell recorded in her Diary in May 1914:

‘...called on Edward Whittall. He said that things were very bad here. They have an infamous Vali, strong Committee man. Policy of intolerable pinpricks against the Greeks, seemingly in the hope that they will be forced to leave and the Turks step into their place as merchants. . . . Mr Whittall fears a massacre.’

The outbreak of the First World War later that year, and the overthrow of the Sultan in 1917, would of course change everything. Most of the expatriate community in Smyrna were allowed to remain, apparently under a loose form of house arrest, and to continue trading in a reduced way, but there was an underlying insecurity. During Ataturk's expulsion of the Greeks and the burning of Smyrna in 1922, many of the expatriates escaped to Cyprus on British warships, but they soon returned, having left their houses in charge of their Turkish gardeners; most of Bornova was spared. But Edward Whittall knew nothing of this; he died in 1917 in Bornova aged 66, and is buried in the Anglican cemetery there. The firm of C. Whittall & Co., which had celebrated its centenary in 1911, eventually ceased trading in 1938.

The Whittall houses now form part of Ege University, and some have been preserved and restored; in spite of several new blocks of flats, the area retains much of its original charm, with elegant villas

and gardens behind high walls overhung with jasmine, *Rosa banksiae*, wisteria and exotic trees.

#### WHITTALL'S *CHIONODOXA*

Whittall recognised five different species of *Chionodoxa*, Karyıldızı or Glory-of-the-Snow, and discussion between botanists and gardeners on the number of species has continued (Meikle, 1970). As Whittall hinted in his letter to *The Garden* magazine in 1889, this was often because the species were described by botanists who had never seen the plants growing wild in Turkey, and had only studied them from dried specimens or from imported bulbs which flowered at Kew.

In his account in *Flora of Turkey* Meikle (1984) recognises three species, one of which, Boissier's *Chionodoxa luciliae*, described from Bozdağ (ancient *Tmolus mons*) in 1844, includes Whittall's *Chionodoxa gigantea*; this has a few, large, upright flowers, with a white centre, (see Figs 3 and 4). Boissier's *C. luciliae*, named for his wife Lucile, was illustrated in *Curtis's Botanical Magazine* n.s. t. 730 in 1977. Meikle (1977) calls Lucile Boissier 'soon to be lamented'. [Edmond Boissier married his cousin, Lucile Butini, his mother's niece and namesake, in 1840;



Fig. 3. *Chionodoxa luciliae* Boiss. Typical form growing on Bozdağ. Photograph: Martyn Rix.

she became a faithful companion on his collecting expeditions, but died of typhus in Granada in 1849. He named for her both *Chionodoxa* and *Omphalodes*, after the colour of her eyes. (Le Lièvre, 1994).]

Whittall's second species, which he called *Chionodoxa luciliae*, is now considered to be *C. forbesii* Baker; the confusion was Baker's, as he published a painting of *Chionodoxa forbesii* in *Curtis's Botanical Magazine* t. 6433 in 1879, and called it *luciliae*, though it differed from Boissier's original. In this paper, Baker united all known *Chionodoxa* under the earliest name, *C. luciliae* Boiss. *Chionodoxa forbesii* is one of the most widespread species, found as far south as Baba dağı near Fethiye, and Whittall collected it there also. It tends to grow in pine or cedar woods on north-facing slopes at rather lower altitudes, below 1000 m. It has several flowers with a clear white central zone.

Another of Whittall's species, *Chionodoxa sardensis* Whittall, is recognised in the *Flora of Turkey*; this has several smaller, bright blue flowers without a white centre. Whittall named it *sardensis*, because the plain of Sardis was visible in the distance from the mountain, Mahmout dağı, near Armutlu, where it was first found. It was described first in Barr and Sugden's Autumn bulb catalogue in 1883 and illustrated in *Curtis's Botanical Magazine* n.s. t. 50 (Burt, 1949).

Whittall's fourth species, which he called *Chionodoxa tmolusi*, is perhaps the most interesting: to begin with his formation of the name was questioned by the snobbish Baker at Kew, because it should have been *tmoli*, not *tmolusi*, from Tmolus mons, above the ancient city of Philadelphia, now Bozdağ, the same mountain on which Boissier found *C. luciliae*. In an ecstatic letter to Thistleton-Dyer, quoted by Otto Stapf in *Curtis's Botanical Magazine* in 1924, Whittall described finding this *Chionodoxa* in ice caves 50–60 feet high, formed by the melting snow fields, carpeting the ground with flowers pure blue with a large white centre, and often with several flowers on the stem. Meikle (1984), includes *C. tmolusi* Whittall under *C. forbesii*.

Whittall's fifth *Chionodoxa*, '*C. allenii*' is now considered to be a hybrid between *Scilla bifolia* and *Chionodoxa*; it has several smaller flowers with only a small white centre. *Scilla bifolia* is a much more widespread plant than any *Chionodoxa*, and although this hybrid seems common in gardens, it is not conspicuous in the wild and the two were growing together on Bozdağ, apparently without hybridizing.



Fig. 4. Flowers of *Chionodoxa* and *Scilla bifolia* (with numerous small flowers) on Bozdağ. *Chionodoxa tmolusi* is at lower left and centre, with tepals half white, half blue; the rest are *C. luciliae*, showing variation in size and colour. Photograph: Martyn Rix.

Whittall's collectors travelled far into the interior of Anatolia, almost certainly as far as to the Tauros above Antalya and as far as Konya (Stapf, 1924). In a letter to Kew in 1897 he says:

'I expect however the Chio Luciliae sent this season to you will show interesting variations in colour and habit – A good many come from the northern spurs of the Taurus and are the plants found by Boissier – I shall call them Chio:Luc Boissier to distinguish them from the variety subsequently found by Maw<sup>3</sup> in the neighbourhood of Smyrna and which is the plant cultivated under that name now in Europe – I expect you will find the same variations in the snowdrops which were collected from over 250 miles of country' (Fig. 4).

<sup>3</sup>George Maw (1832–1912), owner of a pottery firm, and keen amateur botanist. Note vignette at the head of this paper and see Rix (2008).

In late April 2009, over a 100 years after Whittall's visits, we drove up onto Bozdağ, southeast of the ruins of ancient Sardis, to look for Whittall's *Chionodoxa*, and after some unsuccessful searching found a bare, rocky slope liberally scattered with *C. luciliae*, in areas recently exposed by the melting of the snow, flowering in spite of the cold and rain (Fig. 5). Here the flowers varied greatly in size and colour; most were blue, but there were pinks and whites here and there. The largest ones agree with Whittall's *Chionodoxa gigantea*, whereas others would be typical *Chionodoxa luciliae*. Most were growing among coarse grasses and dwarf juniper bushes, but in two damper places by streams we found groups of *Chionodoxa* which looked very different; the flowers were sometimes three or four on a stem, brighter blue, and the white centre extended over more than half the petal; these seem to belong to the species Whittall enthused over, when he found it flowering under a snow cornice, the one he called *Chionodoxa tmolusi*.

The photograph of a collection of flowers from one small area (Fig. 4) shows how difficult it is to define and name these bulbs, when such a variety of flower shapes and sizes can be found on one small mountainside.



Fig. 5. Habitat of *Chionodoxa* on Bozdağ: *C. luciliae* on the rocky slope left and centre, *C. tmolusi* along the stream on the right. Photograph: Martyn Rix.

Speta (1976) included *Chionodoxa* in his monograph of *Scilla* L., treating all the species as *Scilla* ser. *Chionodoxa* (Boiss.) Speta. He recognised eight species, including what he calls *S. tmoli* (Whittall) Speta, but did not have access to wild-collected material. One character mentioned by both Speta and Whittall, ‘the white eye is larger than in *Luciliae*,’ can be seen in Fig. 4. The moist, streamside or snow-patch habitat and the much smaller bulbs are additional characters which were apparent in the field.

ACKNOWLEDGEMENTS. Thanks are due to Brian Mathew, for his advice and for providing localities for *Chionodoxa*. To John and Berrin Scott for their kindness to us in Turkey. To Sydney and Julian Nowill, Devon, for help with details of the Whittall family. To the staff at Special Collections, Exeter University Library, for access to Whittall papers, and to the staff of The Library, Art and Archives, Royal Botanic Gardens, Kew, for help and access to Whittall’s correspondence with the directors of Kew.

#### REFERENCES

- Anon (1893). *Kew Bulletin* 1893: 147.  
Anon (1899). *Kew Bulletin* 1899: 81–82.  
Bell, G. (letters and diaries) *The Gertrude Bell Project Website Hosted by the University of Newcastle*. [www.gerty.ncl.ac.uk/diaries/php](http://www.gerty.ncl.ac.uk/diaries/php) [accessed October 2009].  
Burt, B.L. (1949). *Chionodoxa sardensis* Whittall. *Curtis’s Botanical Magazine* 166: n.s. t. 50.  
Derrick, C.F. (1975). Edward Whittall. *Bulletin of the Alpine Garden Society* 433: 240–246.  
Elwes, H.J. (1930). *Memoirs of Travel, Sport and Natural History*. Ernst Benn, Ltd, London.  
Giraud, E.H. (1984). *Family Records, A Record of the Origin and History of the Giraud and Whittall Families of Turkey*. (privately published).  
Hall, A.D. (1943). *Tulipa whittallii* A.D. Hall. *Curtis’s Botanical Magazine* 164: t. 9649.  
Le Lièvre, A. (1994). A view of Edmond Boissier. *Curtis’s Botanical Magazine* 113: 131–143.  
Mathew, B. & Baytop, T. (1984). *The Bulbous Plants of Turkey*. Batsford in association with the Alpine Garden Society, London.  
Meikle, R.D. (1970). *Chionodoxa luciliae* a taxonomic note. *Journal of the Royal Horticultural Society* 95: 21–24.  
Meikle, R.D. (1977). *Chionodoxa luciliae*. *Curtis’s Botanical Magazine* 181: n.s. t. 730.  
Meikle, R.D. (1984). *Chionodoxa* Boiss. In: Davis, P.H. (ed.). *Flora of Turkey*. Vol. 8. Edinburgh University Press, pp. 224–226.  
Rix, A. (2008). George Maw, Joseph Hooker and *The Genus Crocus*. *Curtis’s Botanical Magazine* 25(2): 176–187.

- Speta, F. (1976). Über *Chionodoxa* Boiss. ihre gliederung und zugehörigkeit zu *Scilla* L. *Naturk. Jahrbuch Stadt Linz* 21: 9–79.
- Stapf, O. (1924). *Chionodoxa siehei*. *Curtis's Botanical Magazine* 150: t.9068.
- Whittall, E. (1890–1900). *Director's Correspondence (DC) Vol. 147 S. European Letters HAR – ZUJ 1845–1900 (ff 931-973) MF*. Archives of the Royal Botanic Gardens, Kew.
- Whittall E., (c. (1901–1914). *Director's Correspondence (DC) Vol. 148 S. European Letters–1901–1914 (ff 328-330) MF*. Archives of the Royal Botanic Gardens, Kew.