

Supplementary

Supplementary notes S1

Rhytidhysterium bruguierae Dayarathne, Mycosphere 11(1): 20 (2020) (Figure S1)

Index Fungorum number: IF 556574. Facesoffungi number: FoF 06154

Saprobic on decaying wood of *Alnus nepalensis* (Betulaceae). Sexual morph: *Ascomata* 1000–1600 µm long × 600–1110 µm wide × 400–600 µm high (\bar{x} = 1450 × 850 × 520 µm, n = 5), hysterothecial, solitary, superficial, base is embedded in the plant tissue, navicular, black, apothecioid, rough, perpendicularly striate, compressed at apex, and hysterothecia open a nearly circular opening through a longitudinal slit, folded along the margins when dry, orange at the center. *Exciple* 90–120 µm wide, composed of outer layer dark brown to black, thick-walled cells of *textura angularis*, and inner layer hyaline, thick-walled cells of *textura globulosa*. *Hamathecium* comprising 1–2 µm wide, dense, hyaline, septate, branched, cellular pseudoparaphyses, forming a red epithecium above asci when mounted in water, becoming purple epithecium above the asci when mounted in 10% KOH and turns hyaline after 30 seconds. *Asci* (127–)130–165(–173) µm × (11.5–)13–15 µm (\bar{x} = 155 × 13.8 µm, n = 20), 8-spored, bitunicate, cylindrical, with short pedicel, rounded at the apex, with an ocular chamber, J- apical ring. *Ascospores* 20–24 µm × (7.8–)9–11 µm (\bar{x} = 22 × 10 µm, n = 30), uniseriate, hyaline, 1-septate when immature, becoming brown, 3-septate when mature, ellipsoidal to fusiform, rounded to slightly pointed at both ends, guttulate, smooth-walled, without the mucilaginous sheath. Asexual morph: Undetermined.

Culture characteristics: Ascospores germinating on PDA within 24 h and germ tubes produced from one or both ends. Colonies on PDA reached a 6 cm diameter after two weeks at 28°C. The colony was soft, circular, slightly raised, with a filiform edge, white on the forward and reverse.

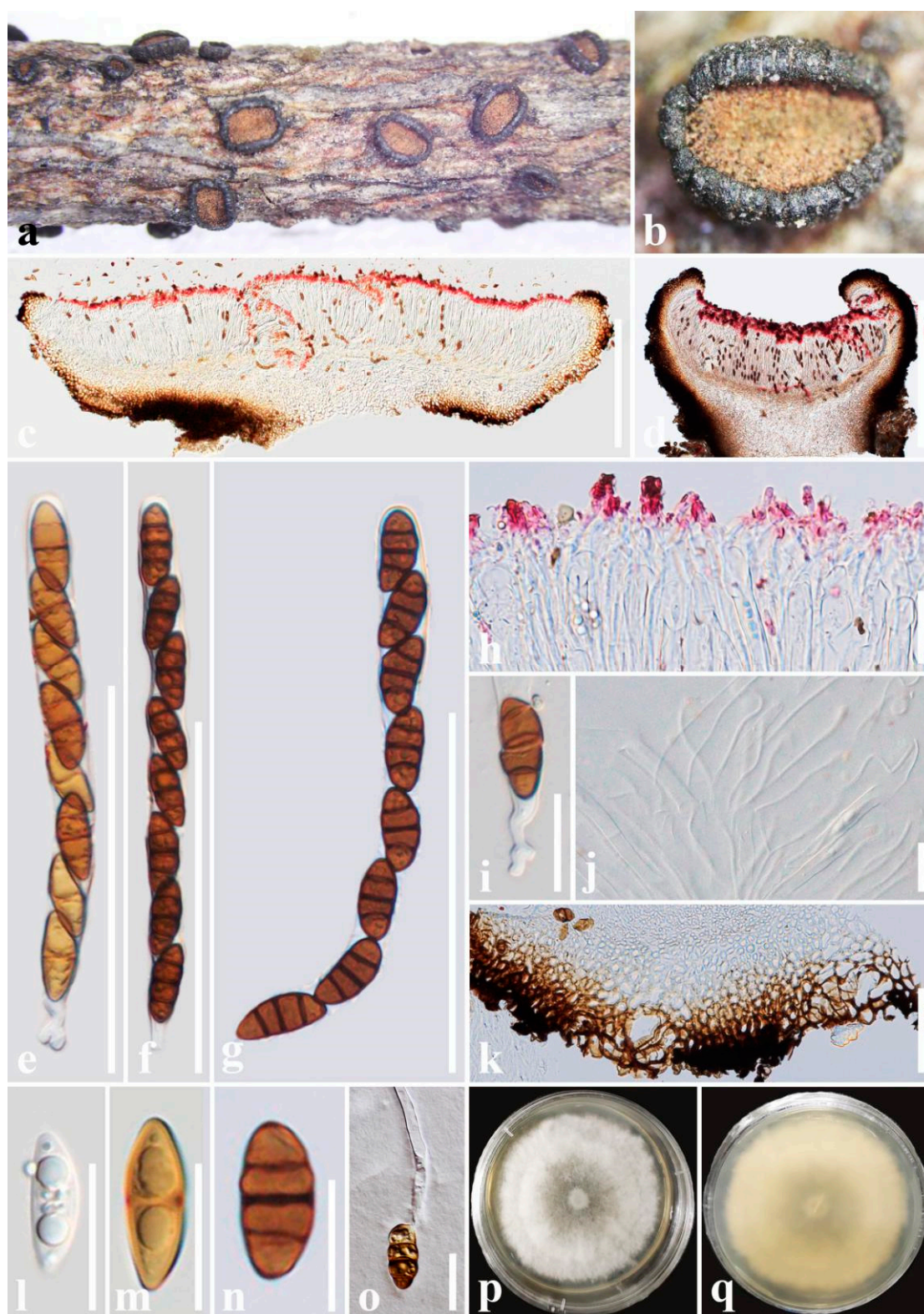


Figure S1. *Rhytidhysterium bruguierae* (HKAS 122690). (a, b) Appearance of hysterothecia on the host; (c, d) Vertical section through hysterothecium; (e–g) Asci; (h) Epithecium mounted in water; (i) Pedicel of asci; (j) Pseudoparaphyses; (k) Exciple; (l–n) Ascospores; (o) A germinating ascospore; (p, q) Colony on PDA medium (after one week). Scale bars: (c, d) = 500 μ m; (e–g) = 100 μ m; (h–j, l–o) = 20 μ m; (k) = 50 μ m.

Supplementary notes S2

Rhytidhysterium camporesii Ekanayaka & K.D. Hyde, Fungal Diversity 100: 5–277 (2020) (Figure S2)

Index Fungorum number: IF 556783. Facesoffungi number: FoF 06459

Saprobic on decaying wood of *Cotoneaster franchetii* (Rosaceae). Sexual morph: *Ascomata* 1200–1600 μm long \times 900–1200 μm wide \times 450–650 μm high (\bar{x} = 1430 \times 1050 \times 530 μm , n = 5), hysterothecial, solitary, superficial, base is embedded in the plant tissue, navicular, black, apothecioid, smooth, perpendicularly striate, elongate and depressed, compressed at apex, and open a nearly circular opening through a longitudinal slit, dark reddish-brown at the center. *Exciple* 50–135 μm wide, composed of dark brown, thick-walled cells of *textura angularis*, outer layer brown to dark brown, inner layer pale brown to reddish-brown. *Hamathecium* comprising 1–2 μm wide, dense, hyaline, septate, branched, cellular pseudoparaphyses, forming an orange-red epithecium above asci when mounted in water, becoming purple epithecium above the asci when mounted in 10% KOH and turns hyaline after 30 seconds. *Asci* (147–)155–225 μm \times 13.7–17.7(–18.5) μm (\bar{x} = 177 \times 15 μm , n = 20), 8-spored, bitunicate, cylindrical, with short pedicel, rounded at the apex, with an ocular chamber, J- apical ring. *Ascospores* (24–)27–33 μm \times 10–12.5 μm (\bar{x} = 28 \times 11 μm , n = 30), uni-seriate, hyaline, 1-septate when immature, becoming brown, 3-septate when mature, ellipsoidal to fusiform, straight or curved, rounded to slightly pointed at both ends, guttulate, smooth-walled, without a mucilaginous sheath. Asexual morph: Undetermined.

Culture characteristics: Ascospores germinating on PDA within 24 h and germ tubes produced from one or both ends. Colonies on PDA reached a 6 cm diameter after two weeks at 28°C. The colony was soft, circular, slightly raised, with a filiform edge, reddish-brown to dark grey on the forward and yellowish-brown in reverse.

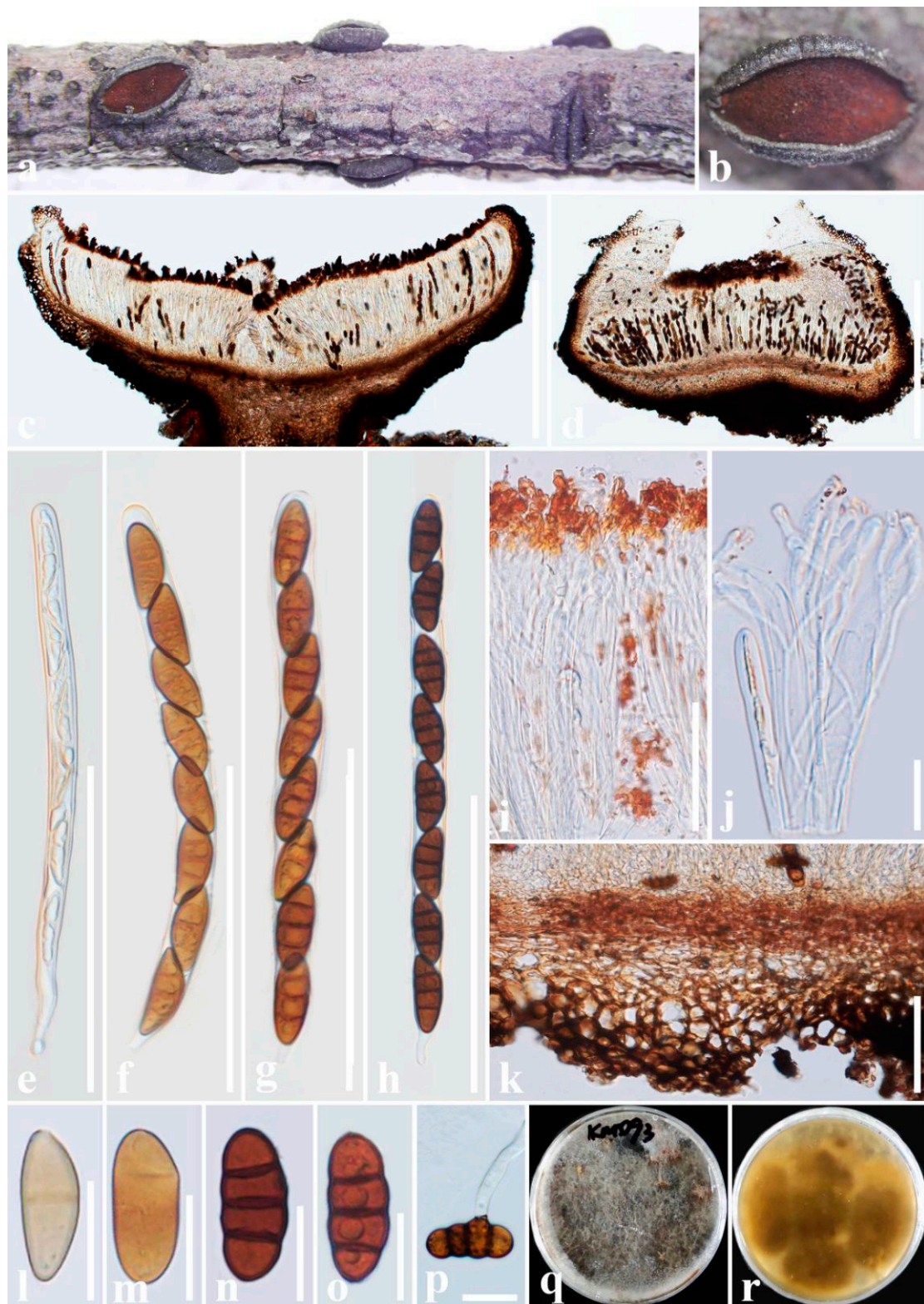


Figure S2. *Rhytidhysterium camporesii* (HKAS 122698). (a, b) Appearance of hysterothecia on the host; (c, d) Vertical section through hysterothecium; (e–h) Asci; (i) Epithecium mounted in water; (j) Pseudoparaphyses; (k) Exciple; (l–o) Ascospores; (p) A germinating ascospore; (q, r) Colony on PDA medium (after four weeks). Scale bars: (c, d) = 500 μ m; (e–h) = 100 μ m; (i, k) = 50 μ m; (j, l–p) = 20 μ m.

Supplementary notes S3

Rhytidhysterium hongheense Wanas. J. Fungi 7, 180 (2021) (Figure S3)

Index Fungorum number: IF 837992

Saprobic on decaying wood of *Phyllanthus emblica* (Euphorbiaceae). Sexual morph: *Ascomata* 900–1100 μm long \times 750–900 μm wide \times 350–550 μm high (\bar{x} = 955 \times 866 \times 440 μm , n = 5), hysterothecial, solitary to aggregated, mostly solitary, semi-immersed to superficial, navicular, black, apothecioid, rough, slightly perpendicularly striate, elongate and depressed, compressed at apex, longitudinal slit no opening. *Exciple* 50–130 μm wide, composed of dark brown, thick-walled cells of *textura angularis*, outer layer brown to dark brown, inner layer pale brown. *Hamathecium* comprising 1–2 μm wide, dense, hyaline, septate, branched, cellular pseudoparaphyses, forming a red epithecium above asci when mounted in water, becoming purple epithecium above the asci when mounted in 10% KOH and turns hyaline after 30 seconds. *Asci* 163–200 μm \times 12.5–16 μm (\bar{x} = 183.5 \times 14 μm , n = 20), 8-spored, bitunicate, cylindrical, with short pedicel, rounded at the apex, with an ocular chamber, J- apical ring. *Ascospores* 25–27 μm \times 9.5–10.5 μm (\bar{x} = 26 \times 10 μm , n = 30), uni-seriate, slightly overlapping, hyaline, 1-septate when immature, becoming brown, 1–3-septate when mature, ellipsoidal to fusoid, straight or curved, rounded to slightly pointed at both ends, guttulate, smooth-walled, without a mucilaginous sheath. Asexual morph: Undetermined.

Culture characteristics: Ascospores germinating on PDA within 24 h and germ tubes produced from one or both ends. Colonies on PDA reached a 6 cm diameter after two weeks at 28°C. The colony was soft, circular, slightly raised, with an entire edge, white to grey on the forward and dark grey in reverse.

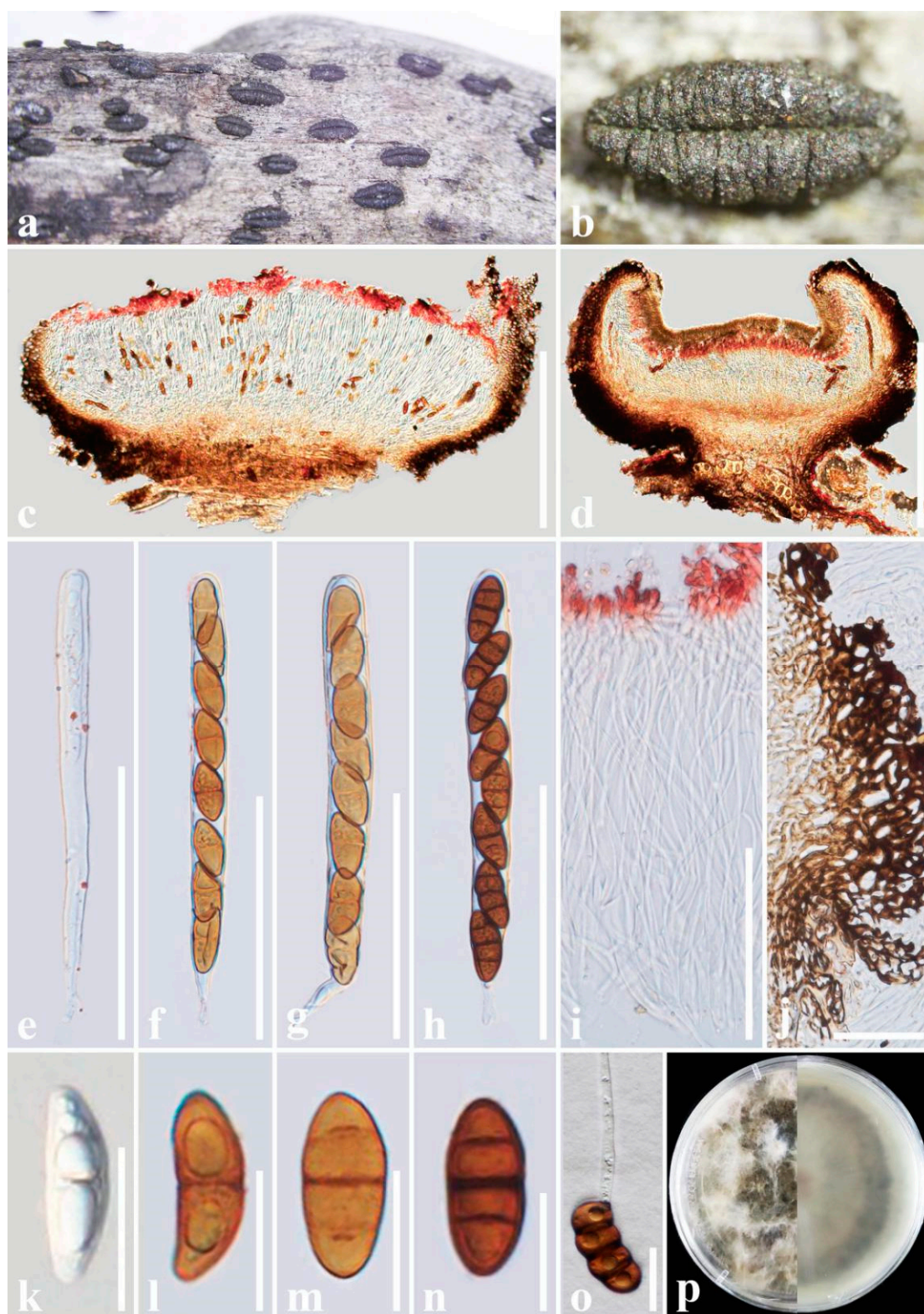


Figure S3. *Rhytidhysterium hongheense* (HKAS 122698, paratype). (a, b) Appearance of hysterothecia on the host; (c, d) Vertical section through hysterothecium; (e–h) Asci; (i) Epithecium and pseudoparaphyses mounted in water; (j) Exciple; (k–n) Ascospores; (o) A germinating ascospore; (p) Colony on PDA medium (after four weeks). Scale bars: (c, d) = 500 μ m; (e–i) = 100 μ m; (j) = 50 μ m; (k–o) = 20 μ m.

Supplementary notes S4

Rhytidhysterium magnoliae N.I. de Silva, Lumyong S & K.D. Hyde, Asian Journal of Mycology 3(1): 295–306 (2019) (Figure S4)

Index Fungorum number: IF 557220. Facesoffungi number: FoF 07369

Saprobic on decaying wood of *Hevea brasiliensis* (Euphorbiaceae). Sexual morph: *Ascomata* 1800–2200 μm long \times 450–1000 μm wide \times 450–900 μm high (\bar{x} = 2015 \times 750 \times 660 μm , n = 5), hysterothecial, solitary to aggregated, mostly aggregated, semi-immersed to superficial, fusiform or irregular in shape, coriaceous, navicular to irregular, black, apothecioid, slightly perpendicularly striate, elongate and depressed, compressed at apex, seldom opening by a longitudinal slit, orange at the center. *Exciple* 40–130 μm wide, composed of outer layer dark brown to black, dense, thick-walled cells of *textura angularis*, and inner layer light brown, thin-walled cells of *textura globulosa*. *Hamathecium* comprising 1–2 μm wide, dense, hyaline, septate, branched, cellular pseudoparaphyses, slightly swollen at the apex and enclosed in a gelatinous matrix, forming an orange epithecium above asci when mounted in water, becoming purple epithecium above the asci when mounted in 10% KOH and turns hyaline after 5 seconds. *Asci* 170–240 μm \times (11–)13–17 μm (\bar{x} = 202.5 \times 15 μm , n = 20), 8-spored, bitunicate, cylindrical, with short pedicel, rounded at the apex, with an ocular chamber, J- apical ring. *Ascospores* 26–32(–25) μm \times 11–14 μm (\bar{x} = 30 \times 13 μm , n = 30), uni-seriate, slightly overlapping, hyaline, 1-septate when immature, becoming brown to dark brown, 1–3-septate when mature, ellipsoidal to fusiform, straight or curved, rounded to slightly pointed at both ends, guttulate, smooth-walled, without a mucilaginous sheath. Asexual morph: Undetermined.

Culture characteristics: Ascospores germinating on PDA within 24 h and germ tubes produced from one or both ends. Colonies on PDA reached a 6 cm diameter after two weeks at 28°C. The colony was soft, irregular, slightly raised, with an undulated edge, grey on the forward and yellowish-brown in reverse.

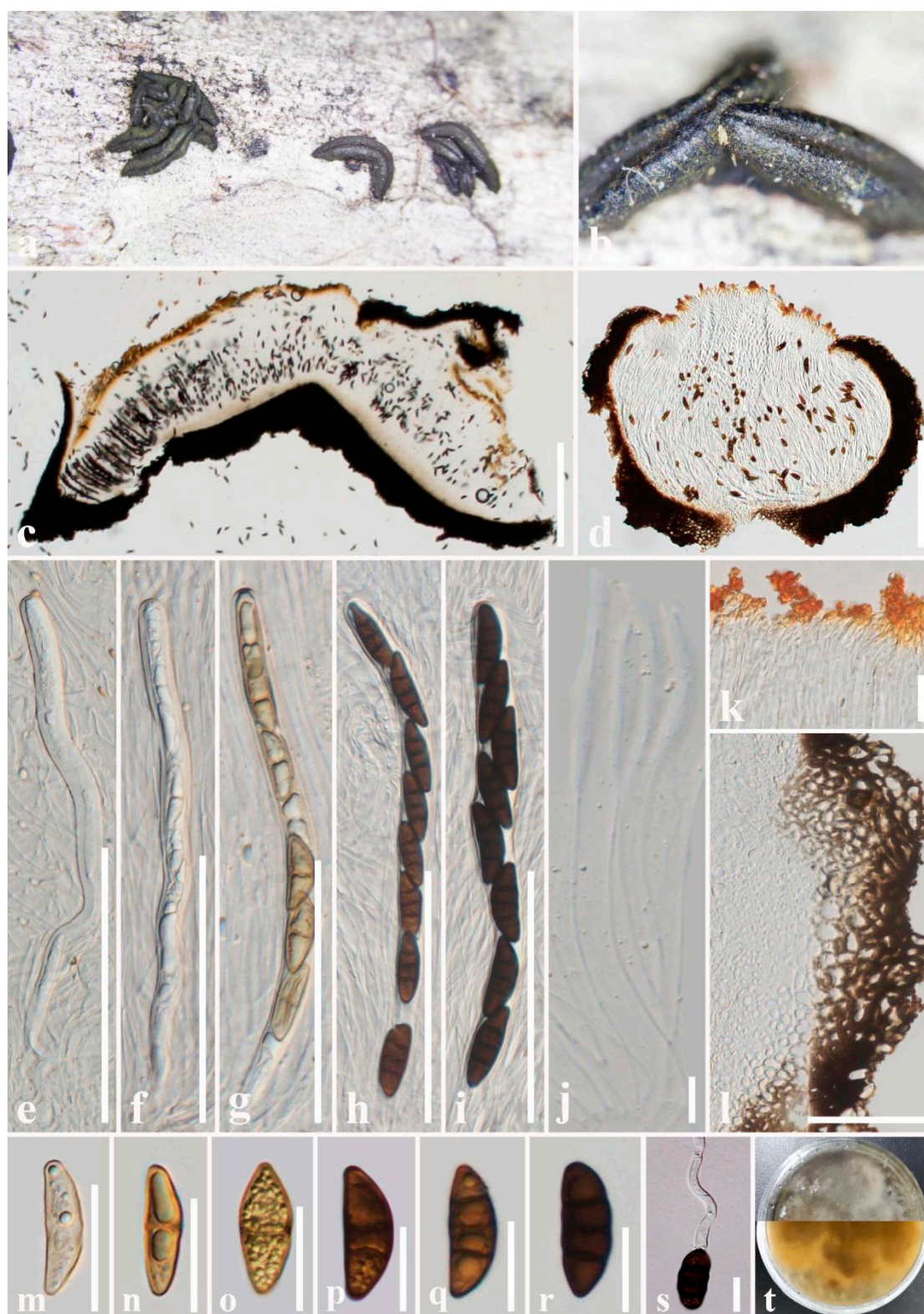


Figure S4. *Rhytidhysterium magnoliae* (HKAS 122693). (a, b) Appearance of hysterothecia on the host; (c, d) Vertical section through hysterothecium; (e–i) Asci; (j) Pseudoparaphyses; (k) Epithecium mounted in water; (l) Exciple; (m–r) Ascospores; (s) A germinating ascospore; (t) Colony on PDA medium (after four weeks). Scale bars: (c) = 500 μm ; (d) = 200 μm ; (e–i) = 100 μm ; (j, k, m–s) = 20 μm ; (l) = 50 μm .

Supplementary notes S5

Rhytidhysterium neorufulum Thambug. & K.D. Hyde, Cryptog. Mycol. 37(1): 110

(2016) (Figure S5)

Index Fungorum number: IF 551865. Facesoffungi number: FoF 01840

Saprobic on decaying wood of *Elaeagnus sarmentosa* (Elaeagnaceae). Sexual morph: *Ascomata* 1000–1200 μm long \times 750–1000 μm wide \times 350–650 μm high (\bar{x} = 1115 \times 850 \times 510 μm , n = 5), hysterothecial, solitary to aggregated, superficial, base is embedded in the plant tissue, navicular, black, apothecioid, rough, without striate, elongate and depressed, compressed at apex, longitudinal slit no opening. *Exciple* 35–80 μm wide, composed of dark brown, thick-walled cells of *textura angularis* to *textura globulosa*, outer layer brown to dark brown, inner layer pale brown to hyaline. *Hamathecium* comprising 1–2.5 μm wide, dense, hyaline, septate, branched, cellular pseudoparaphyses, forming a yellow epithecium above asci when mounted in water, becoming purple epithecium above the asci when mounted in 10% KOH and turns hyaline after 5 seconds. *Asci* 185–257 μm \times (13–)14–18 μm (\bar{x} = 218 \times 15.5 μm , n = 20), 8-spored, bitunicate, cylindrical, with short pedicel, rounded at the apex, with an ocular chamber, J- apical ring. *Ascospores* (28–)30–34 μm \times 13–15.5 μm (\bar{x} = 32.5 \times 14 μm , n = 30), uni-seriate, slightly overlapping, hyaline, 1-septate when immature, becoming brown to dark brown, 3-septate when mature, ellipsoidal to fusiform, straight or curved, rounded to slightly pointed at both ends, guttulate, smooth-walled, without a mucilaginous sheath. Asexual morph: Undetermined.

Culture characteristics: Ascospores germinating on PDA within 24 h and germ tubes produced from one or both ends. Colonies on PDA reached a 6 cm diameter after two weeks at 28°C. The colony was soft, irregular, slightly raised, with an undulated edge, white on the forward and reverse.

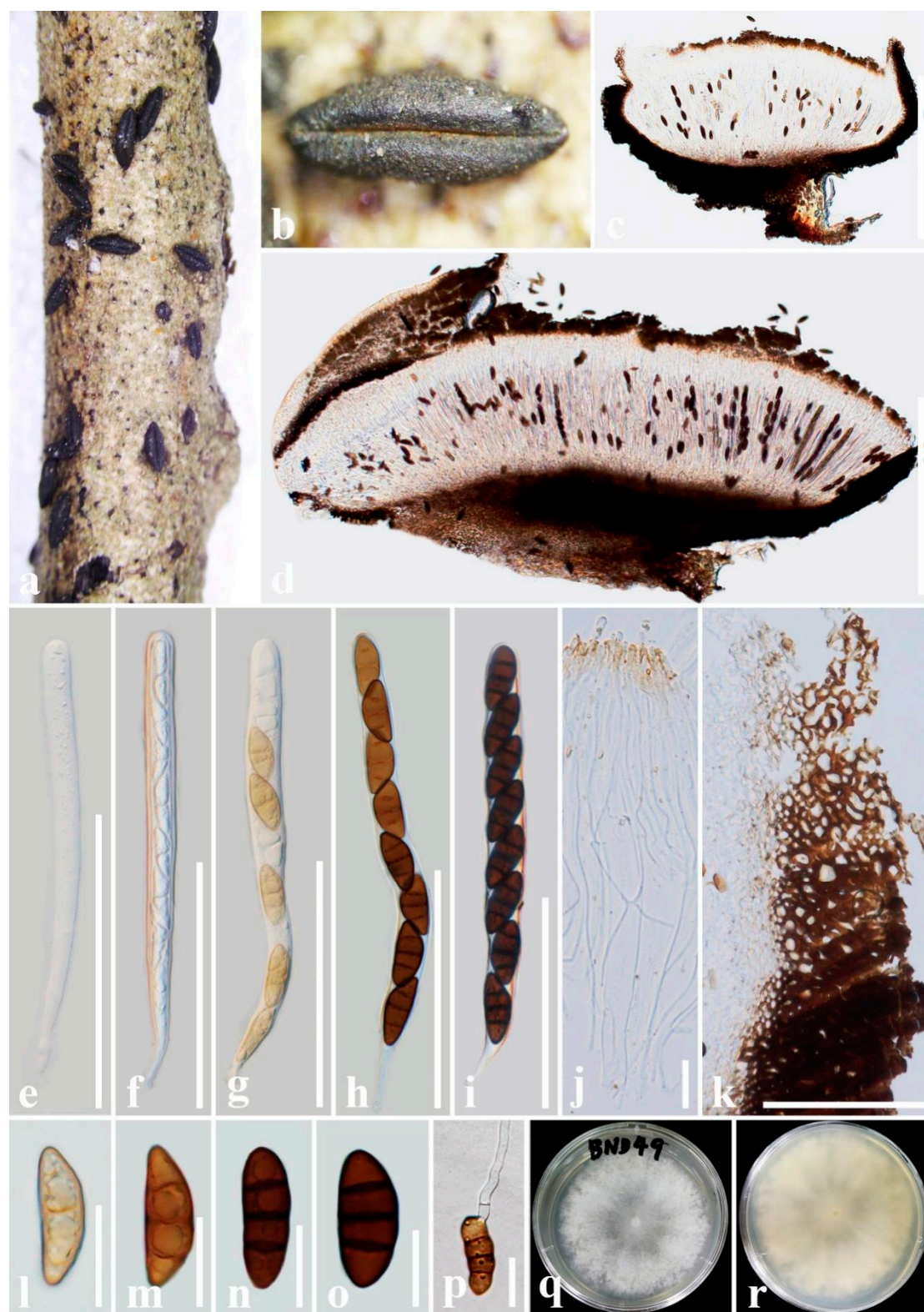


Figure S5. *Rhytidhysterium neorufulum* (HKAS 122691). (a, b) Appearance of hysterothecia on the host; (c, d) Vertical section through hysterothecium; (e–i) Asci; (j) Epithecium and pseudoparaphyses mounted in water; (k) Exciple; (l–o) Ascospores; (p) A germinating ascospore; (q, r) Colony on PDA medium (after one week). Scale bars: (c, d) = 500 μm ; (e–i) = 100 μm ; (j, l–p) = 20 μm ; (k) = 50 μm .

Supplementary notes S6

Rhytidhysterium tectonae Doilom & K.D. Hyde, Fungal Diversity. 82: 107–182 (2017) (Figure S6)

Index Fungorum number: IF 551964. Facesoffungi number: FoF 01849

Saprobic on decaying wood of *Magnolia delavayi* (Magnoliaceae). Sexual morph: *Ascomata* 1800–2300 μm long \times 450–800 μm wide \times 450–1000 μm high (\bar{x} = 1950 \times 605 \times 650 μm , n = 5), hysterothecial, solitary to aggregated, mostly solitary, semi-immersed to superficial, navicular, black, apothecioid, rough, without striate, elongate and depressed, compressed at apex, opening by a small longitudinal slit, yellow at the center. *Exciple* 60–150 μm wide, composed of outer layer yellow to brown, thick-walled cells of *textura angularis*, and inner layer hyaline, thin-walled cells of *textura globulosa*. *Hamathecium* comprising 1–2 μm wide, dense, hyaline, septate, branched, cellular pseudoparaphyses, forming an orange epithecium above asci when mounted in water, becoming purple epithecium above the asci when mounted in 10% KOH and turns hyaline after 5 seconds. *Asci* (176–)184–233 μm \times 12–17 μm (\bar{x} = 202 \times 14 μm , n = 20), 8-spored, bitunicate, cylindrical, with short pedicel, rounded at the apex, with an ocular chamber, J- apical ring. *Ascospores* (25–)27–34 μm \times (7–)8–10 μm (\bar{x} = 30 \times 9 μm , n = 30), uni-seriate, slightly overlapping, hyaline, 1-septate when immature, becoming brown to dark brown, 1–3-septate when mature, ellipsoidal to fusoid, straight or curved, rounded to slightly pointed at both ends, guttulate, smooth-walled, without a mucilaginous sheath. Asexual morph: Undetermined.

Culture characteristics: Ascospores germinating on PDA within 24 h and germ tubes produced from one or both ends. Colonies on PDA reached a 4 cm diameter after two weeks at 28°C. The colony was soft, circular, slightly raised, with a filiform edge, light yellow on the forward and brown in reverse.

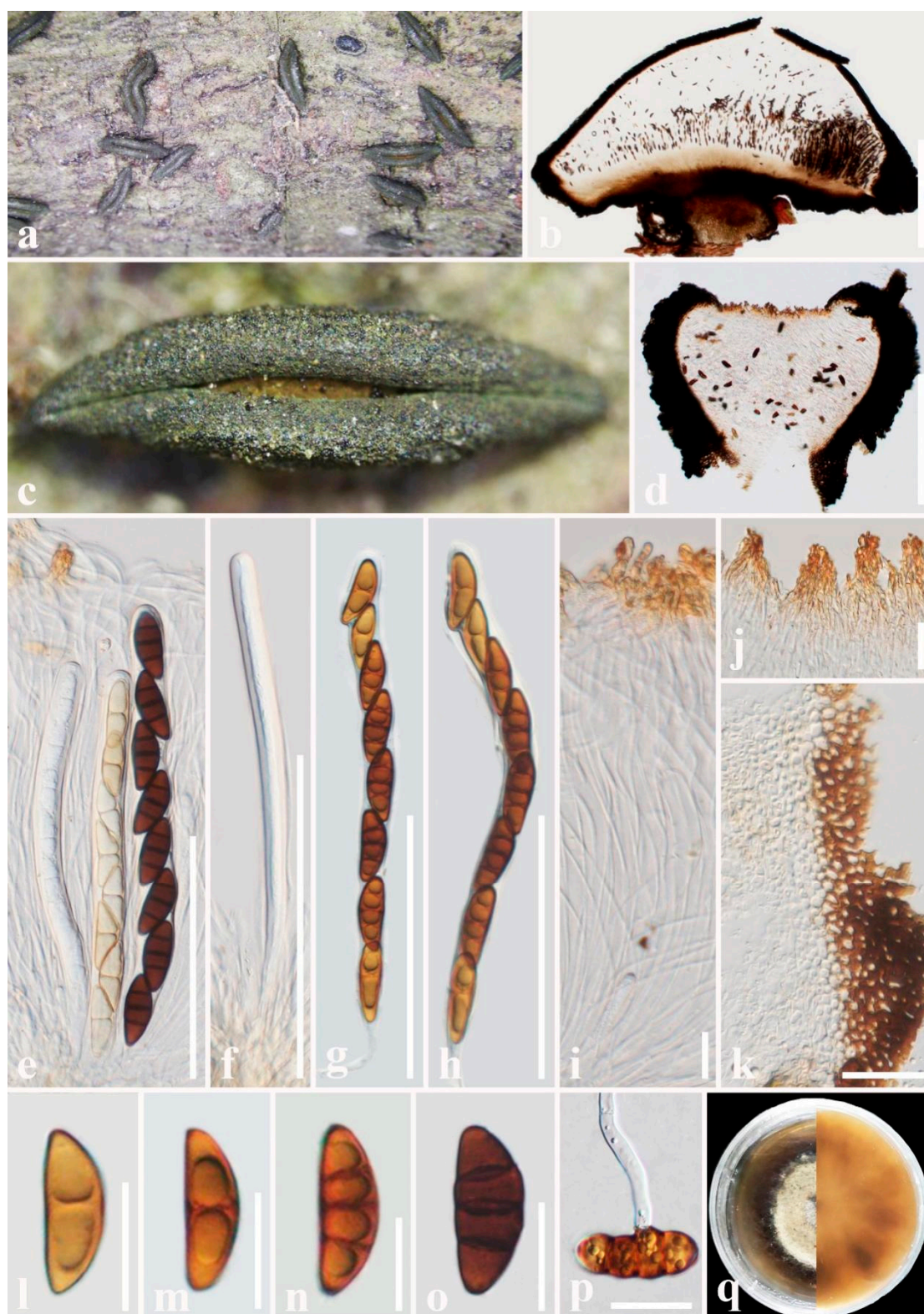


Figure S6. *Rhytidhysterium tectonae* (HKAS 122692). (a, c) Appearance of hysterothecia on the host; (b, d) Vertical section through hysterothecium; (e–h) Asci; (i) Pseudoparaphyses; (j) Epithecium mounted in water; (k) Exciple; (l–o) Ascospores; (p) A germinating ascospore; (q) Colony on PDA medium (after four weeks). Scale bars: (b, d) = 500 μm ; (e–h) = 100 μm ; (i, l–p) = 100 μm ; (j) = 10 μm ; (k) = 50 μm .

Supplementary notes S7

Rhytidhysterium thailandicum Thambug. & K.D. Hyde, Cryptog. Mycol. 37(1): 110 (2016) (Figure S7)

Index Fungorum number: IF 551866. Facesoffungi number: FoF 01841

Saprobic on decaying wood of *Aquilaria sinensis* (Thymelaeaceae). Sexual morph: *Ascomata* 800–1300 μm long \times 550–700 μm wide \times 400–650 μm high (\bar{x} = 1210 \times 660 \times 580 μm , n = 5), hysterothecial, solitary to aggregated, mostly aggregated, superficial, base is embedded in the plant tissue, navicular, black, apothecioid, slightly perpendicularly striate, surface light green, elongate and depressed, compressed at apex, longitudinal slit no opening. *Exciple* 35–95 μm wide, composed of dark brown, thick-walled cells of *textura angularis*, outer layer, dense, brown to dark brown, inner layer pale brown to hyaline. *Hamathecium* comprising 1–2 μm wide, dense, hyaline, septate, branched, cellular pseudoparaphyses, forming a yellow epithecium above asci when mounted in water, becoming purple epithecium above the asci when mounted in 10% KOH and turns hyaline after 5 seconds. *Asci* 225–246(–250) μm \times (15–)16.5–21 μm (\bar{x} = 236.5 \times 18 μm , n = 20), 8-spored, bitunicate, cylindrical, with short pedicel, rounded at the apex, with an ocular chamber, J- apical ring. *Ascospores* 30–34.5 μm \times 11–13.5 μm (\bar{x} = 32.5 \times 12 μm , n = 30), uniseriate, slightly overlapping, hyaline, 1-septate when immature, becoming dark brown, 3-septate when mature, ellipsoidal to fusoid, straight or curved, rounded to slightly pointed at both ends, guttulate, smooth-walled, without a mucilaginous sheath. Asexual morph: Undetermined.

Culture characteristics: Ascospores germinating on PDA within 24 h and germ tubes produced from one or both ends. Colonies on PDA reached a 6 cm diameter after two weeks at 28°C. The colony was soft, circular, slightly raised, with a filiform edge, white to light brown on the forward and dark grey in reverse.

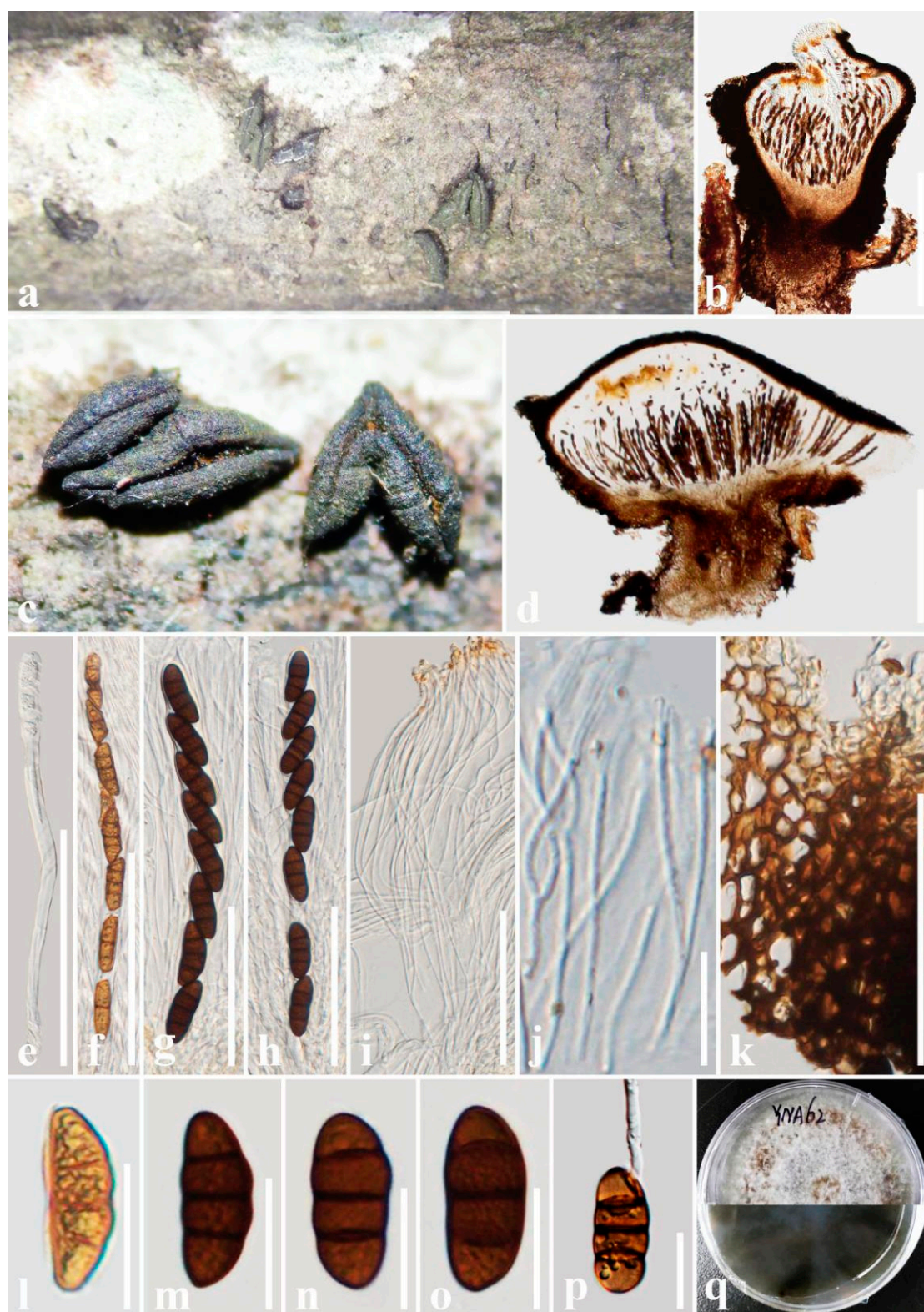


Figure S7. *Rhytidhysterium thailandicum* (HKAS 122698). (a, c) Appearance of hysterothecia on the host; (b, d) Vertical section through hysterothecium; (e–h) Asci; (i, j) Pseudoparaphyses; (k) Exciple; (l–o) Ascospores; (p) A germinating ascospore; (q) Colony on PDA medium (after four weeks). Scale bars: (b, d) = 500 μ m; (e–i) = 100 μ m; (j, l–p) = 20 μ m; (k) = 50 μ m.