

## Key to British Species of *Scutellinia* (measurements of ascospores excluding ornamentation)

1. Fully developed ascospores globose to subglobose (ratio of length to breadth 1'0-1'2); ornamentation on ascospore surface conspicuous 2
1. Fully developed ascospores broadly ellipsoid to ellipsoid (ratio of length to breadth greater than 1'2); ornamentation on ascospore surface conspicuous or not . 6
2. Spore ornamentation comprising almost cylindrical or conical, truncate or pointed projections, often higher than 2'0  $\mu$ m; ascospores less than 20'0  $\mu$ m diam. . 3
2. Spore ornamentation comprising mainly hemispherical, non-cylindrical and non-conical warts, mostly lower than 2'0  $\mu$ m high, or if higher than 2'0  $\mu$ m then ascospores greater than 20'0  $\mu$ m diam. . 4
3. Spore ornamentation of conical projections, pointed at apex; marginal hairs of apothecium with 3-5 septa; ascospores 15'5-18'0  $\mu$ m diam. . *S. legaliae*
3. Spore ornamentation comprising truncate, rarely pointed, almost cylindrical or tapering projections; marginal hairs of apothecium commonly with many septa; ascospores 14'0-17'0  $\mu$ m diam. . *S. frechlspon*
4. Ascospores (23'0-) 24'0-30'5 (-33'0) x (22'0-) 23'5-30'5 (-33'0)  $\mu$ m; spore ornamentation of large warts, commonly 2'0-3'0 (-4'0)  $\mu$ m high and 2'0-4'0  $\mu$ m broad, interspersed with small punctae . *S. citrina*
4. Ascospores usually less than 23'0  $\mu$ m diam., never greater than 25'0  $\mu$ m diam.; spore ornamentation lower than 2'0  $\mu$ m high. 5
5. Ascospores globose, 17'5-22'0 (-24'5)  $\mu$ m diam.; spore ornamentation varying in size, (0'5-) 1'0-1'5 (-3'0)  $\mu$ m across, (0'5-) 0'8-1'2 (-1'8)  $\mu$ m high, frequently unevenly distributed; asci 20'0-32'0  $\mu$ m diam. . *S. barlae*
5. Ascospores globose to subglobose, 15'5-18'0 x 15'0-18'0  $\mu$ m; spore ornamentation (0'5-) 0'8-1'5 (-2'0)  $\mu$ m across, (0'5-) 0'8-1'8  $\mu$ m high, usually evenly distributed; asci 18'0-22'0  $\mu$ m diam. *S. mmor* (d. also *S. patagonica*)
6. Fully developed ascospores smooth (at least as observed under the light microscope, x 100 oil lens); apothecia small, 0'5-1'5 (-2'5) mm diam. *S. setosa*
6. Fully developed ascospores ornamented (ornamentation discernible under the light microscope, x 100 oil lens); apothecia usually larger than 1'5 mm diam. 7
7. Spore ornamentation appearing as a complete or incomplete network in surface plan view 8
7. Spore ornamentation consisting of isolated warts or of short, sometimes irregular or interconnected ridges 9

8. Spore ornamentation of large warts, (0.8-) 1.5-2.0 (-3.0)  $\mu$ m across and (1.5-) 2.0 (-2.5)  $\mu$ m high, with narrow interconnexions;  
ascospores broadly ellipsoid to occasionally subglobose, 2.0-2.25 (-2.4)  $\times$  1.5-1.8  $\mu$ m S. declivens
8. Spore ornamentation reticulate in plan view, 0.5-1.0  $\mu$ m across and 2.5-4.0  $\mu$ m high, sometimes appearing as acuminate spines on  
spore outline; ascospores ellipsoid, 1.7-2.0  $\times$  1.1-1.3  $\mu$ m S. pseudotrechispora
9. Marginal hairs pale, often almost colourless except near the base, short, mostly 150-200  $\mu$ m long; spore ornamentation of small,  
isolated warts, 0.5-1.0  $\mu$ m across and less than 0.5  $\mu$ m high, sometimes mixed with short ridges;  
ascospores mostly broadly ellipsoid,  
2.0-2.5  $\times$  1.4-2.0  $\mu$ m . S. kerguelensis
9. Marginal hairs uniformly dark yellow-brown or if pale then longer than 200  $\mu$ m and/or spore  
ornamentation higher than 0.5  $\mu$ m;  
spore ornamentation of isolated warts or of short interconnected ridges; ascospore shape various 10
10. Spore ornamentation appearing as short, interconnecting ridges 11
10. Spore ornamentation of predominantly isolated warts 13
11. Ascospores 1.7-2.2 (-2.3)  $\mu$ m long; marginal hairs often longer than 1000  $\mu$ m, sometimes  
1500-2000  $\mu$ m long S. scutellata
11. Ascospores 2.1-2.8  $\mu$ m long, mostly longer than 2.2  $\mu$ m; marginal hairs usually shorter than  
1000  $\mu$ m . 12
12. Ascospores 1.1-1.4  $\mu$ m wide; spore ornamentation 0.5-0.8  $\mu$ m high on spore outline; when  
heated in lactophenol,  
ornamentation often becoming faint and exosporium loosening S. mimbilis
12. Ascospore 1.3-1.6  $\mu$ m wide; spore ornamentation 0.3-0.5  $\mu$ m high on spore outline,  
exosporium not loosening in  
lactophenol S. olivascens
13. Spore ornamentation higher than 0.5  $\mu$ m, distinct on spore outline (under  $\times$  40 objective of the  
light microscope), often broader than  
0.8  $\mu$ m, reaching 2.5 (-4.0)  $\mu$ m across 14
13. Spore ornamentation usually lower than 0.5  $\mu$ m, indistinct on spore outline (under  $\times$  40  
objective of the light microscope), mostly  
less than 0.8  $\mu$ m across 17
14. Ascospores ellipsoid to broadly ellipsoid, occasionally subglobose (ratio of length to breadth 1.2-  
1.6), (1.7-2.0) 1.8-2.25  
(-2.4)  $\times$  1.3-1.7  $\mu$ m 15
14. Ascospores ellipsoid or elongate-ellipsoid (ratio of length to breadth 1.6-2.3), (2.1-2.5) 2.25-2.75  
(-3.15)  $\times$  (1.0-1.3) 1.1-1.3  
(-1.55)  $\mu$ m 16
15. Exosporium loosening when heated in lactophenol; marginal hairs shorter than 400  $\mu$ m . . S.  
superba
15. Exosporium not loosening in lactophenol; marginal hairs often longer than 400  $\mu$ m S. umbrorum

16. Marginal hairs 18'0-25'0  $\mu$ m wide; ascospores equilateral, 25'0--27'5 x 12'0-13'0  $\mu$ m; spore ornamentation of conspicuous

warts, 0'8-1'2 (-2'0)  $\mu$ m across, occasionally confluent . *S. macyospom*

16. Marginal hairs 20'0-50'0  $\mu$ m wide; ascospores frequently inequilateral, (21'5-) 22'5-26'5 x (10'0-) 11'0-13'0 (-15'5)  $\mu$ m; spore

ornamentation of warts varying in size, (0'3-) 0'5-1'5 (-2'0)  $\mu$ m across . *S. hirta*

17. Ascospores ellipsoid (ratio of length to breadth 1'3-1'8), (19'0--) 20'0--23'0 (-24'0) x (12'0-) 13'0--15'0 (-16'0)  $\mu$ m, marginal

hairs usually uniformly coloured to apex; subcylindric, blunt, colourless and thin-walled hairs often present among marginal

hairs *S. subhirtella*

17. Ascospores broadly ellipsoid to ellipsoid (ratio of length to breadth 1'2-1'3), 18'5-21'0 (-23'5) x 14'5-18'0 (-21'0)  $\mu$ m; marginal

hairs of apothecium pale at apex; subcylindric, colourless hairs absent *S. patagonica*