

***Heimioporus* E. Horak gen. nov. – replacing *Heimiella* Boedijn (1951, syn. post., Boletales, Basidiomycota).**

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Horak, E. (2005). *Heimioporus* E. Horak gen. nov. – replacing *Heimiella* Boedijn (1951, syn. post., Boletales, Basidiomycota). – *Sydowia* 56 (2): 21–24.

This contribution is the forerunner of a forthcoming monograph of *Heimioporus* E. Horak which replaces the synonymous, hence invalid name of the boletoid genus *Heimiella* Boedijn (1951). New combinations are proposed for 16 taxa.

Keywords: Basidiomycota, Boletales, *Heimioporus*, *Heimiella*, taxonomy.

Taxonomically, the new genus *Heimioporus* encompasses boletes with rather unique spore morphology viz. the basidiospore walls are distinctly pitted. In case the scattered pits are broad and wide (alveolate), the basidiospore surface is covered by a coarse, net-like ornament (subgen. *Heimioporus*). Species characterized by basidiospores with numerous, narrow, tube-like and perforating pits belong to the new subgen. *Punctispora* based on *H. punctisporus* (Corner) originally described from Borneo (Sarawak).

Based upon present knowledge, the centre of diversity of *Heimioporus* (11 spp.) is actually restricted to the tropical lowland-montane, fagaceous and dipterocarpous forests of SE-Asia stretching from Japan southwards to New Guinea. Outside the palaearctic-malesian region, further species of *Heimioporus* are reported only from southern North America (USA, Mexico) and Central America (4 sp.), and from Australia (Tasmania, 1 sp.). Ecological data indicate that all 15 taxa of *Heimioporus* are actually forming ectomycorrhizal relationships exclusively with broadleaf trees belonging to several families.

Taxonomy

***Heimioporus* E. Horak, gen. nov.**

= *Heimiella* Boedijn 1951. *Sydowia* 5: 216 (syn. post.).

non *Heimiella* Lohmann 1913. *Verh. Deutsch. Zool. Ges.* 1913: 160 (Haptophyceae).

non *Heimiella* Racovita 1959. *Mém. Mus. nat. Hist. Nat. Paris*, sér. B, N.S., 10: 193 (Zythiaceae).

Type species. – *Boletus retisporus* Pat. & C.P. Baker 1918. J. Straits Branch R. S. Soc. 78: 72.

Key to subgenera

- 1. Basidiospores sublimoniform, pits absent towards smooth, beaked mucro. *Austroboletus* (Corner) Wolfe
- 1*. Basidiospores ovoid or elliptical-subfusoid 2
- 2. (1). Basidiospores ovoid, with rather large, scattered, pit-like alveolae. Germ pore absent 1. *Heimioporus* subgen. *Heimioporus* E. Horak
- 2*. Basidiospores elliptical to subfusoid, with small, numerous, pit-like alveolae. Germ pore present (often inconspicuous) 2. *Heimioporus* subgen. *Punctispora* (Corner) E. Horak

List of species transferred to *Heimioporus*

- 1. ***Heimioporus* subgen. *Heimioporus* E. Horak**
- 1. ***Heimioporus anguiformis*** (R. Heim) E. Horak, **comb. nov.**
Basionym: *Heimiella anguiformis* R. Heim. Rev. Mycol. (Paris) 28: 283. 1963.
- 2. ***Heimioporus ivoryi*** (Singer ap. Singer, Araujo & Ivory) E. Horak, **comb. nov.**
Basionym: *Boletellus ivoryi* Singer ap. Singer, Araujo & Ivory. Beih. Nova Hedwigia 77: 163. 1983.
Syn.: *Heimiella ivoryi* (Singer) Watling in Watling & Hollands. Notes R. Bot. Gard. Edinb. 46. 420. 1990. *Strobilomyces retisporus* (Pat. & Baker) Gilbert, ss. Garcia & Castillo. Bol. Soc. Mex. Micol. 15: 136. 1981.
- 3. ***Heimioporus japonicus*** (Hongo) E. Horak, **comb. nov.**
Basionym: *Heimiella japonica* Hongo. J. Japan. Bot. 44: 237. 1969. *Boletellus japonicus* (Hongo) L.D. Gómez in Carranza & Mueller (eds.): Fungi of Costa Rica: Selected studies on biodiversity and ecology. Revista Biol. Trop. 44 (suppl. 4): 71. (1996) 1997.
- 4. ***Heimioporus kinabaluensis*** (Corner) E. Horak, **comb. nov.**
Basionym: *Heimiella kinabaluensis* Corner. *Boletus* in Malaysia, 67. 1972.
- 5. ***Heimioporus mandarinus*** (Cesati) E. Horak, **comb. nov.**
Basionym: *Boletus mandarinus* Cesati. Atti R. Accad. Sci. Fis. Mat. Napoli 8: 4 (*Boletus Calopus Recedens*). 1878.
Syn.: *Heimiella mandarina* (Cesati) Corner. *Boletus* in Malaysia, 68. 1972.
- 6. ***Heimioporus nigricans*** (M. Zang) E. Horak, **comb. nov.**
Basionym: *Heimiella nigricans* M. Zang. Acta Bot. Yunn. 7: 395 (nom. ival., 36.1). 1985. *Heimiella nigricans* M. Zang. Acta Bot. Yunn. 8: 21. 1986.

7a. ***Heimioporus retisporus*** (Pat. & C.P. Baker) E. Horak, **comb. nov.**

Basionym: *Boletus retisporus* Patouillard & C.P. Baker. J. Straits Branch R. S. Soc. 78: 72. 1918.

Syn.: *Boletellus retisporus* (Patouillard & Baker) Gilbert. Bolets, 108. 1931.
Strobilomyces retisporus (Pat. & C.P. Baker) Gilbert. Les Bolets 108. 1948.
Heimiella retispora (Pat. & C.P. Baker) Boedijn. Sydowia 5: 217. 1951. non *Boletus retisporus* (Pat. & Baker) ss. Hongo 1960.

7b. ***Heimioporus retisporus* var. *levipedes*** (Watling) E. Horak, **comb. nov.**

Basionym: *Heimiella retispora* var. *levipedes* Watling 2001. Micologia (AMB Trento), 584. 2000.

8. ***Heimioporus ridleyi*** (Masse) E. Horak, **comb. nov.**

Basionym: *Boletus ridleyi* Masse. Kew Bull. 207. 1909.

9. ***Heimioporus rubropunctus*** (Hongo) E. Horak, **comb. nov.**

Basionym: *Heimiella rubropuncta* Hongo. Bull. Sci. Natl. Mus. Tokyo 16: 537-557. 1973. non *Boletus rubropunctus* Peck. Rep. N.Y. State Mus. 50: 109. 1897. [= *Leccinum rubropunctum* (Peck) Singer. Amer. Midl. Nat. 37: 117. 1947].

10. ***Heimioporus subretisporus*** (Corner) E. Horak, **comb. nov.**

Basionym: *Heimiella subretispora* Corner. Boletus in Malaysia, 75. 1972.

11. ***Heimioporus xerampelinus*** (M. Zang & W.-k. Zheng) E. Horak, **comb. nov.**

Basionym: *Boletellus xerampelinus* M. Zang & W.-k. Zheng. Acta Bot. Yunn. 7: 394. 1985. (nom. inval., ICBN 36.1). *Boletellus xerampelinus* M. Zang & W.-k. Zheng. Acta Bot. Yunn. 8: 21. 1986.

2. ***Heimioporus* subgen. *Punctispora*** (Corner) E. Horak, **stat. nov., comb. nov.**

Basionym: *Heimiella* subgen. *Punctispora* (Corner) Watling in Watling & Hollands. Notes R. Bot. Gard. Edinb. 46: 420. 1990.

Type species. – *Boletus* (*Boletellus*) *punctisporus* Corner. Garden's Bull. Singapore 27: 8. 1974.

12. ***Heimioporus alveolatus*** (R. Heim & Perr. Bertr.) E. Horak, **comb. nov.**

Basionym: *Porphyrellus alveolatus* R. Heim & Perr.- Bertr. Bull. Soc. Myc. Fr. 80: 92. 1964.

Syn.: *Boletellus alveolatus* (R. Heim & Perr. Bertr.) Singer. Fl. Neotropica 5: 24. 1970. *Heimiella alveolata* ((R. Heim & Perr. Bertr.) Watling in Watling & Hollands. Notes R. Bot. Gard. Edinb. 46. 420. 1990.

13. ***Heimioporus betula*** (Schwein.) E. Horak, **comb. nov.**

Basionym: *Boletus betula* Schweinitz. Schrift. Naturf. Ges. Leipzig 1: 94. 1822.

Syn.: *Ceratomyces betula* (Schweinitz) Murrill. Mycologia 1: 144. 1909.
Boletellus betula (Schweinitz) Gilbert. Les Bolets, 108. 1931.

Frostiella betula (Schweinitz) Murrill. Contr. Ber. Univ. Fla. Agr. Exp. Stat. Gainesville, 6. 1942.

Austroboletus betula (Schweinitz) E. Horak. Sydowia 33: 72. 1980.

Austroboletus betula (Schweinitz) Pegler & T.W.K. Young. TBMS 76: 133. 1981. (comb. superfl.).

Heimiella betula (Schweinitz) Watling in Watling & Hollands. Notes R. Bot. Gard. Edinb. 46. 420. 1990.

Boletus morgani Peck. Bull. Torr. Bot. Cl. 10: 73. 1883.

14. ***Heimioporus fruticicola*** (Berk.) E. Horak, **comb. nov.**

Basionym: *Boletus fruticicola* Berk. in Hooker. J. Bot. 7: 574. 1848.

Syn.: *Austroboletus fruticicola* (Berk.) E. Horak. Sydowia 33: 76. 1980.

Heimiella fruticicola (Berk.) Watling in Watling & Hollands. Notes R. Bot. Gard. Edinb. 46. 420. 1990.

15. ***Heimioporus mirabilis*** (Murrill) E. Horak, **comb. nov.**

Basionym: *Ceromyces mirabilis* Murrill. Mycologia 4: 98. 1912.

Syn.: *Boletus mirabilis* (Murrill) Murrill. Mycologia 4: 217. 1912.

Xerocomus mirabilis (Murrill) Singer Rev. Mycol. (Paris) 5: 6. 1944.

Boletellus mirabilis (Murrill) Singer. Farlowia 2: 129. 1945.

16. ***Heimioporus punctisporus*** (Corner) E. Horak, **comb. nov.**

Basionym: *Boletus* (*Boletellus*) *punctisporus* Corner. Garden's Bull. Singapore 27: 8. 1974.

Syn.: *Heimiella punctispora* (Corner) Watling in Watling & Hollands. Notes R. Bot. Gard. Edinb. 46. 420. 1990.

(Manuscript accepted 25th November 2004)

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Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Sydowia](#)

Jahr/Year: 2004

Band/Volume: [56](#)

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Artikel/Article: [Heimioporus E. Horak gen. nov. - replacing Heimiella Boedijn \(1951, syn. post., Boletales, Basidiomycota\). 237-240](#)