



Figure 1. Arizona Field Mycologists: (a) William H. Long; (b) Jack S. States; (c) Robert L. Gilbertson

APPENDIX I

REPORTED SYNONYMY FOR NORTH AMERICAN EARTHSTARS

Bold = currently accepted name

Astraeus hygrometricus (Pers.) Morgan (in Sunhede 1989); (in Long & Stouffer 1948); (from Bottomley 1948)

= *Geastrum hygrometricus* Persoon (in Bottomley 1948); (from Sunhede 1989); (in Cunningham 1944)

= *Astraeus stellatus* (Scop.) Fisch. (from Bottomley 1948); (from Cunningham 1944)

= *Geastrum fibrillosum* Schw. (from Bottomley 1948); (from Cunningham 1944)

= *Geaster lilacinus* Mass. (from Bottomley 1948); (from Cunningham 1944)

= *Geaster vulgaris* Corda. (from Cunningham 1944); (from Bottomley 1948)

Bovistoides simplex Lloyd (from Bottomley 1948); (from Long & Stouffer 1948)

= ***Myriostoma coliforme (With.: Pers.) Corda*** (in Pegler et al. 1995); (in Sunhede 1989)

Cycloderma indicum Klotsch

Geastrum indicum (Klotsch) Rauschert (from Sunhede 1989, questions if immature collection of of this species is actually *Geastrum triplex* several authors including Smith & Ponce de León consider this the legitimate name of *G. triplex*; however, Sunhede considers it nomen dubium)

?= ***Geastrum triplex Jungh.*** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Cycloderma ohiensis M.A. Cooke & Morgan (from Coker & Couch 1928); (from Bottomley 1948)

= ***Geastrum velutinum Morgan*** (in Bottomley 1948)

?= ***Geastrum welwitschii Mont.*** (in Sunhede 1989); (in Calonge 1998)

Geaster ambiguous Mont. (from Coker & Couch 1928, sensu Hollós in part)

= ***Geastrum umbilicatum Fr.*** (Smith 1951, sensu Morgan)

Geaster argenteus Cooke (from Coker & Couch 1928)

= ***Geastrum corollinum (Batsch) Hollós*** (in Sunhede 1989)

Geaster asper Lloyd (in Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (from Sunhede 1989)

= ***Geastrum campestre Morgan*** (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

Geaster atratus Smarda (from Stanek in Pilát 1958)

= ***Geastrum coronatum Pers.*** (in Sunhede 1989); (in Calonge 1998); (in Smith 1951)

Geaster biplicatus Berk. & M.A. Curtis (from Cunningham 1944)

= ***Geastrum pectinatum Pers.*** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster bryantii Berk. (in Coker & Couch 1928); (in Cunningham 1944); (in Long & Stouffer 1948); (from Sunhede 1989)
= ***Geastrum striatum* DC.** (in Sunhede 1989); (in Calonge 1998)

Geaster caesatii Rabenh. (from Bottomley 1948); (from Sunhede 1989)
= ***Geastrum minimum* Schwein.** (in Sunhede 1989); (in Calonge 1998)

Geaster caespitosus Lloyd (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)
= ***Geastrum mirabile* Montagne** (in Cunningham 1944)

Geaster calceus Lloyd (from Cunningham 1944); (from Bottomley 1948)
= ***Geastrum minimum* Schwein.** (in Sunhede 1989); (in Calonge 1998)
= ***Geastrum quadrifidum* Pers.: Pers.** (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

Geaster calyculatus Fuckel (from Bottomley 1948); (from Cunningham 1944)
= ***Geastrum pectinatum* Pers.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster capense Thümen (from Sunhede 1989, synonymy not confirmed)
?= ***Geastrum lageniforme* Vittad.** (in Sunhede 1989); (in Calonge 1998)
?= ***Geastrum saccatum* Fr.** (in Cunningham 1944); (from Bottomley 1948); (in Sunhede 1989, see *G. triplex* below); (in Calonge 1998)

Geaster capensis Thümen (from Bottomley 1948)
= ***Geastrum triplex* Jungh.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster cesatii Rabh. (from Coker & Couch 1928); (from Cunningham 1944)
= ***Geastrum quadrifidum* Pers.: Pers.** (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

Geaster coliformis Dicks.: Pers. (from Bottomley 1948)
≡ ***Myriostoma coliforme* (With.: Pers.) Corda** (in Pegler et al. 1995); (in Sunhede 1989)

Geaster columnatus Lév. (from Bottomley 1948); (from Sunhede 1989)
= ***Myriostoma coliforme* (With.: Pers.) Corda** (in Pegler et al. 1995); (in Sunhede 1989)

Geaster coriaceus Col. (from Cunningham 1944)
= ***Geastrum triplex* Jungh.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster coronatus (Schaeff.) Schroet. (in Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (in Long & Stouffer 1948)

= *Geastrum quadrifidum* Pers.: Pers. (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

Geaster cryptorhyncus Hazsl. (from Sunhede 1989)

= *Geastrum triplex* Jungh. (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster delicatus Morgan (from Coker & Couch 1928); (from Bottomley 1948); (from Stanek in Pilát 1958); (from Sunhede 1989, synonymy not confirmed)

= *Geastrum floriforme* Vittad. (in Cunningham 1944); (from Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

Geaster drummondii Berk. (in Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (in Long & Stouffer 1948); (in Sunhede 1989)

= *Geastrum campestre* Morgan (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

Geaster drummondii Berk. (from Sunhede 1989, sensu Hollós non Berkeley)

= *Geastrum kotlabae* Stanek (in Sunhede 1989); (in Calonge 1998)

Geaster dubius Berk. (from Sunhede 1989, synonymy not confirmed)

= *Geastrum lageniforme* Vittad. (in Sunhede 1989); (in Calonge 1998)

= *Geastrum triplex* Jungh. (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster englerianus P. Henn. (from Cunningham 1944)

= *Geastrum triplex* Jungh. (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster fenestratus (Batsch) Lloyd (from Sunhede 1989)

= *Geastrum fornicatum* (Huds.) Hook. (in Bottomley 1948, “pro parte typical”); (in Sunhede 1989); (in Calonge 1998)

Geaster fornicatus Fr. (from Cunningham 1944, in part)

= *Geastrum quadrifidum* Pers.: Pers. (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

Geaster granulatus Fuckel (from Bottomley 1948); (from Cunningham 1944); (from Sunhede 1989)

= *Geastrum minimum* Schwein. (in Sunhede 1989); (in Calonge 1998)

= *Geastrum quadrifidum* Pers.: Pers. (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

~~*Geaster hungaricus* Hollós~~ (in Coker & Couch 1928); (from Bottomley 1948); (in Long & Stouffer 1948)

= ***Geastrum floriforme* Vittad.** (in Cunningham 1944); (from Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

Geaster involutus Masee (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)

= ***Geastrum campestre* Morgan** (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

Geaster juniperinus Macbride (from Cunningham 1944)

= ***Geastrum quadrifidum* Pers.: Pers.** (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

Geaster kalchbrenneri Hazsl. (from Cunningham 1944); (from Sunhede 1989, synonymy not confirmed)

= ***Geastrum triplex* Jungh.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster kunzei Wint. (from Cunningham 1944); (from Bottomley 1948)

= ***Geastrum striatum* DC.** (in Sunhede 1989); (in Calonge 1998)

Geaster langeniformis Vittad. (from Cunningham 1944); (from Bottomley 1948)

= ***Geastrum triplex* Jungh.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster lignicola Berk. (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)

= ***Geastrum mirabile* Montagne** (in Cunningham 1944)

Geaster limbatus Fr. (in Coker & Couch 1928, in part); (in Long & Stouffer 1948, “black European form”); (? in Long & Stouffer 1948, “light colored American form”) (from Sunhede 1989, non Coker & Couch)

= ***Geastrum coronatum* Pers.** (in Sunhede 1989); (in Calonge 1998); (in Smith 1951)

= ***Geastrum smardae* Stanek** (in Sunhede 1989)

Geaster limbatus var. *ellipsostoma* Smith (from Bottomley 1948)

= ***Geastrum smardae* Stanek** (in Sunhede 1989)

Geaster lloydii Bres. ex Lloyd (from Bottomley 1948)

= ***Geastrum velutinum* Morgan** (in Bottomley 1948)

Geaster lloydia Bres. & Patouillard (in Coker & Couch 1928); (from Sunhede 1989, synonymy not confirmed)

?= ***Geastrum welwitschii* Mont.** (in Sunhede 1989); (in Calonge 1998)

Geaster lugubris Kalchbr. (from Coker & Couch 1928)

= *Geastrum corollinum* (Batsch) Hollós (in Sunhede 1989)

Geaster mammosus Fr. (in Coker & Couch 1928); (in Long & Stouffer 1948)

= *Geastrum corollinum* (Batsch) Hollós (in Sunhede 1989)

Geaster marchicus P. Henn. (from Sunhede 1989)

= *Geastrum fornicatum* (Huds.) Hook. (in Bottomley 1948, “pro parte typical”); (in Sunhede 1989); (in Calonge 1998)

Geaster marginatus Vittadini (from Coker & Couch 1928); (from Bottomley 1948); (from Cunningham 1944); (from Sunhede 1989)

= *Geastrum minimum* Schwein. (in Sunhede 1989); (in Calonge 1998)

= *Geastrum quadrifidum* Pers.: Pers. (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

Geaster michelianus W. G. Smith (from Cunningham 1944); (from Bottomley 1948); (from Sunhede 1989, synonymy not confirmed)

= *Geastrum triplex* Jungh. (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster minimum Chev. (from Cunningham 1944, in part)

= *Geastrum pectinatum* Pers. (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster minimus Schwein. (from Coker & Couch 1928, non Chevallier); (from Cunningham 1944, in part)

= *Geastrum quadrifidum* Pers.: Pers. (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

Geaster minus (Pers.) G. H. Cunn. (from Cunningham 1944)

= *Geastrum quadrifidum* Pers.: Pers. (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

Geaster minutum P. Henn. (from Sunhede 1989, synonymy not confirmed)

= *Geastrum lageniforme* Vittad. (in Sunhede 1989); (in Calonge 1998)

Geaster orientale Haszl. (from Sunhede 1989)

= *Geastrum striatum* DC. (in Sunhede 1989); (in Calonge 1998)

Geaster orientalis Haszl. (from Cunningham 1944); (from Bottomley 1948)

= *Geastrum striatum* DC. (in Sunhede 1989); (in Calonge 1998)

Geaster papyraceus Berk. & M.A. Curtis (from Bottomley 1948)

= *Geastrum mirabile* Montagne (in Cunningham 1944)

- Geaster pazschkeanus* P. Henn. (from Bottomley 1948)
 = ***Geastrum floriforme* Vittad.** (in Cunningham 1944); (from Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)
- Geaster plicatus* Berk. (from Cunningham 1944); (from Bottomley 1948)
 = ***Geastrum pectinatum* Pers.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)
- Geaster pseudomamosus* P. Henn. (from Cunningham 1944); (from Bottomley 1948); (from Sunhede 1989)
 = ***Geastrum campestre* Morgan** (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)
- Geaster pseudostriatum* Hollós (from Sunhede 1989)
 = ***Geastrum berkeleyi* Masee** (in Sunhede 1989); (in Calonge 1998)
- ~~*Geaster quadrifidum* DC~~ (from Cunningham 1944)
 = ***Geastrum fornicatum* (Huds.) Hook.** (in Bottomley 1948, “pro parte typical”); (in Sunhede 1989); (in Calonge 1998)
- Geaster rabenhorstii* Kunze (from Bottomley 1948)
 = ***Geastrum schmidelii* Vittad.** (in Smith 1951); (in Sunhede 1989)
- Geaster radicans* Berk. (from Coker & Couch 1928); (from Sunhede 1989, synonymy not confirmed)
 ?= ***Geastrum welwitschii* Mont.** (in Sunhede 1989); (in Calonge 1998)
- Geaster readeri* Cooke & Masee (from Cunningham 1944, see also *G. velutinum* below)
 = ***Geastrum fimbriatum* Fr.** (in Coker & Couch 1928); (in Cunningham 1944); (in Sunhede 1989); (in Calonge 1998)
 = ***Geastrum velutinum* Morgan** (in Bottomley 1948)
 ?=***Geastrum welwitschii* Mont.** (in Sunhede 1989); (in Calonge 1998)
- Geaster rufescens* Pers. em. Waveren (from Sunhede 1989)
 = ***Geastrum fimbriatum* Fr.** (in Coker & Couch 1928); (in Cunningham 1944); (in Sunhede 1989); (in Calonge 1998)
- Geaster saccatus* var. *walkeri* Coker & Couch (from Sunhede 1989, synonymy not confirmed)
 ?= ***Geastrum welwitschii* Mont.** (in Sunhede 1989); (in Calonge 1998)
- Geaster schaefferi* Vittad. (from Sunhede 1989)
 = ***Geastrum rufescens* Pers.: Pers.** (in Smith 1951); (Sunhede 1989); (in Calonge 1998)

Geaster schweinfurthii P. Henn. (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)

= ***Geastrum campestre* Morgan** (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

Geaster squamosus Lloyd (from Cunningham 1944); (from Bottomley 1948)

= ***Geastrum triplex* Jungh.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster striatulus Kalchbr. (from Cunningham 1944); (from Bottomley 1948)

= ***Geastrum campestre* Morgan** (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

= ***Geastrum umbilicatum* Fr.** (Smith 1951, sensu Morgan)

Geaster striatus Fr. (from Cunningham 1944, in part); (from Bottomley 1948)

= ***Geastrum pectinatum* Pers.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

= ***Geastrum schmidelii* Vittad.** (in Smith 1951); (in Sunhede 1989)

Geaster tenuipes Berk. (from Cunningham 1944); (from Bottomley 1948); (from Sunhede 1989)

= ***Geastrum pectinatum* Pers.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster tunicatus Vittad. (from Cunningham 1944); (from Sunhede 1989)

= ***Geastrum fimbriatum* Fr.** (in Coker & Couch 1928); (in Cunningham 1944); (in Sunhede 1989); (in Calonge 1998)

Geaster umbilicatus Fr. (from Sunhede 1989, most likely = *Geastrum pectinatum* or “to some extent” *Geastrum striatum*)

?= ***Geastrum elegans* Vittad.** (in Sunhede 1989)

?= ***Geastrum pectinatum* Pers.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

?= ***Geastrum striatum* DC.** (in Sunhede 1989); (in Calonge 1998)

Geaster vittatus Kalchbr. (from Sunhede 1989, synonymy not confirmed)

= ***Geastrum lageniforme* Vittad.** (in Sunhede 1989); (in Calonge 1998)

Geaster vittatus Kalchbr. & Cooke (from Cunningham 1944); (from Bottomley 1948)

= ***Geastrum triplex* Jungh.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geaster vulgaris Cda. (from Cunningham 1944); (from Bottomley 1948)

= ***Astraeus hygrometricus* (Pers.) Morgan** (in Sunhede 1989); (in Long & Stouffer 1948); (from Bottomley 1948)

Geaster vulgatus Vittad. (from Sunhede 1989)
= ***Geastrum rufescens* Pers.: Pers.** (in Smith 1951); (Sunhede 1989); (in Calonge 1998)

Geasteroides texensis Long (from Sunhede 1989)
≡ ***Terrostella texensis*** (Long) Long (in Sunhede 1989)

Geasteropsis texensis (Long) Fischer (from Sunhede 1989)
≡ ***Terrostella texensis*** (Long) Long (in Sunhede 1989)

Geastrum ambiguum Mont. (in Bottomley 1948); (from Sunhede 1989)
= ***Geastrum campestre* Morgan** (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

Geastrum ambiguum Mont. (from Sunhede 1989, sensu Hollós non Montagne)
= ***Geastrum kotlabae* Stanek** (in Sunhede 1989); (in Calonge 1998)

Geastrum archeri Berk. (from Sunhede 1989, synonymy not confirmed)
= ***Geastrum morganii* Lloyd** (in Smith 1951); (in Sunhede 1989)
= ~~***Geastrum triplex* Jungh.**~~ (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

***Geastrum arenarium* Lloyd** (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989, mentioned as valid species)
≡ *Geaster arenarius* Lloyd (in Long & Stouffer 1948)

Geastrum badium Pers. (from Sunhede 1989, non Stanek – most likely = *Geastrum striatum* DC)
?= ***Geastrum elegans* Vittad.** (in Sunhede 1989)
?= ***Geastrum striatum* DC.** (in Sunhede 1989); (in Calonge 1998)

***Geastrum berkeleyi* Masee** (in Sunhede 1989); (in Calonge 1998)
= *Geaster pseudostriatum* Hollós (from Sunhede 1989)
= *Geastrum berkeleyi* var. *continentale* Stanek (from Sunhede 1989)
= *Geastrum hollosii* Stanek (from Sunhede 1989)

Geastrum berkeleyi var. *continentale* Stanek (from Sunhede 1989)
= ***Geastrum berkeleyi* Masee** (in Sunhede 1989); (in Calonge 1998)

Geastrum bryantii Berk. (from Cunningham 1944); (in Bottomley 1948)
= ***Geastrum striatum* DC.** (in Sunhede 1989); (in Calonge 1998)

***Geastrum campestre* Morgan** (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)
≡ *Geaster campester* Morgan (from Cunningham 1944)

≡ *Geaster campestris* (in Long & Stouffer 1948)
= *Geaster asper* Lloyd (in Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (from Sunhede 1989)
= *Geaster drummondii* Berk. (in Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (in Long & Stouffer 1948); (in Sunhede 1989)
= *Geaster involutus* Massee (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)
= *Geaster pseudomamosus* P. Henn. (from Cunningham 1944); (from Bottomley 1948); (from Sunhede 1989)
= *Geaster striatulus* Kalchbr. (from Cunningham 1944); (from Bottomley 1948)
= *Geaster schweinfurthii* P. Henn. (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)
= *Geastrum ambiguum* Mont. (in Bottomley 1948); (from Sunhede 1989)
= *Geastrum drummondii* Berk. (in Cunningham 1944); (from Bottomley 1948)
= *Geastrum pedicellatum* (Batsch) Dörfelt & Müller-Uri (from Sunhede 1989)

Geastrum coliforme (Dicks.) Pers. (from Sunhede 1989)

≡ ***Myriostoma coliforme* (With.: Pers.) Corda** (in Pegler et al. 1995); (in Sunhede 1989)

Geastrum columnatum Lév. (as *Geaster*; “1 mouth” , ? invalid name) (from Sunhede 1989)

= ***Myriostoma coliforme* (With.: Pers.) Corda** (in Pegler et al. 1995); (in Sunhede 1989)

***Geastrum corollinum* (Batsch) Hollós** (in Sunhede 1989)

≡ *Geaster corollinus* (Batsch) Hollós (from Coker & Couch 1928)

≡ *Lycoperdon corollinum* Batsch (from Sunhede 1989); (from Calonge 1998)

= *Geaster argenteus* Cooke (from Coker & Couch 1928)

= *Geaster lugubris* Kalchbr. (from Coker & Couch 1928)

= *Geaster mammosus* Fr. (in Coker & Couch 1928); (in Long & Stouffer 1948)

= *Geastrum mammosum* Chev. (in Bottomley 1948); (from Sunhede 1989)

= *Geastrum recolligens* (With.) Desvaux (from Sunhede 1989)

= *Lycoperdon recolligens* With. (from Sunhede 1989)

***Geastrum coronatum* Pers.** (in Sunhede 1989); (in Calonge 1998); (in Smith 1951)

= *Geaster atratus* Smarda (from Stanek in Pilát 1958)

= *Geaster limbatus* Fr. (in Coker & Couch 1928, in part); (in Long & Stouffer 1948, “black European form”); (from Sunhede 1989, non Coker & Couch)

Geastrum coronatum Kambly & Lee (from Sunhede 1989)

= ***Geastrum smardae* Stanek** (in Sunhede 1989)

Geastrum drummondii Berk. (in Cunningham 1944); (from Bottomley 1948)

= ***Geastrum campestre* Morgan** (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

Geastrum dybovskii Patouillard (from Sunhede 1989, synonymy not confirmed)
?= ***Geastrum welwitschii* Mont.** (in Sunhede 1989); (in Calonge 1998)

***Geastrum elegans* Vittad.** (in Sunhede 1989)

≡ *Geaster elegans* Vittad. (in Long & Stouffer 1948)

?= *Geastrum badium* Pers. (from Sunhede 1989, non Stanek – most likely = *Geastrum striatum* DC)

?= *Geaster umbilicatus* Fr. (from Sunhede 1989, most likely = *Geastrum pectinatum* or “to some extent” *Geastrum striatum*)

Geastrum fenestriatum (Pers.) Fisch. (in Cunningham 1944); (from Bottomley 1948)
= ***Geastrum fornicatum* (Huds.) Hook.** (in Bottomley 1948, “pro parte typical”); (in Sunhede 1989); (in Calonge 1998)

Geastrum fibrillosum Schw. (from Bottomley 1948); (from Cunningham 1944)
= ***Astraeus hygrometricus* (Pers.) Morgan** (in Sunhede 1989); (in Long & Stouffer 1948); (from Bottomley 1948)

***Geastrum fimbriatum* Fr.** (in Coker & Couch 1928); (in Cunningham 1944); (in Sunhede 1989); (in Calonge 1998)

≡ *Geaster fimbriatus* Fr. (in Coker & Couch 1928); (from Cunningham 1944); (in Long & Stouffer 1948)

≡ *Geastrum fimbriatum* f. *fimbriatum* A.H. Sm. (in Smith 1951)

= *Geaster readeri* Cooke & Massee (from Cunningham 1944, see also *G. velutinum* below)

= *Geaster rufescens* Pers. em. Waveren (from Sunhede 1989)

= *Geaster tunicatus* Vittad. (from Cunningham 1944); (from Sunhede 1989)

= *Geastrum rufescens* var. *minor* Pers. (from Sunhede 1989)

= *Geastrum sessile* (Sowerby) Pouzar (from Calonge 1998)

***Geastrum floriforme* Vittad.** (in Cunningham 1944); (from Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

≡ *Geaster floriformis* Vittad. (in Coker & Couch 1928); (in Long & Stouffer 1948)

= *Geaster delicatus* Morgan (from Coker & Couch 1928); (from Bottomley 1948); (from Stanek in Pilát 1958); (from Sunhede 1989, synonymy not confirmed)

= ~~*Geaster hungaricus* Hollós~~ (in Coker & Couch 1928); (from Bottomley 1948); (in Long & Stouffer 1948)

= *Geaster pazschkeanus* P. Henn. (from Bottomley 1948)

= *Geastrum pazschkeanum* P. Henn. (from Stanek in Pilát 1958); (from Sunhede 1989, synonymy not confirmed)

= *Geastrum sibiricum* Pilát (from Stanek in Pilát 1958); (from Sunhede 1989, synonymy not confirmed)

***Geastrum fornicatum* (Huds.) Hook.** (in Bottomley 1948, “pro parte typical”); (in Sunhede 1989); (in Calonge 1998)

≡ *Geaster fornicatus* Fr. (in Coker & Couch 1928); (from Cunningham 1944); (in Long & Stouffer 1948)
≡ *Lycoperdon fornicatum* Huds. (from Bottomley 1948); (from Sunhede 1989)
= *Geaster fenestratus* (Batsch) Lloyd (from Sunhede 1989)
= *Geaster marchicus* P. Henn. (from Sunhede 1989)
= ~~*Geaster quadrifidum*~~ DC (from Cunningham 1944)
= *Geastrum fenestriatum* (Pers.) Fisch. (in Cunningham 1944); (from Bottomley 1948)
= *Geastrum quadrifidum* var. *fenestriatum* (Batsch) Pers. (in Cunningham 1944); (from Bottomley 1948)
= *Lycoperdon fenestratum* Batsch (from Sunhede 1989)

***Geastrum hariotii* Lloyd** (in Cunningham 1944); (in Long & Stouffer 1948); (in Sunhede 1989)
≡ *Geaster hariotii* Lloyd (in Coker & Couch 1928)

***Geastrum hieronymi* P. Henn.** (in Bottomley 1948); (in Sunhede 1989)
≡ *Geaster hieronymi* P. Henn. (in Coker & Couch 1928); (in Long & Stouffer 1948)

Geastrum hollosii Stanek (from Sunhede 1989)
= ***Geastrum berkeleyi* Masee** (in Sunhede 1989); (in Calonge 1998)

Geastrum hygrometricus Persoon (in Bottomley 1948); (from Sunhede 1989); (in Cunningham 1944)
≡ ***Astraeus hygrometricus* (Pers.) Morgan** (in Sunhede 1989); (in Long & Stouffer 1948); (from Bottomley 1948)

Geastrum indicum (Klotsch) Rauschert (from Sunhede 1989, questions if immature collection of *Cycloderma indicum* by Klotsch is actually *Geastrum triplex* several authors including Smith & Ponce de León consider this the legitimate name of *G. triplex*; however, Sunhede considers it nomen dubium)
?= ***Geastrum triplex* Jungh.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geastrum javanicum (from Sunhede 1989, synonymy not confirmed)
?= ***Geastrum welwitschii* Mont.** (in Sunhede 1989); (in Calonge 1998)

***Geastrum kotlabae* Stanek** (in Sunhede 1989); (in Calonge 1998)
= *Geaster drummondii* Berk. (from Sunhede 1989, sensu Hollós non Berkeley)
= *Geastrum ambiguum* Mont. (from Sunhede 1989, sensu Hollós non Montagne)

***Geastrum lageniforme* Vittad.** (in Sunhede 1989); (in Calonge 1998)
?= *Geaster capense* Thümen (from Sunhede 1989, synonymy not confirmed, also see *G. saccatum* below)
= *Geaster dubium* Berk. (from Sunhede 1989, synonymy not confirmed)
= *Geaster minutum* P. Henn. (from Sunhede 1989, synonymy not confirmed)

= *Geaster vittatum* Kalchbr. (from Sunhede 1989, synonymy not confirmed)

***Geastrum leptospermum* G.F. Atk. & Coker** (in Sunhede 1989)

≡ *Geaster leptospermus* G.F. Atk. & Coker (in Coker & Couch 1928)

Geastrum limbatum (Fr.) G. H. Cunn. (in Bottomley 1948); (in Cunningham 1944, “In his various papers Lloyd confused *G. limbatum* with *G. rufescens*”); (in Smith, 1951, sensu Coker & Couch)

= ***Geastrum smardae* Stanek** (in Sunhede 1989)

Geastrum mammosum Chev. (in Bottomley 1948); (from Sunhede 1989)

= ***Geastrum corollinum* (Batsch) Hollós** (in Sunhede 1989)

***Geastrum minimum* Schwein.** (in Sunhede 1989); (in Calonge 1998)

≡ *Geaster minimus* Schwein. (in Long & Stouffer 1948); (in Bottomley 1948)

= *Geaster caesatii* Rabenh. (from Bottomley 1948); (from Sunhede 1989)

= *Geaster calceus* Lloyd (from Bottomley 1948)

= *Geaster granulosum* Fuckel (from Bottomley 1948); (from Sunhede 1989)

= *Geaster marginatus* Vittadini (from Bottomley 1948); (from Sunhede 1989)

Geastrum minus (Pers.) Fischer (in Cunningham 1944)

= ***Geastrum quadrifidum* Pers.: Pers.** (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

***Geastrum mirabile* Montagne** (in Cunningham 1944)

≡ *Geaster mirabilis* Mont. (in Coker & Couch 1928); (from Cunningham 1944)

= *Geaster caespitosus* Lloyd (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)

= *Geaster lignicola* Berk. (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)

= *Geaster papyraceus* Berk. & M.A. Curtis (from Bottomley 1948)

***Geastrum morganii* Lloyd** (in Smith 1951); (in Sunhede 1989)

≡ *Geaster morganii* Lloyd (in Coker & Couch 1928)

= *Geastrum archeri* Berk. (from Sunhede 1989, synonymy not confirmed)

= ~~***Geastrum triplex* Jungh.**~~ (Cunningham 1944); (Ponce de León 1968)

Geastrum multifidum var. *alpha* Pers. (from Coker & Couch 1928); (from Sunhede 1989)

= ***Geastrum pectinatum* Pers.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geastrum nanum Pers. (in Bottomley 1948); (from Sunhede 1989)

= ***Geastrum schmidelii* Vittad.** (in Smith 1951); (in Sunhede 1989)

Geastrum pazschkeanum P. Henn. (from Stanek in Pilát 1958); (from Sunhede 1989, synonymy not confirmed)
= ***Geastrum floriforme* Vittad.** (in Cunningham 1944); (from Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

***Geastrum pectinatum* Pers.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

≡ *Geaster pectinatus* Pers. (in Long & Stouffer 1948); (from Sunhede 1989)

= *Geaster biplicatus* Berk. & M.A. Curtis (from Cunningham 1944)

= *Geaster calyculatus* Fuckel (from Bottomley 1948); (from Cunningham 1944)

= ~~*Geastrum coronatum* Pers.~~ (from Cunningham 1944, in part)

= *Geaster minimum* Chev. (from Cunningham 1944, in part)

= *Geaster plicatus* Berk. (from Cunningham 1944); (from Bottomley 1948)

= ~~*Geaster schmidelii* Vittad.~~ Fr. (from Cunningham 1944); (from Bottomley 1948)

= *Geaster striatus* Fr. (from Cunningham 1944, in part)

= *Geaster tenuipes* Berk. (from Cunningham 1944); (from Bottomley 1948); (from Sunhede 1989)

?= *Geaster umbilicatus* Fr. (from Cunningham 1944); (from Sunhede 1989, most likely = *Geastrum pectinatum* or “to some extent” *Geastrum striatum*)

= *Geastrum multifidum* var. *alpha* Pers. (from Coker & Couch 1928); (from Sunhede 1989)

= *Geastrum plicatum* Berk. (in Cunningham 1944); (from Sunhede 1989)

Geastrum pedicellatum (Batsch) Dörfelt & Müller-Uri (from Sunhede 1989)

= ***Geastrum campestre* Morgan** (in Cunningham 1944); (in Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

Geastrum pillotii Rose (from Sunhede 1989, has not seen the material)

= ***Geastrum triplex* Jungh.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

Geastrum plicatum Berk. (in Cunningham 1944); (from Sunhede 1989)

= ***Geastrum pectinatum* Pers.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Sunhede 1989); (in Calonge 1998)

?***Geastrum pluriosteum* Long & Stouffer** (in Long & Stouffer 1948)

***Geastrum pseudolimbatum* Hollós** (in Sunhede 1989)

≡ *Geastrum coronatum* f. *pseudolimbatum* (Hollós) Dörfelt & Müller-Uri (from Sunhede 1989)

***Geastrum quadrifidum* Pers.:** Pers. (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

≡ *Geaster quadrifidum* Nees. (from Cunningham 1944)

≡ *Geastrum quadrifidum* var. *minus* Pers. (from Cunningham 1944)

≡ *Geastrum quadrifidum* β *minus* Pers. (from Sunhede 1989)
 = *Geaster calceus* Lloyd (from Cunningham 1944)
 = *Geaster cesatii* Rabh. (from Coker & Couch 1928); (from Cunningham 1944)
 = *Geaster coronatus* Pers. (from Bottomley 1948)
 = *Geaster coronatus* (Schaeff.) Schroet. (in Coker & Couch 1928); (from Cunningham 1944), (from Bottomley 1948); (in Long & Stouffer 1948)
 = *Geaster fornicatus* Fr. (from Cunningham 1944, in part)
 = *Geaster granulosus* Fcl. (from Cunningham 1944)
 = *Geaster juniperinus* Macbride (from Cunningham 1944)
 = *Geaster marginatus* Vittad. (from Coker & Couch 1928); (from Cunningham 1944)
 = *Geaster minus* (Pers.) G. H. Cunn. (from Cunningham 1944)
 = *Geaster minimus* Schwein. (from Coker & Couch 1928, non Chevallier); (from Cunningham 1944, in part)
 = *Geastrum minus* (Pers.) Fischer (in Cunningham 1944)
 = *Lycoperdon coronatum* Scopoli (from Sunhede 1989)

Geastrum quadrifidum var. *fenestriatum* (Batsch) Pers. (in Cunningham 1944); (from Bottomley 1948)
 = ***Geastrum fornicatum* (Huds.) Hook.** (in Bottomley 1948, “pro parte typical”); (in Sunhede 1989); (in Calonge 1998)

Geastrum rabenhorstii Kunze (from Coker & Couch 1928); (in Sunhede 1989)
 = ***Geastrum schmidelii* Vittad.** (in Smith 1951); (in Sunhede 1989)

Geastrum recolligens (With.) Desvaux (from Sunhede 1989)
 = ***Geastrum corollinum* (Batsch) Hollós** (in Sunhede 1989)

***Geastrum rufescens* Pers.: Pers.** (in Smith 1951); (Sunhede 1989); (in Calonge 1998)
 ≡ *Geaster rufescens* (Pers.) Fr. (in Coker & Couch 1928); (Long & Stouffer 1948)
 = *Geaster schaefferi* Vittad. (from Sunhede 1989)
 = *Geaster vulgatus* Vittad. (from Sunhede 1989)
 = *Lycoperdon primum* (from Sunhede 1989, synonymy not confirmed)

Geastrum rufescens var. *minor* Pers. (from Sunhede 1989)
 = ***Geastrum fimbriatum* Fr.** (in Coker & Couch 1928); (in Cunningham 1944); (in Sunhede 1989); (in Calonge 1998)

***Geastrum saccatum* Fr.** (in Cunningham 1944); (from Bottomley 1948); (in Sunhede 1989, see *G. triplex* below); (in Calonge 1998)
 ?= *Geaster capense* Thümen (from Sunhede 1989, synonymy not confirmed, also see *G. lageniforme* above)
 ≡ *Geaster saccatus* Fr. (in Coker & Couch 1928); (in Long & Stouffer 1948)
 ≡ *Geaster saccatus* f. *major* Lloyd (from Long & Stouffer 1948)

***Geastrum schmidelii* Vittad.** (in Smith 1951); (in Sunhede 1989)

≡ *Geaster schmidelii* Vittad. (in Coker & Couch 1928); (from Bottomley 1948)
= *Geaster rabenhorstii* Kunze (from Bottomley 1948)
= *Geaster striatus* Kalchbr. (from Bottomley 1948)
= *Geastrum nanum* Pers. (in Bottomley 1948); (from Sunhede 1989)
= *Geastrum rabenhorstii* Kunze (from Coker & Couch 1928); (in Sunhede 1989)

Geastrum sessile (Sowerby) Pouzar (from Calonge 1998)
= ***Geastrum fimbriatum* Fr.** (in Coker & Couch 1928); (in Cunningham 1944); (in Sunhede 1989); (in Calonge 1998)

Geastrum sibiricum Pilát (from Stanek in Pilát 1958); (from Sunhede 1989, synonymy not confirmed)
= ***Geastrum floriforme* Vittad.** (in Cunningham 1944); (from Bottomley 1948); (in Sunhede 1989); (in Calonge 1998)

***Geastrum smardae* Stanek** (in Sunhede 1989)
= *Geaster limbatus* Fr. (in Coker & Couch 1928, sensu Bresadola); (from Cunningham 1944); (? in Long & Stouffer 1948, “light colored American form”); (from Sunhede 1989, sensu Lloyd)
= *Geaster limbatus* var. *ellipsostoma* Smith (from Bottomley 1948)
= *Geastrum limbatum* (Fr.) G. H. Cunn. (in Bottomley 1948); (in Cunningham 1944, “In his various papers Lloyd confused *G. limbatum* with *G. rufescens*”); (in Smith, 1951, sensu Coker & Couch)
= *Geastrum coronatum* (from Sunhede 1989, sensu Kambly & Lee - 1936)
= *Geastrum smardae* var. *slovenicum* Stanek (from Sunhede 1989)

***Geastrum smithii* Lloyd** (in Cunningham 1944)
≡ *Geaster smithii* Lloyd (Lloyd 1902); (from Coker & Couch 1928); (in Long & Stouffer 1948)
?= ***Geastrum umbilicatum* Fr.** (Smith 1951, sensu Morgan)

***Geastrum striatum* DC.** (in Sunhede 1989); (in Calonge 1998)
?= *Geastrum badium* Pers. (from Sunhede 1989, non Stanek – most likely = *Geastrum striatum* DC)
= *Geaster bryantii* Berk. (in Coker & Couch 1928); (in Cunningham 1944); (in Long & Stouffer 1948); (from Sunhede 1989)
= *Geaster kunzei* Wint. (from Cunningham 1944); (from Bottomley 1948)
= *Geaster orientalis* Haszl. (from Sunhede 1989)
= *Geaster orientalis* Haszl. (from Cunningham 1944); (from Bottomley 1948)
?= *Geaster umbilicatus* Fr. (from Sunhede 1989, most likely = *Geastrum pectinatum* or “to some extent” *Geastrum striatum*)
= *Geastrum bryantii* Berk. (from Cunningham 1944); (in Bottomley 1948)

***Geastrum subiculosum* Cooke & Masee** (in Cunningham 1944); (in Sunhede 1989)
≡ *Geaster subiculosus* Cooke & Masee (in Coker & Couch 1928)

***Geastrum tichifer* Rick** (in Coker & Couch 1928)
?= *Geastrum mirabile* Mont. (from Coker & Couch 1928)

?***Geastrum tomentosum* Lloyd**
= *Geaster tomentosum* Lloyd (in Long & Stouffer 1989)

***Geastrum triplex* Jungh.** (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951);
(in Sunhede 1989); (in Calonge 1998)
= *Geaster triplex* Jungh. (in Coker & Couch 1928); (in Long & Stouffer 1948)
= ~~*Geaster archeri* Berk.~~ (from Cunningham 1944); (from Bottomley 1948)
= *Geaster capensis* Thümen (from Bottomley 1948)
= *Geaster coriaceus* Col. (from Cunningham 1944)
= *Geaster cryptorhyncus* Hazsl. (from Sunhede 1989)
= *Geaster dubius* Berk. (from Cunningham 1944)
= *Geaster englerianus* P. Henn. (from Cunningham 1944)
= *Geaster kalchbrenneri* Hazsl. (from Cunningham 1944); (from Sunhede 1989,
synonymy not confirmed)
= *Geaster langeniformis* Vittad. (from Cunningham 1944); (from Bottomley 1948)
= *Geaster michelianus* W. G. Smith (from Cunningham 1944); (from Bottomley 1948);
(from Sunhede 1989, synonymy not confirmed)
= ~~*Geaster morgani* Lloyd~~ (from Cunningham 1944); (from Bottomley 1948)
= *Geastrum pillotii* Rose (from Sunhede 1989, has not seen the material)
= *Geaster squamosus* Lloyd (from Cunningham 1944); (from Bottomley 1948)
= *Geaster vittatus* Kalchbr. & Cke. (from Cunningham 1944); (from Bottomley 1948)
?= *Geastrum indicum* (Klotsch) Rauschert (from Sunhede 1989, questions if immature
collection of *Cycloderma indicum* by Klotsch is actually *Geastrum triplex* several authors
including Smith & Ponce de León consider this the legitimate name of *G. triplex*;
however, Sunhede considers it nomen dubium)

***Geastrum umbilicatum* Fr.** (Smith 1951, sensu Morgan)
= *Geaster ambiguous* Mont. (from Coker & Couch 1928, sensu Hollós in part)
?= *Geastrum elegans* Vittad. (from Sunhede 1989, most likely = *Geastrum pectinatum* or
“to some extent” *Geastrum striatum*)
= *Geaster umbilicatus* Fr. (in Coker & Couch 1928, sensu Morgan) = *Geaster smithii*
Lloyd (from Coker & Couch 1928), (in Cunningham 1944); (in Long & Stouffer 1948)
= *Geaster smithii* Lloyd (from Coker & Couch 1928), (in Cunningham 1944); (in Long &
Stouffer 1948)
= *Geaster striatulus* Kalch. (from Coker & Couch 1928, sensu Lloyd)

***Geastrum velutinum* Morgan** (in Bottomley 1948)
= *Geaster velutinus* Morgan (in Coker & Couch 1928)
= *Cycloderma ohiensis* M.A. Cooke & Morgan (from Coker & Couch 1928); (from
Bottomley 1948)
= *Geaster lloydii* Bres. ex Lloyd (from Bottomley 1948)

= *Geaster readeri* Cooke & Masee (from Coker & Couch 1928)
?= ***Geastrum welwitschii* Mont.** (in Sunhede 1989); (in Calonge 1998)

***Geastrum welwitschii* Mont.** (in Sunhede 1989); (in Calonge 1998)
?= *Cycloderma ohiensis* Cke. (from Sunhede 1989, synonymy not confirmed)
?= *Geastrum dybovskii* Patouillard (from Sunhede 1989, synonymy not confirmed)
?= *Geastrum javanicum* (from Sunhede 1989, synonymy not confirmed)
?= *Geaster lloydia* Bres. & Patouillard (in Coker & Couch 1928); (from Sunhede 1989, synonymy not confirmed)
?= *Geaster readeri* Cooke & Masee (from Sunhede 1989, synonymy not confirmed and see *G. velutinum* above)
?= *Geaster radicans* Berk. (from Coker & Couch 1928); (from Sunhede 1989, synonymy not confirmed)
?= *Geaster saccatus* var. *walkeri* Coker & Couch (from Sunhede 1989, synonymy not confirmed)
?= *Geaster velutinus* Morgan (from Sunhede 1989, synonymy not confirmed)

***Geastrum xerophilum* Long** (in Sunhede 1989, mentioned as a valid species)
≡ *Geaster xerophilus* (in Long & Stouffer 1948)

?***Geastrum xylogenum* Long & Stouffer** (in Long & Stouffer 1948)
≡ *Geaster xylogenus* Long & Stouffer (in Long & Stouffer 1948)

Lycoperdon coliforme Dicks. (from Bottomley 1948)
≡ ***Myriostoma coliforme* (With.: Pers.) Corda** (in Pegler et al. 1995); (in Sunhede 1989)

Lycoperdon coliforme With. (from Sunhede 1989)
≡ ***Myriostoma coliforme* (With.: Pers.) Corda** (in Pegler et al. 1995); (in Sunhede 1989)

Lycoperdon corollinum Batsch (from Sunhede 1989); (from Calonge 1998)
≡ ***Geastrum corollinum* (Batsch) Hollós** (in Sunhede 1989)

Lycoperdon coronatum Scopoli (from Sunhede 1989)
= ***Geastrum quadrifidum* Pers.: Pers.** (from Coker & Couch 1928); (from Bottomley 1948); (from Sunhede 1989); (in Calonge 1998)

Lycoperdon fenestratum Batsch (from Sunhede 1989)
= ***Geastrum fornicatum* (Huds.) Hook.** (in Bottomley 1948, “pro parte typical”); (in Sunhede 1989); (in Calonge 1998)

Lycoperdon fornicatum Huds. (from Bottomley 1948); (from Sunhede 1989)
≡ ***Geastrum fornicatum* (Huds.) Hook.** (in Bottomley 1948, “pro parte typical”); (in Sunhede 1989); (in Calonge 1998)

Lycoperdon primum (from Sunhede 1989, synonymy not confirmed)

= *Geastrum rufescens* Pers.: Pers. (in Smith 1951); (Sunhede 1989); (in Calonge 1998)

Lycoperdon recolligens With. (from Sunhede 1989)

= *Geastrum corollinum* (Batsch) Hollós (in Sunhede 1989)

Myriostoma anglicum Desv. (from Sunhede 1989); (from Bottomley 1948)

= *Myriostoma coliforme* (With.: Pers.) Corda (in Pegler et al. 1995); (in Sunhede 1989)

Myriostoma coliforme (With.: Pers.) Corda (in Pegler et al. 1995); (in Sunhede 1989)

≡ *Geaster coliformis* Dicks.: Pers. (from Bottomley 1948); (in Long & Stouffer 1948)

≡ *Myriostoma coliforme* (Dicks.: Pers.) Corda (in Bottomley 1948)

≡ *Polystoma coliforme* (Dicks.) Gray (from Sunhede 1989)

≡ *Geastrum coliforme* (Dicks.) Pers. (from Sunhede 1989)

≡ *Lycoperdon coliforme* Dicks. (from Bottomley 1948)

≡ *Lycoperdon coliforme* With. (from Sunhede 1989)

= *Bovistoides simplex* Lloyd (from Bottomley 1948); (from Long & Stouffer 1948)

= *Geaster columnatus* Lév. (from Bottomley 1948); (from Sunhede 1989)

= *Geastrum columnatum* Lév. (as *Geaster*; “1 mouth”, ? invalid name) (from Sunhede 1989)

= *Myriostoma anglicum* Desv. (from Sunhede 1989); (from Bottomley 1948)

Polystoma coliforme (Dicks.) Gray (from Sunhede 1989)

≡ *Myriostoma coliforme* (With.: Pers.) Corda (in Pegler et al. 1995); (in Sunhede 1989)

Terrostella texensis (Long) Long (in Sunhede 1989)

≡ *Geasteroides texensis* Long (from Sunhede 1989)

≡ *Geasteropsis texensis* (Long) Fischer (from Sunhede 1989)

APPENDIX II

REPORTED SYNONYMY FOR NORTH AMERICAN PUFFBALLS

Bold = currently accepted name

Araneosa columellata Long (in Long 1941)

Arachnion album Schwein. (in Coker & Couch 1928); (in Smith 1951)

Arachnion rufum Lloyd (in Long 1941)

?*Arachniopsis albican* Long (in Long 1917)

***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

= *Lycoperdon aestivale* Bonord. (from Pegler et al. 1995); (from Calonge 1998)

= *Bovista aestivalis* var. *perverrucispora* Ortega & Buendía (from Calonge 1998)

= *Bovista cepaeformis* (Bull.) Masee (from Kreisel 1967b)

= *Bovista colorata* (Peck) Kreisel (in Kreisel 1967b); (from Pegler et al. 1995)

= *Bovista polymorpha* (Vittad.) Kreisel sensu Demoulin (in Kreisel 1967b); (from Demoulin 1996)

= *Bovista pusilliformis* (Kreisel) Kreisel (in Kreisel 1967b); (from Pegler et al. 1995); (from Calonge 1998)

= *Globaria cepaeformis* (Bull.) Cout. (Kreisel 1967b)

= *Globaria furfuracea* Schaeff. ex Quél. (from Kreisel 1967b)

= *Lycoperdon annularium* Beck (from Kreisel 1967b)

= *Lycoperdon cepaeforme* Bull. (from Coker & Couch 1928); (from Cunningham 1944); (from Kreisel 1967b); (from Pegler et al. 1995); (from Demoulin 1996 – as *L. cepiforme*); (from Calonge 1998)

= *Lycoperdon coloratum* Peck (in Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (in Smith 1951); (from Kreisel 1967b); (from Pegler et al. 1995); (from Calonge 1998)

= ~~*Lycoperdon ericaeum* Bonord.~~ (from Kreisel 1967b)

= *Lycoperdon ericetorum* Pers. sensu Demoulin (from Demoulin 1972a)

= *Lycoperdon ericetorum* var. *cepaeforme* (Bull.) Bowerman (from Kreisel 1967b)

= *Lycoperdon furfuraceum* Schaeff. non. *Bovista furfuracea* (Gmelin: Pers.) Pers. (from Bottomley 1948); (from Cunningham 1944 – as *L. furfuracearum*); (from Kreisel 1967b); (from Pegler et al. 1995 – as *L. furfuracea*); (from Calonge 1998 – as *L. furfuracea*)

= ~~*Lycoperdon hungaricum* Hollós~~ (from Bottomley 1948); (from Cunningham 1944); (from Demoulin 1996 – see *Bovista dermoxantha* below)

?= *Lycoperdon nigrum* Lloyd (from Cunningham 1944); (from Bottomley 1948); (from Demoulin 1972a – author suggests further study)

= *Lycoperdon polymorphum* Vittad. (from Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (from Kreisel 1967b – see also *B. dakotensis* below); (from Demoulin 1996); (from Calonge 1998)

= *Lycoperdon polymorphum* Vittad. f. *cepaeforme* Lloyd (in Smith 1951)

= *Lycoperdon pusilliforme* Kreisel (from Kreisel 1967b); (from Demoulin 1996)

= *Lycoperdon rollandii* Pat. (from Demoulin 1996)

= *Lycoperdon septimum* Lloyd (from Kreisel 1967b)

Bovista aestivalis var. *perverrucispora* Ortega & Buendía (from Calonge 1998)

= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Calonge 1998); (in Pegler et al. 1995); (in Demoulin 1996)

***Bovista acuminata* (Bosc) Kreisel** (in Kreisel 1967b)

≡ *Lycoperdon acuminatum* Bosc (in Coker & Couch 1928); (from Kreisel 1967b)

≡ *Lycoperdon pyriforme* var. *acuminatum* (Bosc) Smarda (from Kreisel 1967b)

= *Lycoperdon calyptriforme* Berk. (from Coker & Couch 1928); (from Kreisel 1967b)

= *Lycoperdon leprosum* Berk. & Ravenel (from Coker & Couch 1928); (from Kreisel 1967b)

Bovista argillacea Pat. (from Cunningham 1944)

= ***Disciseda cervina* (Berk.) Hollós** (in Cunningham 1944); (in Bottomley 1948)

Bovista amethystina Cooke & Masee (from Kreisel 1992)

= ***Calvatia fragilis* (Vittad.) Morgan** (in Coker & Couch 1928); (in Smith 1951); (from Zeller & Smith 1964); (in Kreisel 1992)

Bovista ammophila Lév. (from Kreisel & Calonge 1993)

= ***Bovistella radicata* (Dur. & Mont.) Pat.** (in Coker & Couch 1928); (in Kreisel & Calonge 1993); (from Calonge 1998)

Bovista antarctica Speg. (from Kreisel 1992)

= ***Calvatia rugosa* (Berk. & M.A. Curtis) Reid** (in Kreisel 1992)

Bovista apedicellata G. Cunn. (from Kreisel 1967b)

= ***Bovista coprophila* (Cooke & Masee) G. Cunn.** (in Kreisel 1967b)

Bovista bicolor Lév. (from Bottomley 1848); (from Homrich & Wright 1973); (from Kreisel 1992)

≡ ***Calvatia bicolor* (Lév.) Kreisel** (from Homrich & Wright 1973); (in Kreisel 1992)

Bovista brevicauda Velen. (from Kreisel 1967b)

= ***Bovista plumbea* Pers.** (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista brunnea Berk. (from Kreisel 1967b – sensu Herrera 1959)

= ***Bovista leucoderma* Kreisel** (in Kreisel 1967b); (in Kreisel & Calonge 1993)

Bovista cacao P. Ponce de León (in Ponce de León 1975)

= ***Calvatia umbrina* Lloyd** (in Zeller & Smith 1964 – known only from the type locality in California)

***Bovista californica* Kreisel** (in Kreisel 1967b)

Bovista candida Schwein. (from Cunningham 1944); (from Bottomley 1948); (from Moravec 1954); (from Calonge 1998)

= ***Disciseda candida* (Schwein.) Lloyd** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Bovista catastoma Lloyd (from Kreisel 1967b)

= ***Bovista minor* Morgan** (in Coker & Couch 1928); (in Kreisel 1967b)

Bovista cepaeformis (Bull.) Masee (from Kreisel 1967b)

= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Bovista cervina Berk. (from Cunningham 1944); (from Bottomley 1948)

= ***Disciseda cervina* (Berk.) Hollós** (in Cunningham 1944); (in Bottomley 1948)

Bovista cinerea Ellis (from Kreisel 1992)

= ***Calvatia fragilis* (Vittad.) Morgan** (in Coker & Couch 1928); (in Smith 1951); (from Zeller & Smith 1964); (in Kreisel 1992)

Bovista circumscissa Berk. & M.A. Curtis (from Coker & Couch 1928); (from Moravec 1954)

= ***Disciseda candida* (Schwein.) Lloyd** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Bovista cisneroi Speg. (from Kreisel 1992)

= ***Calvatia rugosa* (Berk. & M.A. Curtis) Reid** (in Kreisel 1992)

Bovista colorata (Peck) Kreisel (in Kreisel 1967b); (from Pegler et al. 1995)

= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Calonge 1998); (in Pegler et al. 1995); (in Demoulin 1996)

***Bovista coprophila* (Cooke & Masee) G. Cunn.** (in Kreisel 1967b)

≡ *Bovistella corprophila* (Cooke & Masee) G. Cunn. (from Kreisel 1967b)

≡ *Lycoperdon coprophilum* Cooke & Masee (from Kreisel 1967b)

= *Bovista apedicellata* G. Cunn. (from Kreisel 1967b)

= *Bovistella pusilla* Lloyd (from Kreisel 1967b)

Bovista craniiformis Schwein. (from Zeller & Smith 1964)

≡ ***Calvatia craniiformis* (Schwein.) Fr.** (in Coker & Couch 1928); (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992)

***Bovista dakotensis* (Brenckle) Kreisel** (in Kreisel 1967b – see also *B. longispora* below)

≡ *Lycoperdon dakotense* Brenckle (from Kreisel 1967b)
= *Lycoperdon cepaeforme* Bull. (from Kreisel 1967b – sensu Lloyd)
= *Lycoperdon oblongisporum* Berk. & M.A. Curtis (in Coker & Couch 1928); (from Kreisel 1967b – see also *B. longispora* below)
= *Lycoperdon polymorphum* Vittad. (from Kreisel 1967b – sensu Coker & Couch, see also *B. aestivalis* above)
= *Lycoperdon polymorphum* f. *cepaeforme* Lloyd (from Kreisel 1967b – sensu Smith 1951)

Bovista dealbata Berk. ex Masee (from Kreisel 1992)
= ***Calvatia fragilis* (Vittad.) Morgan** (in Coker & Couch 1928); (in Smith 1951); (from Zeller & Smith 1964); (in Kreisel 1992)

Bovista dealbata (Lloyd) Sacc. & D. Sacc. (from Kreisel 1967b)
= ***Bovista leucoderma* Kreisel** (in Kreisel 1967b); (in Kreisel & Calonge 1993)

Bovista debreciensis (Hazsl.) De Toni (from Cunningham 1944 – see also *D. debreceninsis* below)
= ***Disciseda cervina* (Berk.) Hollós** (in Cunningham 1944); (in Bottomley 1948)

Bovista defossa (Vittad.) De Toni (from Calonge 1998)
= ***Disciseda bovista* (Klotzsch) Henn.** (in Moravec 1954); (in Calonge 1998)

***Bovista delicata* Berk. & M.A. Curtis** (in Kreisel 1967b); (in Calonge 1998)
= *Lycoperdon honkongense* Berk. & M.A. Curtis (from Kreisel 1967b); (from Calonge 1998)

***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)
≡ *Globalaria dermoxantha* (Vittad.) Cout. (from Kreisel 1967b)
≡ *Lycoperdon dermoxanthum* Vittad. (from Bottomley 1948); (from Kreisel 1967b); (from Pegler et al. 1995); (from Calonge 1998)
= *Bovista monticola* Speg. (from Kreisel 1967b)
= *Bovista mundula* (Kalchbr.) De Toni (from Kreisel 1967b)
= *Bovista obovata* Masee (from Kreisel 1967b)
= *Bovista pusilla* (Batsch: Pers.) Pers. (in Kreisel 1967b)
= *Bovista pusilla* Pers. (from Bottomley 1948)
= *Bovistaria pusilla* (Batsch: Pers.) P. Karst. (from Kreisel 1967b)
= *Globalaria pusilla* (Batsch: Pers.) Qué. (from Kreisel 1967b)
= *Globalaria samoense* Bres. (from Cunningham 1944); (from Bottomley 1948); (from Kreisel 1967b)
= *Lycoperdon ericetorum* Pers. (from Kreisel 1967b); (from Pegler et al. 1995); (from Calonge 1998)
= *Lycoperdon ericetorum* var. *pusillum* (Batsch: Pers.) Smarda (from Kreisel 1967b)
= *Lycoperdon hungaricum* Hollós (from Kreisel 1967b); (from Demoulin 1996)

= *Lycoperdon mundula* Kalchbr. (from Cunningham 1944); (from Bottomley 1948); (from Kreisel 1967b)
= *Lycoperdon pseudopusillum* Hollós (from Cunningham 1944); (from Kreisel 1967b); (in Demoulin 1972a)
= *Lycoperdon pusillum* Batsch (in Coker & Couch 1928); (in Bottomley 1948); (in Smith 1951); (from Kreisel 1967b)
= *Lycoperdon reticulatum* Berk. (from Cunningham 1944); (from Bottomley 1948); (from Kreisel 1967b)
= *Lycoperdon semi-immersum* Lloyd (from Cunningham 1944); (from Bottomley 1948); (from Kreisel 1967b)
= *Pseudolycooperdon pusillum* (Batsch: Pers.) Velen. (from Kreisel 1967b)

***Bovista dominicensis* (Massee) Kreisel** (in Kreisel 1967b); (from Kreisel & Calonge 1993)

≡ *Lycoperdon dominicensis* Massee (from Kreisel 1967b)
= *Bovistella davisii* Lloyd (from Kreisel & Calonge 1993)

Bovista favosa Rostk. (from Zeller & Smith 1964); (from Kreisel 1989)
= ***Handkea utrifomis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

***Bovista flaccida* (Lloyd) Kreisel** (in Kreisel 1967b); (in Kreisel & Calonge 1993)
= *Bovistella flaccida* Lloyd (from Kreisel 1967b); (from Kreisel & Calonge 1993)

Bovista gigantia (Batsch: Pers.) Bigeard & H. Guill. (from Zeller & Smith 1964)
= ***Calvatia gigantea* (Batch: Pers.) Lloyd** (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)

Bovista glaucocinerea Speg. (from Kreisel 1992)
= ***Calvatia bicolor* (Lév.) Kreisel** (from Homrich & Wright 1973); (in Kreisel 1992)

***Bovista leucoderma* Kreisel** (in Kreisel 1967b); (in Kreisel & Calonge 1993)
= *Bovista brunnea* Berk. (from Kreisel 1967b – sensu Herrera 1959)
= *Bovista dealbata* (Lloyd) Sacc. & D. Sacc. (from Kreisel 1967b)
= *Bovistella dealbata* Lloyd (from Kreisel 1967b); (from Kreisel & Calonge 1993)

Bovista lilacina Berk. & Mont. (from Zeller & Smith 1964)
= ***Calvatia cyathiformis* (Bosc) Morgan** (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

***Bovista limosa* Rostr.** (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)
≡ *Lycoperdon limosum* (Rostr.) Rauschert (from Kreisel 1967b); (from Pegler et al. 1995); (from Calonge 1998)
= *Bovistella echinella* (Pat.) Lloyd (in Coker & Couch 1928); (from Kreisel 1967b)

***Bovista longispora* Kreisel** (in Kreisel 1967b – see also *B. dakotensis* above) (from Demoulin 1972a)
= *Lycoperdon oblongisporum* Berkeley & Curtis (in Coker & Couch 1928); (in Smith 1951)

Bovista macrospora Perdeck (from Kreisel 1967b)
= ***Bovista plumbea* Pers.** (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

***Bovista minor* Morgan** (in Coker & Couch 1928); (in Kreisel 1967b)
= *Bovista catastoma* Lloyd (from Kreisel 1967b)

Bovista montana Morgan (from Kreisel 1967b)
= ***Bovista pila* Berk. & M.A. Curtis** (in Coker & Couch 1928); (in Kreisel 1967b)

Bovista monticola Speg. (from Kreisel 1967b)
= ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Bovista muelleri Berk. (from Cunningham 1944)
= ***Disciseda muelleri* (Berk.) G. Cunn.** (in Cunningham 1944), (in Smith 1951)

Bovista mundula (Kalchbr.) De Toni (from Kreisel 1967b)
= ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Bovista nigra Velen. (from Kreisel 1967b)
= ***Bovista plumbea* Pers.** (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista nigrescens var. *montana* (Morgan) Smarda (from Kreisel 1967b)
= ***Bovista pila* Berk. & M.A. Curtis** (in Coker & Couch 1928); (in Kreisel 1967b)

Bovista nuciformis Wallr. (from Kreisel 1967b)
= ***Bovista plumbea* Pers.** (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista obovata Masee (from Kreisel 1967b)
= ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Bovista officinarum Dill. (from Kreisel 1989)
= ***Handkea utrifomis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Bovista olivacea Cooke & Masee (from Kreisel 1992); (from Calonge 1998)

= *Calvatia candida* (Rostk.) Hollós (in Zeller & Smith 1964); (in Kreisel 1992); (in Calonge 1998)

Bovista ovalispora Cooke & Masee (from Kreisel 1967b)

= *Bovista plumbea* Pers. (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista pallida Velen. (from Kreisel 1967b)

= *Bovista plumbea* Pers. (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista paludosa Lév. (in Kreisel 1967b – Canada); (in Calonge 1998)

≡ *Bovistella paludosa* (Lév.) Lloyd (from Kreisel 1967b); (from Calonge 1998)

≡ *Calvatia paludosa* (Lév.) De Toni (from Kreisel 1967b); (from Calonge 1998)

≡ *Lycoperdon paludosum* Lév. (from Kreisel 1967b); (from Calonge 1998)

= *Bovista tunicata* f. *pyriformis* Hazsl. (from Kreisel 1967b)

= *Bovista uligiinosa* Velen. (from Kreisel 1967b)

= *Bovistella humidicola* Bowerman (from Kreisel 1967b)

= *Bovistella lycoperdoides* (Cooke) Lloyd (from Kreisel 1967b)

= *Lycoperdon bubakii* Bres. (from Kreisel 1967b)

= *Mycenastrum lycoperdoides* Cooke (from Kreisel 1967b)

= *Scleroderma cookei* De Toni (from Kreisel 1967b)

= *Scleroderma lycoperdoides* (Cooke) De Toni (from Kreisel 1967b)

Bovista pila Berk. & M.A. Curtis (in Coker & Couch 1928); (in Kreisel 1967b)

= *Bovista montana* Morgan (from Kreisel 1967b)

= *Bovista nigrescens* var. *montana* (Morgan) Smarda (from Kreisel 1967b)

= *Bovista tabacina* Sacc. (from Kreisel 1967b)

= *Lanopila tabacina* (Sacc.) De Toni (from Kreisel 1967b)

= *Mycenastrum oregonense* Ellis & Everh. (from Kreisel 1967b)

= *Scleroderma oregonense* (Ellis & Everh.) De Toni (from Kreisel 1967b)

Bovista plumbea Pers. (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

≡ *Globalaria plumbea* (Pers.) Quél. (from Kreisel 1967b)

≡ *Lycoperdon plumbeum* (Pers.) Vittad. (from Kreisel 1967b); (from Calonge 1998)

≡ *Sackea plumbea* (Pers.) Rostk. (from Kreisel 1967b)

= *Bovista brevicauda* Velen. (from Kreisel 1967b)

= *Bovista macrospora* Perdeck (from Kreisel 1967b)

= *Bovista nigra* Velen. (from Kreisel 1967b)

= *Bovista nuciformis* Wallr. (from Kreisel 1967b)

= *Bovista ovalispora* Cooke & Masee (from Kreisel 1967b)

= *Bovista pallida* Velen. (from Kreisel 1967b)

= *Bovista plumbea* f. *brevicauda* (Velen.) Smarda (from Kreisel 1967b)

= *Bovista plumbea* var. *brevicauda* (Velen.) Smarda (from Kreisel 1967b)

= *Bovista plumbea* var. *ovalispora* (Cooke & Masee) Smarda (from Kreisel 1967b)
= *Bovista purpurea* Lloyd (from Kreisel 1967b)
= *Bovista sulphurea* Velen. (from Kreisel 1967b)
= *Bovista tunicata* Fr. (from Kreisel 1967b)
= *Globalaria tunicata* (Fr.) Quél. (from Kreisel 1967b)
= *Lycoperdon ardesiacum* Bull. (from Kreisel 1967b)
= *Lycoperdon arrhizon* Batsch (from Kreisel 1967b)

Bovista plumbea f. *brevicauda* (Velen.) Smarda (from Kreisel 1967b)
= ***Bovista plumbea* Pers.** (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista plumbea var. *brevicauda* (Velen.) Smarda (from Kreisel 1967b)
= ***Bovista plumbea* Pers.** (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista plumbea var. *ovalispora* (Cooke & Masee) Smarda (from Kreisel 1967b)
= ***Bovista plumbea* Pers.** (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista polymorpha (Vittad.) Kreisel (in Kreisel 1967b); (from Demoulin 1996)
= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Calonge 1998); (in Pegler et al. 1995); (in Demoulin 1996)

Bovista purpurea Lloyd (from Kreisel 1967b)
= ***Bovista plumbea* Pers.** (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista pusilla (Batsch: Pers.) Pers. sensu Kreisel (in Kreisel 1967b); (from Calonge 1998)
= ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Bovista pusilla Pers. (from Bottomley 1948)
= ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Bovista pusilliformis (Kreisel) Kreisel (in Kreisel 1967b); (from Pegler et al. 1995); (from Calonge 1998)
= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

***Bovista sempervirentium* Kreisel** (in Kreisel 1967b)

Bovista spinulosa Peck (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Bovista suberosa Fr. (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Bovista suberosa Fr. sensu Rostk. (from Zeller & Smith 1964); (from Kreisel 1989)

= *Handkea utriformis* (Bull.: Pers.) Kreisel (in Kreisel 1989)

Bovista subterranea Peck (from Cunningham 1944); (from Moravec 1954); (from Calonge 1998)

= *Disciseda bovista* (Klotzsch) Henn. (in Moravec 1954); (in Calonge 1998)

= *Disciseda cervina* (Berk.) Hollós (in Cunningham 1944)

Bovista sulphurea Velen. (from Kreisel 1967b)

= *Bovista plumbea* Pers. (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista tabacina Sacc. (from Kreisel 1967b)

= *Bovista pila* Berk. & M.A. Curtis (in Coker & Couch 1928); (in Kreisel 1967b)

Bovista tomentosa (Vittad.) Quél. (in Calonge 1998)

≡ *Lycoperdon tomentosum* Quél. (from Calonge 1998)

Bovista tosa Berk. & M.A. Curt. (from Guzman 1969); (from Kreisel 1992)

= *Calvatia bicolor* (Lév.) Kreisel (from Homrich & Wright 1973); (in Kreisel 1992)

Bovista tunicata Fr. (from Kreisel 1967b)

= *Bovista plumbea* Pers. (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Bovista tunicata f. *pyriformis* Hazsl. (from Kreisel 1967b)

Bovista paludosa Lév. (in Kreisel 1967b – Canada); (in Calonge 1998)

Bovista uligiinosa Velen. (from Kreisel 1967b)

= *Bovista paludosa* Lév. (in Kreisel 1967b – Canada); (in Calonge 1998)

Bovista uruguayensis Speg. (from Moravec 1954)

?= *Disciseda candida* (Schwein.) Lloyd (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Bovista utriformis (Bull.: Pers.) Fr. (from Kreisel 1989)

≡ *Handkea utriformis* (Bull.: Pers.) Kreisel (in Kreisel 1989)

Bovistaria caelata (Bull.) Karst. (from Kreisel 1989)
= ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Bovistaria pusilla (Batsch: Pers.) P. Karst. (from Kreisel 1967b)
= ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995);
(in Demoulin 1996); (in Calonge 1998)

Bovistella ammophila (Lév.) Pat. (from Coker & Couch 1928); (from Kreisel & Calonge 1993)
= ***Bovistella radicata* (Dur. & Mont.) Pat.** (in Coker & Couch 1928); (in Kreisel & Calonge 1993); (from Calonge 1998)

Bovistella corprophila (Cooke & Masee) G. Cunn. (from Kreisel 1967b)
= ***Bovista coprophila* (Cooke & Masee) G. Cunn.** (in Kreisel 1967b)

Bovistella davisii Lloyd (from Kreisel & Calonge 1993)
= ***Bovista dominicensis* (Masee) Kreisel** (in Kreisel 1967b); (from Kreisel & Calonge 1993)

Bovistella dealbata Lloyd (from Kreisel 1967b); (from Kreisel & Calonge 1993)
= ***Bovista leucoderma* Kreisel** (in Kreisel 1967b); (in Kreisel & Calonge 1993)

Bovistella echinella (Pat.) Lloyd (in Coker & Couch 1928); (from Kreisel 1967b)
= ***Bovista limosa* Rostr.** (from Kreisel 1967b); (in Pegler et al. 1995)

Bovistella flaccida Lloyd (from Kreisel & Calonge 1993)
= ***Bovista flaccida* (Lloyd) Kreisel** (from Kreisel & Calonge 1993)

Bovistella gemmatum Lloyd (from Kreisel & Calonge 1993)
= ***Lycoperdon cf. miyabei* (Lloyd) Ito** (from Kreisel & Calonge 1993)

Bovistella humidicola Bowerman (from Kreisel 1967b)
= ***Bovista paludosa* Lév.** (in Kreisel 1967b); (in Calonge 1998)

***Bovistella japonica* Lloyd** (in Kreisel & Calonge 1993)

Bovistella karstenii Nyberg (from Kreisel & Calonge 1993 – nom. illeg.)
= ***Bovistella radicata* (Dur. & Mont.) Pat.** (in Coker & Couch 1928); (in Kreisel & Calonge 1993); (from Calonge 1998)

Bovistella lycoperdoides (Cooke) Lloyd (from Kreisel 1967b)
= ***Bovista paludosa* Lév.** (in Kreisel 1967b); (in Calonge 1998)

Bovistella miyabei Lloyd (from Demoulin 1972a)

= *Lycoperdon caudatum* **J. Schröt.** (from Coker & Couch 1928); (in Pegler et al. 1995); (in Calonge 1998)

Bovistella ohiense (Ellis & Morgan) Morgan (from Coker & Couch 1928); (from Kreisel & Calonge 1993)

= *Bovistella radicata* (**Dur. & Mont.**) **Pat.** (in Coker & Couch 1928); (in Kreisel & Calonge 1993); (from Calonge 1998)

Bovistella paludosa (Lév.) Lloyd (from Kreisel 1967b); (from Calonge 1998)

≡ *Bovista paludosa* **Lév.** (in Kreisel 1967b – Canada); (in Calonge 1998)

Bovistella pedicellata (Peck) Lloyd (from Kreisel & Calonge 1993)

= *Lycoperdon caudatum* **Schröt.** (from Coker & Couch 1928); (from Kreisel & Calonge 1993); (in Pegler et al. 1995); (in Calonge 1998)

Bovistella pusilla Lloyd (from Kreisel 1967b)

= *Bovista coprophila* (**Cooke & Masee**) **G. Cunn.** (in Kreisel 1967b)

Bovistella radicata (**Dur. & Mont.**) **Pat.** (in Coker & Couch 1928); (in Kreisel & Calonge 1993); (in Calonge 1998)

≡ *Lycoperdon radicum* **Dur. & Mont.** (from Kreisel & Calonge 1993); (from Calonge 1998)

= *Bovista ammophila* **Lév.** (from Kreisel & Calonge 1993)

= *Bovistella ammophila* (**Lév.**) **Pat.** (from Kreisel & Calonge 1993)

= *Bovistella karstenii* **Nyberg** (from Kreisel & Calonge 1993 – nom. illeg.)

= *Bovistella ohiense* (Ellis & Morgan) Morgan (from Coker & Couch 1928); (from Kreisel & Calonge 1993)

= *Calvatiella sinensis* **Chow** (from Kreisel & Calonge 1993); (from Calonge 1998)

= *Myenastrum ohiense* **Ellis & Morgan** (from Kreisel & Calonge 1993); (from Calonge 1998)

Calbovista subsculpta **Morse ex M.T. Seidl** (in Seidl 1995)

Calvatia arctica **Ferd. & Winge** (in Zeller & Smith 1964); (from Ponce de León 1975); (in Kreisel 1992)

= *Calvatia cretacea* (**Berk.**) **Lloyd** (in Coker & Couch 1928); (in Zeller & Smith 1964); (in Ponce de León 1975)

Calvatia aurea **Lloyd** (from Coker & Couch 1928); (from Zeller & Smith 1964)

= *Calvatia rugosa* (**Berk. & M.A. Curtis**) **Reid** (in Kreisel 1992)

Calvatia bellii (**Peck**) **Lange** (in Kreisel 1992)

Calvatia bicolor (**Lév.**) **Kreisel** (from Homrich & Wright 1973); (in Kreisel 1992)

= *Bovista bicolor* Lév. (from Bottomley 1848); (from Homrich & Wright 1973); (from Kreisel 1992)
 = *Langermannia bicolor* (Lév.) Demoulin & Dring (from Kreisel 1992)
 = *Lanopila bicolor* (Lév.) Pat. (from Bottomley 1848); (in Homrich & Wright 1973); (from Kreisel 1992)
 = *Bovista glaucocinerea* Speg. (from Kreisel 1992)
 = *Bovista tosa* Berk. & M.A. Curt. (from Guzman1969); (from Kreisel 1992)
 = *Langermannia fenzlii* (Reichardt) Kreisel (from Guzman1969)
 = *Langermannia wahlbergii* (Fr.) Dring (from Guzman1969); (from Homrich & Wright 1973)
 ?= *Lanopila argentina* Speg. (from Homrich & Wright 1973)
 = *Lanopila guaranitica* Speg. (from Homrich & Wright 1973)
 = *Lanopila radloffiana* Verwoerd (from Kreisel 1992)
 = *Lanopila wahlbergii* Fr. (in Bottomley 1848); (in Guzman1969); (from Homrich & Wright 1973); (from Kreisel 1992)
 = *Lasiosphaera fenzlii* Reichardt, see also *C. gigantea* below (from Guzman1969); (from Homrich & Wright 1973); (from Kreisel 1992)

***Calvatia booniana* A.H. Sm.** (in Zeller & Smith 1964); (in Kreisel 1992)

Calvatia borealis Th. Fr. (from Coker & Couch 1928); (from Ponce de León 1975); (from Miller et al. 1980)
 = ***Calvatia cretacea* (Berk.) Lloyd** (in Coker & Couch 1928); (in Zeller & Smith 1964); (in Ponce de León 1975); (in Miller et al. 1980)

Calvatia bovista (L.) MacBride non (Pers.: Pers.) Kambly & Lee (from Zeller & Smith); (from Kreisel 1992)
 = ***Calvatia gigantea* (Batch: Pers.) Lloyd** (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)

Calvatia bovista (Pers.: Pers.) Kambly & Lee (in Smith 1951); (in Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)
 = ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia bovista var. *hungarica* (Hollós) Zeller & A.H. Sm. (in Zeller & Smith 1964); (from Kreisel 1989)
 = ***Handkea utriformis* var. *hungarica* (Hollós) Kreisel** (in Kreisel 1989)

Calvatia caelata (Bull.) Morgan (in Coker & Couch 1928); (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)
 = ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia caelata var. *hungarica* (Hollós) Smarda (from Kreisel 1989)
 = ***Handkea utriformis* var. *hungarica* (Hollós) Kreisel** (in Kreisel 1989)

***Calvatia candida* (Rostk.) Hollós** (in Zeller & Smith 1964); (in Kreisel 1992); (in Calonge 1998)

= *Bovista olivacea* Cooke & Masee (from Kreisel 1992)

≡ *Langermannia candida* Rostk. (from Calonge 1998)

= *Lycoperdon fragile* Velen (from Calonge 1998 – non Vittad.)

Calvatia candida var. *rubro-flava* (Cragin) Cunningham (from Zeller & Smith 1964)

= ***Calvatia rugosa* (Berk. & M.A. Curtis) Reid** (in Kreisel 1992)

***Calvatia craniiformis* (Schwein.) Fr.** (in Coker & Couch 1928); (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992)

≡ *Bovista craniiformis* Schwein. (from Zeller & Smith 1964)

= *Lycoperdon delicatum* Berk. & M.A. Curtis non Berk. & Hook. (from Coker & Couch 1928); (from Zeller & Smith 1964)

= *Lycoperdon missouriense* Trelease (from Coker & Couch 1928); (from Zeller & Smith 1964)

***Calvatia cretacea* (Berk.) Lloyd** (in Coker & Couch 1928); (in Zeller & Smith 1964); (in Ponce de León 1975); (in Miller et al. 1980)

≡ *Lycoperdon cretaceum* Berk. (from Zeller & Smith 1964); (from Ponce de León 1975); (from Miller et al. 1980)

= ***Calvatia arctica* Ferd. & Winge** (in Zeller & Smith 1964); (from Ponce de León 1975); (from Miller et al. 1980); (in Kreisel 1992)

= *Calvatia borealis* Th. Fr. (from Ponce de León 1975); (from Miller et al. 1980)

= *Calvatia tatrensis* Hollós (from Miller et al. 1980 – see *C. turneri* below)

= *Calvatia tatrensis* var. *groenlandica* M. Lange (from Miller et al. 1980)

***Calvatia cyathiformis* (Bosc) Morgan** (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

≡ *Calvatia cyathiformis* f. *cyathiformis* Zeller & A.H. Sm. (in Zeller & Smith 1964)

≡ *Lycoperdon cyathiforme* Bosc (from Coker & Couch 1928); (from Zeller & Smith 1964); (from Calonge 1998)

= *Bovista lilacina* Berk. & Mont. (from Coker & Couch 1928); (from Zeller & Smith 1964)

= ~~*Calvatia fragilis* (Vittad.) Morgan~~ (in Calonge 1998)

= *Calvatia lilacina* (Berk. & Mont.) Henn. (from Zeller & Smith 1964); (in Calonge 1998)

= *Hippoperdon pila* Lév. (from Kreisel 1992)

= *Hippoperdon crucibulum* Mont. (from Zeller & Smith 1964)

= *Lycoperdon bovista* Vittad. (from Zeller & Smith 1964)

= ~~*Lycoperdon fragile* Vittad.~~ (in Calonge 1998)

= *Lycoperdon lilacinum* (Berk.) Masee (from Zeller & Smith 1964); (in Calonge 1998)

= *Lycoperdon fucatum* Lév. (from Kreisel 1992)

= *Lycoperdon pseudo-lilacinum* Speg. (from Zeller & Smith 1964)

Calvatia cyathiformis f. *cyathiformis* Zeller & A.H. Sm. (in Zeller & Smith 1964)
= ***Calvatia cyathiformis* (Bosc) Morgan** (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

Calvatia cyathiformis f. *fragilis* (Vittad.) A.H. Sm. (in Zeller & Smith 1964)
= ***Calvatia fragilis* (Vittad.) Morgan** (in Coker & Couch 1928); (in Smith 1951); (from Zeller & Smith 1964); (in Kreisel 1992)

Calvatia depressa (Bonord.) Z. Moravec non Zeller & Smith (from Pegler et al. 1995)
= ***Vascellum pratense* (Pers.: Pers.) Kreisel** (in Smith 1974 – see comments regarding this species below); (in Pegler et al. 1995)

Calvatia depressa (Bonord.) Zeller & A.H. Sm. (in Zeller & Smith 1964)
= ***Vascellum lloydianum* A.H. Sm.** (in Smith 1974)

***Calvatia diguetii* Harkn. & Pat.** (in Zeller & Smith 1964 – known only from type locality in California)

Calvatia elata (Masse) Morgan (in Coker & Couch 1928); (in Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis (Scop.) Perdeck (from Kreisel 1989); (in Calonge 1998)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis f. *brevipes* (Hollós) Kreisel (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis f. *capitata* (Hollós) Kreisel (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis f. *elata* (Masse) Kreisel (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis f. *pistilliformis* (Bonord.) Kreisel (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis var. *aipocarpa* (Hazsl.) Smarda (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis var. *bayeri* (Valen.) Smarda (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis var. *brevipes* (Hollós) Smarda (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis var. *capitata* (Hollós) Smarda (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis var. *excipuliformis* Zeller & A.H. Sm. (in Zeller & Smith 1964 –
as *C. excipuliforme*)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis var. *pistilliformis* (Bonord.) Smarda (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia excipuliformis var. *pseudoflavescens* (Hollós) Smarda (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia favosa (Rostk.) Lloyd (from Zeller & Smith 1964); (from Kreisel 1989)
= ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia fontanesii (Durieu & Mont.) Lloyd (from Zeller & Smith 1964)
= ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

***Calvatia fragilis* (Vittad.) Morgan** (in Coker & Couch 1928); (in Smith 1951); (from
Zeller & Smith 1964); (in Kreisel 1992)
= *Calvatia cyathiformis* f. *fragilis* (Vittad.) A.H. Sm. (in Zeller & Smith 1964)
= *Lycoperdon fragile* Vittad. (from Zeller & Smith 1964)
= *Bovista amethystina* Cooke & Masee (from Kreisel 1992)
= *Bovista cinerea* Ellis (from Kreisel 1992)
= *Bovista dealbata* Berk. ex Masee (from Kreisel 1992)
= ~~*Calvatia cyathiformis* (Bose) Morgan~~ (from Calonge 1998)
= *Calvatia lilacina* (Mont. & Berk.) Henn. (from Kreisel 1992)
= *Calvatia lilacina* var. *occidentalis* Lloyd (from Zeller & Smith 1964)
= *Lycoperdon novae-zelandiae* Lév. (from Kreisel 1992)
= *Lycoperdon violascens* Cooke & Masee (from Kreisel 1992)

Calvatia fumosa Zeller (from Kreisel 1989)
= ***Handkea fumosa* (Zeller) Kreisel** (in Kreisel 1989)

Calvatia fumosa var. *fumosa* Zeller (in Zeller & Smith 1964)
= ***Handkea fumosa* (Zeller) Kreisel** (in Kreisel 1989)

Calvatia fumosa var. *idahoensis* A.H. Sm. (in Zeller & Smith 1964)
? = ***Handkea fumosa* (Zeller) Kreisel** (in Kreisel 1989)

***Calvatia gigantea* (Batch: Pers.) Rostk.** (in Smith 1951); (in Zeller & Smith 1964); (in
Kreisel 1992); (from Calonge 1998)
= *Bovista gigantia* (Batsch: Pers.) Bigeard & H. Guill. (from Zeller & Smith 1964)

≡ *Globalaria gigantea* (Batsch: Pers.) Quél. (from Calonge 1998)
≡ *Langermannia gigantea* (Batsch: Pers.) Rostk. (from Zeller & Smith 1964); (in Calonge 1998)
≡ *Lasiosphaera gigantea* (Batsch: Pers.) F. Smarda (from Calonge 1998)
≡ *Lycoperdon giganteum* Batsch: Pers. (from Coker & Couch 1928); (from Zeller & Smith 1964); (from Calonge 1998)
= *Calvatia bovista* (L.) MacBride non (Pers.: Pers.) Kambly & Lee (from Zeller & Smith 1964 – as *C. bovista* (Fr.) Macbride); (from Kreisel 1992)
= *Calvatia maxima* (Schaeff.: Pers.) Morgan (in Coker & Couch 1928); (from Zeller & Smith – as *C. maxima* Morgan); (from Kreisel 1992); (from Calonge 1998)
= *Eriosphaera fenzlii* (Reichardt) Sacc. (from Zeller & Smith 1964)
= *Globalaria bovista* (Bull.: Pers.) J. Schröt. (from Calonge 1998)
= *Lasiosphaera fenzlii* Reichardt, see also *C. bicolor* above (from Zeller & Smith 1964)
= *Lycoperdon bovista* L. (from Coker & Couch 1928); (from Calonge 1998)
= *Lycoperdon maximum* Schaeff.: Pers. (from Calonge 1998)

Calvatia hesperia Morgan (from Kreisel 1989)
= ***Handkea hesperia* (Morgan) Kreisel** (in Kreisel 1989 – known only from the type locality in California)

Calvatia hungarica Hollós (from Kreisel 1989)
≡ ***Handkea utrififormis* var. *hungarica* (Hollós) Kreisel** (in Kreisel 1989)
= ***Handkea utrififormis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

?*Calvatia lacerata* A.H. Sm. (in Zeller & Smith 1964); (in Kreisel 1992 – “doubtful position”)

***Calvatia leiospora* Morgan** (in Zeller & Smith 1964); (in Kreisel 1992 – known only from the type locality in South Dakota)

***Calvatia lepidophora* (Ellis & Everh.) Coker & Couch** (in Zeller & Smith 1964); (in Kreisel 1992)
≡ *Lycoperdon lepidophorum* Ellis & Everh. (from Zeller & Smith 1964); (from Kreisel 1992)
= ***Calvatia pachyderma* (Peck) Morgan** (in Zeller & Smith 1964); (in Kreisel 1992 – see this species below, see also *C. pilula* below); (in Demoulin 1993)
= *Hypoblema lepidophorum* (Ellis & Everh.) Lloyd (from Zeller & Smith 1964); (from Kreisel 1992)
= *Hypoblema pachyderma* Lloyd (from Kreisel 1992 – see also *C. pachyderma* below)

Calvatia lilacina (Mont. & Berk.) Henn. (from Kreisel 1992); (from Zeller & Smith 1964); (from Calonge 1998)
= ***Calvatia fragilis* (Vittad.) Morgan** (in Coker & Couch 1928); (in Smith 1951); (from Zeller & Smith 1964); (in Kreisel 1992)

= *Calvatia cyathiformis* (Bosc) Morgan (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

Calvatia lilacina var. *occidentalis* Lloyd (from Zeller & Smith 1964)

= *Calvatia fragilis* (Vittad.) Morgan (in Coker & Couch 1928); (in Smith 1951); (from Zeller & Smith 1964); (in Kreisel 1992)

Calvatia lloydii Zeller & Coker (in Zeller & Smith 1964); (from Kreisel 1989)

≡ *Handkea lloydii* (Zeller & Coker) Kreisel (in Kreisel 1989)

Calvatia lycoperdoides A.H. Sm. (in Zeller & Smith 1964); (from Kreisel 1989)

≡ *Handkea lycoperdoides* (A.H. Sm.) Kreisel (in Kreisel 1989)

Calvatia maxima (Schaeff.: Pers.) Morgan (in Coker & Couch 1928); (from Zeller & Smith 1964 – as *C. maxima* Morgan); (from Kreisel 1992); (from Calonge 1998)

= *Calvatia gigantea* (Batch: Pers.) Lloyd (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)

Calvatia ochrogleba Zeller (in Zeller & Smith 1964); (in Kreisel 1992 – known only from the type locality in Oregon)

Calvatia owyheensis A.H. Sm. (in Zeller & Smith 1964); (in Kreisel 1992 – known only from the type locality in Idaho)

Calvatia pachyderma (Peck) Morgan (in Zeller & Smith 1964); (in Kreisel 1992 – see also *C. lepidophora* above, see also *C. pilula* below); (in Demoulin 1993)

≡ *Hypoblema pachyderma* Lloyd (from Kreisel 1992 – *C. lepidophora* sensu Kreisel, see that species above)

≡ *Langermannia pachyderma* (Peck) Kreisel (in Kreisel 1962), (from Demoulin 1993)

≡ *Lycoperdon pachydermum* Peck (from Zeller & Smith 1964)

= *Calvatia lepidophora* (Ellis & Everh.) Coker & Couch (in Kreisel 1992 – see this species above)

= *Calvatia primitiva* Lloyd (from Zeller & Smith 1964); (Kreisel 1992 – see *C. pilula* below)

= *Gastropila fragilis* (Lév.) Homrich & Wright (Kreisel 1992 – see *C. pilula* below); (from Demoulin 1993)

= *Hypoblema lepidophorum* (Ellis & Everh.) Lloyd (from Kreisel 1992 – *C. lepidophora* sensu Kreisel, see that species above)

= *Lycoperdon lepidophorum* Ellis & Everh. (from Kreisel 1992 – *C. lepidophora* sensu Kreisel, see that species above)

= *Mycenastrum fragile* Lév. (Kreisel 1992 – see *C. pilula* below); (from Demoulin 1993)

Calvatia pallida A.H. Sm (in Zeller & Smith 1964); (from Kreisel 1989)

?≡ *Handkea pallida* (from Kreisel 1989 – “reexamination of specimens necessary”)

Calvatia paludosa (Lév.) De Toni (from Kreisel 1967b); (from Calonge 1998)
= ***Bovista paludosa* Lév.** (in Kreisel 1967b); (in Calonge 1998)

***Calvatia paradoxa* A.H. Sm.** (in Zeller & Smith 1964)

***Calvatia pilula* Kreisel** (in Kreisel 1992)

= *Calvatia pachyderma* sensu auct. p.p. (from Kreisel 1992 – see this species above)

= *Calvatia primitiva* Lloyd (from Kreisel 1992 – nom. nud., “doubtful synonym, fide Ponce de León 1976”, see this species below)

= *Gastropila fragilis* (Lév.) Homrich & Wright (from Kreisel 1992); (Demoulin 1993 – see *C. pachyderma* above)

= *Mycenastrum fragile* Lév. (from Kreisel 1992); (Demoulin 1993 – see *C. pachyderma* above)

***Calvatia polygonia* Lloyd ex. A.H. Sm.** (in Zeller & Smith 1964); (in Kreisel 1992)

Calvatia primitiva Lloyd (from Zeller & Smith 1964); (from Kreisel 1992 – nom. nud., “doubtful synonym, fide Ponce de León 1976”)

= ***Calvatia pachyderma* (Peck) Morgan** (in Zeller & Smith 1964); (in Kreisel 1992 – see also *C. lepidophora* above, see also *C. pilula* above); (in Demoulin 1993)

= ***Calvatia pilula* Kreisel** (in Kreisel 1992)

Calvatia rubroflava (Cragin) Morgan (in Zeller & Smith 1964 – as *C. rubro-flava*); (from Kreisel 1992)

= ***Calvatia rugosa* (Berk. & M.A. Curtis) Reid** (in Kreisel 1992)

***Calvatia rubrotincta* Zeller** (in Zeller & Smith 1964); (in Kreisel 1992 – known only from the type locality in Oregon)

***Calvatia rugosa* (Berk. & M.A. Curtis) Reid** (in Kreisel 1992)

= *Bovista antarctica* Speg. (from Kreisel 1992)

= *Bovista cisneroi* Speg. (from Kreisel 1992)

= *Calvatia aurea* Lloyd (from Coker & Couch 1928); (from Zeller & Smith 1964)

= *Calvatia candida* var. *rubro-flava* (Cragin) Cunningham (from Zeller & Smith 1964)

= *Calvatia rubroflava* (Cragin) Morgan (in Coker & Couch 1928 – as *C. rubro-flava*); (in Zeller & Smith 1964 – as *C. rubro-flava*); (from Kreisel 1992)

= *Lycoperdon rubro-flavum* Cragin (from Zeller & Smith 1964)

Calvatia rustica (Bonord.) Moser (from Kreisel 1989)

= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia saccata (Vahl.) Morgan (from Kreisel 1989); (from Calonge 1998)

= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia saccata f. *assimile* (Valen.) Smarda (from Kreisel 1989)

= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata f. *bayeri* (Valen.) Smarda (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata var. *aculeata* (Rostk.) Hollós (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata var. *apiocarpa* (Hazsl.) Hollós (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata var. *brevipes* Hollós (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata var. *capitata* Hollós (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata var. *elata* (Masse) Hollós (in Smith 1951); (from Zeller & Smith 1964); (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata var. *flavescens* (Rostk.) Hollós (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata var. *pistilliformis* (Bonord.) Hollós (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata var. *pseudoflavescens* Hollós (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata var. *punctata* (Rostk.) Hollós (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia saccata var. *strangulata* (Hazsl.) Hollós (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Calvatia sculpta (Harkn.) Lloyd (in Zeller & Smith 1964); (in Kreisel 1992 – see comments there regarding similarity to *Calbovista sculpta*)
≡ *Lycoperdon sculpta* Harkn. (from Zeller & Smith 1964)

Calvatia stigillata (Cragin) Morgan (in Zeller & Smith 1964); (in Kreisel 1992 – only known from the type locality in Kansas)
≡ *Lycoperdon stigillata* Cragin (from Zeller & Smith 1964)

Calvatia sinclairii (Berk. ex Masee) Lloyd (from Zeller & Smith 1964); (from Kreisel 1989)

?= ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Calvatia subcretacea Zeller (in Zeller & Smith 1964); (from Kreisel 1989)

= ***Handkea subcretacea* (Zeller) Kreisel** (in Kreisel 1989)

Calvatia subpratense (Lloyd) Coker & Zeller (from Zeller & Smith 1964)

= ***Vascellum lloydianum* A.H. Sm.** (in Smith 1974)

Calvatia tartensis Hollós (from Demoulin & Lange 1990); (from Kreisel 1992 – see also *C. tartensis* var. *tartensis* below)

= ***Calvatia cretacea* (Berk.) Lloyd** (in Miller et al. 1980)

= ***Calvatia turneri* (Ellis & Everh.) Demoulin & Lange** (in Demoulin & Lange 1990); (in Kreisel 1992)

Calvatia tatrensis var. *groenlandica* M. Lange (from Miller et al. 1980)

= ***Calvatia cretacea* (Berk.) Lloyd** (in Coker & Couch 1928); (in Zeller & Smith 1964); (in Ponce de León 1975); (in Miller et al. 1980)

Calvatia tartensis var. *gruberi* A.H. Sm. (in Zeller & Smith 1964); (from Kreisel 1989)

= ***Handkea utriformis* var. *gruberi* (A.H. Sm.) Kreisel** (in Kreisel 1989)

Calvatia tatrensis var. *tatrensis* Zeller & A.H. Sm. (in Zeller & Smith 1964); (from Kreisel 1989)

= ***Handkea utriformis* var. *hungarica* (Hollós) Kreisel** (in Kreisel 1989 – sensu Zeller & Smith)

***Calvatia turneri* (Ellis & Everh.) Demoulin & M. Lange** (in Demoulin & M. Lange 1990); (in Kreisel 1992)

≡ *Lycoperdon turneri* Ellis & Everh. (from Demoulin & Lange 1990)

= *Calvatia tartensis* Hollós (from Demoulin & Lange 1990); (from Kreisel 1992)

***Calvatia umbrina* Lloyd** (in Zeller & Smith 1964 – known only from the type locality in California)

= *Bovista cacao* P. Ponce de León (in Ponce de León 1975)

Calvatia utriformis (Bull.: Pers.) Jaap (from Kreisel 1989); (in Calonge 1998)

≡ ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Calvatiella sinensis Chow (from Kreisel & Calonge 1993); (from Calonge 1998)

= ***Bovistella radicata* (Dur. & Mont.) Pat.** (in Coker & Couch 1928); (in Kreisel & Calonge 1993); (from Calonge 1998)

Catastoma ater Lloyd (from Cunningham 1944)

= *Disciseda candida* (Schwein.) Lloyd (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Catastoma bovista (Klotzsch) Hollós (from Moravec 1954); (from Calonge 1998)
≡ *Disciseda bovista* (Klotzsch) Henn. (in Moravec 1954); (in Calonge 1998)

Catastoma cadidum (Schwein.) Lloyd (from Calonge 1998)
≡ *Disciseda candida* (Schwein.) Lloyd (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Catastoma cellulorum (Ellis. & Everh.) Lloyd (from Cunningham 1944)
= *Disciseda candida* (Schwein.) Lloyd (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Catastoma circumscissum (Berk. & M.A. Curtis) Morgan (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (from Moravec 1954)
= *Disciseda candida* (Schwein.) Lloyd (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Catastoma duthei Lloyd (from Cunningham 1944); (from Bottomley 1948)
= *Disciseda candida* (Schwein.) Lloyd (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Catastoma magnum Lloyd (from Cunningham 1944); (from Bottomley 1948)
= *Disciseda cervina* (Berk.) Hollós (in Cunningham 1944); (in Bottomley 1948)

Catastoma muelleri (Berk.) Lloyd (from Cunningham 1944)
≡ *Disciseda muelleri* (Berk.) G. Cunn. (in Cunningham 1944), (in Smith 1951)

Catastoma pedicellata Morg. (from Cunningham 1944); (from Bottomley 1948)
= *Disciseda pedicellata* (Morgan) Hollós (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948)

Catastoma pila Long (from Moravec 1954)
≡ *Disciseda pila* R.E. Fr. (in Moravec 1954)

Catastoma subterraneum (Peck) Morgan (from Moravec 1954); (from Calonge 1998)
= *Disciseda bovista* (Klotzsch) Henn. (in Moravec 1954); (in Calonge 1998)

Disciseda arida Velen. (from Moravec 1954)

Disciseda bovista (Klotzsch) Henn. (in Moravec 1954); (in Calonge 1998)
≡ *Catastoma bovista* (Klotzsch) Hollós (from Moravec 1954); (from Calonge 1998)
≡ *Disciseda bovista* (Klotzsch) Kambly (from Moravec 1954); (from Calonge 1998)

≡ *Geaster bovista* Klotzsch (from Moravec 1954); (from Calonge 1998 – see also *D. cervina* below)
= *Bovista defossa* (Vittad.) De Toni (from Calonge 1998)
= *Bovista subterranea* Peck (from Moravec 1954); (from Calonge 1998 – see also *D. cervina* below)
= *Disciseda compacta* Czern. (from Moravec 1954)
= *Disciseda debreceniensis* (Hazl.) Hollós (from Moravec 1954 – see also *B. debreceniensis* above)
= *Disciseda defossa* (Vittad.) Hollós (from Calonge 1998)
= *Disciseda subterranea* (Peck) Coker & Couch (in Coker & Couch 1928); (from Moravec 1954); (from Calonge 1998)
= *Catastoma subterraneum* (Peck) Morgan (from Moravec 1954); (from Calonge 1998)
= *Globalaria debreceniensis* Hazl. (from Moravec 1954 – see also *B. debreceniensis* above)
= *Lycoperdon defossum* Vittad. (from Calonge 1998)

Disciseda bovista (Klotzsch) Kambly (from Moravec 1954); (from Calonge 1998)
≡ ***Disciseda bovista* (Klotzsch) Henn.** (in Moravec 1954); (in Calonge 1998)

***Disciseda candida* (Schwein.) Lloyd** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)
≡ *Bovista candida* Schwein. (from Cunningham 1944); (from Bottomley 1948); (from Moravec 1954); (from Calonge 1998)
≡ *Catastoma cadidum* (Schwein.) Lloyd (from Calonge 1998)
≡ *Disciseda candida* var. *candida* Moravec (from Moravec 1954)
= *Bovista circumscissa* Berk. & M.A. Curtis (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (from Moravec 1954)
?= *Bovista uruguayensis* Speg. (from Moravec 1954)
= *Catastoma ater* Lloyd (from Cunningham 1944)
= *Catastoma cellulosum* (Ellis. & Everh.) Lloyd (from Cunningham 1944)
= *Catastoma circumscissum* (Berk. & M.A. Curtis) Morgan (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (from Moravec 1954)
= *Catastoma duthei* Lloyd (from Cunningham 1944); (from Bottomley 1948)
= *Disciseda candida* var. *calva* Moravec (from Calonge 1998)
= *Disciseda calva* (Moravec) Moravec (from Calonge 1998)
= *Disciseda circumscissa* (Berk. & M.A. Curtis) Hollós (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (in Moravec 1954)

Disciseda candida var. *calva* Moravec (in Moravec 1954); (in Calonge 1998)
= ***Disciseda candida* (Schwein.) Lloyd** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Disciseda candida var. *candida* Moravec (in Moravec 1954)
≡ ***Disciseda candida* (Schwein.) Lloyd** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Disciseda calva (Moravec) Moravec (from Calonge 1998)
= ***Disciseda candida* (Schwein.) Lloyd** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

***Disciseda cervina* (Berk.) Hollós** (in Cunningham 1944); (in Bottomley 1948)
= *Bovista argillacea* Pat. (from Cunningham 1944)
≡ *Bovista cervina* Berk. (from Cunningham 1944); (from Bottomley 1948)
= *Bovista debreciensis* (Hazsl.) De Toni (from Cunningham 1944 – see also *D. debreceninsis* below)
= *Bovista subterranea* Peck (from Cunningham 1944 – see also *D. bovista* above)
= *Catastoma magnum* Lloyd (from Cunningham 1944); (from Bottomley 1948)
= *Geaster bovista* Klotzsch (from Cunningham 1944 – see also *D. bovista* above)
= *Globalaria debreciensis* Hazsl. (from Cunningham 1944 – see also *D. debreceninsis* below)

Disciseda circumscissa (Berk. & M.A. Curtis) Hollós (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (in Moravec 1954)
= ***Disciseda candida* (Schwein.) Lloyd** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Moravec 1954); (in Calonge 1998)

Disciseda compacta Czern. (from Moravec 1954)
= ***Disciseda bovista* (Klotzsch) Henn.** (in Moravec 1954); (in Calonge 1998)

Disciseda debreceniensis (Hazsl.) Hollós (from Moravec 1954 – see also *B. debreciensis* above)
= ***Disciseda bovista* (Klotzsch) Henn.** (in Moravec 1954); (in Calonge 1998)

Disciseda defossa (Vittad.) Hollós (from Calonge 1998)
= ***Disciseda bovista* (Klotzsch) Henn.** (in Moravec 1954); (in Calonge 1998)

***Disciseda muelleri* (Berk.) G. Cunn.** (in Cunningham 1944), (in Smith 1951)
≡ *Bovista muelleri* Berk. (from Cunningham 1944)
≡ *Catastoma muelleri* (Berk.) Lloyd (from Cunningham 1944)

***Disciseda pedicellata* (Morgan) Hollós** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948)
≡ *Catastoma pedicellata* Morg. (from Cunningham 1944); (from Bottomley 1948)

***Disciseda pila* R.E. Fr.** (in Moravec 1954)
≡ *Catastoma pila* Long (from Moravec 1954)

Disciseda subterranea Peck (in Coker & Couch 1928); (from Moravec 1954); (from Calonge 1998)
= ***Disciseda bovista* (Klotzsch) Henn.** (in Moravec 1954); (in Calonge 1998)

Endoneuron suberosum Czern. (from Bottomley 1948)
= ***Mycenastrum corium* (Guers. ex DC. & Lam.) Desv.** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Eriosphaera fenzlii (Reichardt) Sacc. (from Zeller & Smith 1964)
= ***Calvatia gigantea* (Batch: Pers.) Lloyd** (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)

Gastropila fragilis (Lév.) Homrich & Wright (from Kreisel 1992); (from Demoulin 1993)
= ***Calvatia pachyderma* (Peck) Morgan** (in Zeller & Smith 1964); (in Kreisel 1992 – see also *C. lepidophora* above, see also *C. pilula* above); (in Demoulin 1993)
= ***Calvatia pilula* Kreisel** (in Kreisel 1992 – see *C. pachyderma* above)

Geaster bovista Klotzsch (from Cunningham 1944); (from Moravec 1954); (from Calonge 1998)
≡ ***Disciseda bovista* (Klotzsch) Henn.** (in Moravec 1954); (in Calonge 1998)
= ***Disciseda cervina* (Berk.) Hollós** (in Cunningham 1944)

Globaria bovista (Bull.: Pers.) J. Schröt. (from Calonge 1998)
= ***Calvatia gigantea* (Batch: Pers.) Rostk.** (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)

Globaria bresadolae Schulzer (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Globaria cepaeformis (Bull.) Cout. (Kreisel 1967b)
= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Globaria debreceniensis Hazsl. (from Moravec 1954 – see also *B. debreciensis* above)
= ***Disciseda bovista* (Klotzsch) Henn.** (in Moravec 1954); (in Calonge 1998)

Globaria debreciensis Hazsl. (from Cunningham 1944 – see also *D. debreceninsis* above)
= ***Disciseda cervina* (Berk.) Hollós** (in Cunningham 1944); (in Bottomley 1948)

Globaria dermoxantha (Vittad.) Cout. (from Kreisel 1967b)
≡ ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Globaria furfuracea Schaeff. ex Quél. (from Kreisel 1967b)
= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Globaria gigantea (Batsch: Pers.) Quél. (from Calonge 1998)

≡ *Calvatia gigantea* (Batch: Pers.) Lloyd (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)

Globaria plumbea (Pers.) Quél. (from Kreisel 1967b)

≡ *Bovista plumbea* Pers. (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Globaria pusilla (Batsch: Pers.) Quél. (from Kreisel 1967b)

= *Bovista dermoxantha* (Vittad.) De Toni (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Globaria samoense Bres. (from Cunningham 1944); (from Bottomley 1948); (from Kreisel 1967b)

= *Bovista dermoxantha* (Vittad.) De Toni (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Globaria tunicata (Fr.) Quél. (from Kreisel 1967b)

= *Bovista plumbea* Pers. (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Handkea canadensis Kreisel (in Kreisel 1989)

Handkea excipuliformis (Scop.: Pers.) Kreisel (in Kreisel 1989)

≡ *Calvatia excipuliformis* (Scop.) Perdeck (in Zeller & Smith 1964); (from Kreisel 1989); (in Calonge 1998)

≡ *Calvatia excipuliformis* var. *excipuliformis* Zeller & A.H. Sm. (in Zeller & Smith 1964 – as *C. excipuliforme*)

≡ *Lycoperdon excipuliformis* (Scop.: Pers.) Schaeff. (from Zeller & Smith 1964 – as *L. excipuliforme* Pers.); (from Kreisel 1989); (from Calonge 1998)

≡ *Lycoperdon gemmatum* var. *excipuliforme* (Scop.) Fr. (from Kreisel 1989)

≡ *Lycoperdon polymorphum* var. *excipuliforme* Scop. (from Kreisel 1989)

≡ *Lycoperdon proteus* var. *excipuliformis* (Scop.) Bull. (from Kreisel 1989)

≡ *Utraria excipuliformis* (Scop.: Pers.) Quél. (from Kreisel 1989)

= *Calvatia elata* (Masse) Morgan (in Coker & Couch 1928); (from Kreisel 1989); (from Calonge 1998)

= *Calvatia excipuliformis* f. *brevipes* (Hollós) Kreisel (from Kreisel 1989)

= *Calvatia excipuliformis* f. *capitata* (Hollós) Kreisel (from Kreisel 1989)

= *Calvatia excipuliformis* f. *elata* (Masse) Kreisel (from Kreisel 1989)

= *Calvatia excipuliformis* f. *pistilliformis* (Bonord.) Kreisel (from Kreisel 1989)

= *Calvatia excipuliformis* var. *aipocarpa* (Hazsl.) Smarda (from Kreisel 1989)

= *Calvatia excipuliformis* var. *bayeri* (Valen.) Smarda (from Kreisel 1989)

= *Calvatia excipuliformis* var. *brevipes* (Hollós) Smarda (from Kreisel 1989)

= *Calvatia excipuliformis* var. *capitata* (Hollós) Smarda (from Kreisel 1989)

= *Calvatia excipuliformis* var. *pistilliformis* (Bonord.) Smarda (from Kreisel 1989)

= *Calvatia excipuliformis* var. *pseudoflavescens* (Hollós) Smarda (from Kreisel 1989)

- = *Calvatia rustica* (Bonord.) Moser (from Kreisel 1989)
- = *Calvatia saccata* (Vahl.) Morgan (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)
- = *Calvatia saccata* f. *assimile* (Valen.) Smarda (from Kreisel 1989)
- = *Calvatia saccata* f. *bayeri* (Valen.) Smarda (from Kreisel 1989)
- = *Calvatia saccata* var. *aculeata* (Rostk.) Hollós (from Kreisel 1989)
- = *Calvatia saccata* var. *apiocarpa* (Hazsl.) Hollós (from Kreisel 1989)
- = *Calvatia saccata* var. *brevipes* Hollós (from Kreisel 1989)
- = *Calvatia saccata* var. *capitata* Hollós (from Kreisel 1989)
- = *Calvatia saccata* var. *elata* (Massee) Hollós (in Smith 1951); (from Zeller & Smith 1964); (from Kreisel 1989)
- = *Calvatia saccata* var. *flavescens* (Rostk.) Hollós (from Kreisel 1989)
- = *Calvatia saccata* var. *pistilliformis* (Bonord.) Hollós (from Kreisel 1989)
- = *Calvatia saccata* var. *pseudoflavescens* Hollós (from Kreisel 1989)
- = *Calvatia saccata* var. *punctata* (Rostk.) Hollós (from Kreisel 1989)
- = *Calvatia saccata* var. *strangulata* (Hazsl.) Hollós (from Kreisel 1989)
- = *Langermannia aculeata* Rostk. (from Kreisel 1989)
- = *Langermannia flavescens* Rostk. (from Kreisel 1989)
- = *Langermannia punctata* Rostk. (from Zeller & Smith 1964); (from Kreisel 1989)
- = *Lycoperdon aculeatum* (Rostk.) Bonord. (from Kreisel 1989)
- = *Lycoperdon admorsum* Batsch (from Kreisel 1989)
- = *Lycoperdon assimile* Velen. (from Kreisel 1989)
- = *Lycoperdon bohemicum* Velen. (from Kreisel 1989)
- = *Lycoperdon bayeri* Velen. (from Kreisel 1989)
- = *Lycoperdon elatum* Massee (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)
- = *Lycoperdon favosum* Oudemans non (Rostk.) Dietrich (from Kreisel 1989)
- = *Lycoperdon flavescens* (Rostk.) Dietrich (from Kreisel 1989)
- = *Lycoperdon macrorhizon* Pers. (from Kreisel 1989)
- = *Lycoperdon oudemansii* Ferd. (from Kreisel 1989)
- = *Lycoperdon papillosum* Velen. (from Kreisel 1989)
- = *Lycoperdon pistilliforme* Bonord. (from Kreisel 1989)
- = *Lycoperdon punctatum* (Rostk.) Bonord. (from Kreisel 1989)
- = *Lycoperdon rusticum* Bonord. (from Kreisel 1989)
- = *Lycoperdon saccatum* Vahl. (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)
- = *Lycoperdon saccatum* var. *apiocarpum* Hazsl. (from Kreisel 1989)
- = *Lycoperdon saccatum* var. *strangulatum* Hazsl. (from Kreisel 1989)
- = *Lycoperdon truncatum* Batsch (from Kreisel 1989)
- = *Utraria saccata* (Vahl.) Qué. (from Zeller & Smith 1964); (from Kreisel 1989)

***Handkea fumosa* (Zeller) Kreisel** (in Kreisel 1989)

- ≡ *Calvatia fumosa* Zeller (from Kreisel 1989)
- ≡ *Calvatia fumosa* var. *fumosa* Zeller (in Zeller & Smith 1964)
- ?= *Lycoperdon alpinum* Ellis & Everh. (from Kreisel 1989)

***Handkea hesperia* (Morgan) Kreisel** (in Kreisel 1989 – known only from the type locality in California)

≡ *Calvatia hesperia* Morgan (from Kreisel 1989)

***Handkea lloydii* (Zeller & Coker) Kreisel** (in Kreisel 1989)

≡ *Calvatia lloydii* Zeller & Coker (from Kreisel 1989)

***Handkea lycoperdoides* (A.H. Sm.) Kreisel** (in Kreisel 1989)

≡ *Calvatia lycoperdoides* A.H. Sm. (from Kreisel 1989)

***Handkea subcretacea* (Zeller) Kreisel** (in Kreisel 1989)

≡ *Calvatia subcretacea* Zeller (in Zeller & Smith 1964); (from Kreisel 1989)

***Handkea utrififormis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

≡ *Bovista utrififormis* (Bull.: Pers.) Fr. (from Kreisel 1989)

≡ *Calvatia utrififormis* (Bull.: Pers.) Jaap (from Kreisel 1989); (in Calonge 1998)

≡ *Lycoperdon utrifforme* Bull.: Pers. (from Kreisel 1989); (from Calonge 1998)

≡ *Utraria caelata* var. *utriformis* (Bull.: Pers.) Quéf. (from Kreisel 1989)

= *Bovista favosa* Rostk. (from Zeller & Smith 1964); (from Kreisel 1989)

= *Bovista officinarum* Dill. (from Kreisel 1989)

= *Bovista suberosa* Fr. sensu Rostk. (from Zeller & Smith 1964); (from Kreisel 1989)

= *Bovistaria caelata* (Bull.) Karst. (from Kreisel 1989)

= *Calvatia bovista* (Pers.: Pers.) Kambly & Lee (in Smith 1951); (in Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)

= *Calvatia caelata* (Bull.) Morgan (in Coker & Couch 1928); (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)

= *Calvatia favosa* (Rostk.) Lloyd (from Zeller & Smith 1964); (from Kreisel 1989)

= *Calvatia fontanesii* (Durieu & Mont.) Lloyd (from Zeller & Smith 1964)

= *Calvatia hungarica* Hollós (from Kreisel 1989)

?= *Calvatia sinclairii* (Berk. ex Masee) Lloyd (from Zeller & Smith 1964); (from Kreisel 1989)

= *Lycoperdon areolatum* Schaeff. (from Kreisel 1989)

= *Lycoperdon bovista* Pers. (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)

= *Lycoperdon caelatum* Bull. (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)

= *Lycoperdon echinatum* Schaeff. non Pers. (from Kreisel 1989)

= *Lycoperdon favosum* (Rostk.) Dietrich (from Zeller & Smith 1964); (from Kreisel 1989)

= *Lycoperdon fontanesii* Durieu & Mont. (from Zeller & Smith 1964)

= *Lycoperdon gemmatum* Schaeff. non Batsch (from Kreisel 1989)

= *Lycoperdon papillatum* Schumach. non Schaeff. (from Kreisel 1989)

= *Lycoperdon quadricorne* Swartz (from Kreisel 1989)

?= *Lycoperdon sinclairii* Berk. ex Masee (from Zeller & Smith 1964); (from Kreisel 1989)

= *Lycoperdon suberosum* (“Rostk.”) Dietrich (from Kreisel 1989)

= *Lycoperdon tessellatum* Baumg. (from Kreisel 1989)

= *Utraria caelata* (Bull.) Quél. (from Zeller & Smith 1964); (from Kreisel 1989)

***Handkea utriformis* var. *gruberi* (A.H. Sm.) Kreisel** (in Kreisel 1989)

= *Calvatia tartensis* var. *gruberi* A.H. Sm. (from Kreisel 1989)

***Handkea utriformis* var. *hungarica* (Hollós) Kreisel** (in Kreisel 1989)

≡ *Calvatia hungarica* Hollós (in Zeller & Smith 1964); (from Kreisel 1989)

= *Calvatia bovista* var. *hungarica* (Hollós) Zeller & A.H. Sm. (in Zeller & Smith 1964); (from Kreisel 1989)

= *Calvatia caelata* var. *hungarica* (Hollós) Smarda (from Kreisel 1989)

= *Calvatia tatrensis* var. *tatrensis* sensu Zeller and A.H. Sm. (from Kreisel 1989)

Hippoperdon crucibulum Mont. (from Zeller & Smith 1964)

= ***Calvatia cyathiformis* (Bosc) Morgan** (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

Holocotylon anomalum Zeller (in Zeller 1947)

?= ***Holocotylon brandegeeanum* Lloyd** (in Lloyd 1906); (in Zeller 1947)

***Holocotylon brandegeeanum* Lloyd** (in Lloyd 1906); (in Zeller 1947)

= *Holocotylon mexicanum* Lloyd (in Zeller 1947)

?= *Holocotylon anomalum* Zeller (in Zeller 1947)

Holocotylon mexicanum Lloyd (in Zeller 1947)

= ***Holocotylon brandegeeanum* Lloyd** (in Lloyd 1906); (in Zeller 1947)

***Holocotylon texense* Lloyd** (in Lloyd 1906); (in Zeller 1947)

Hippoperdon pila Lév. (from Kreisel 1992)

= ***Calvatia cyathiformis* (Bosc) Morgan** (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

Hypoblema lepidophorum (Ellis & Everh.) Lloyd (from Zeller & Smith 1964); (from Kreisel 1992)

≡ ***Calvatia lepidophora* (Ellis & Everh.) Coker & Couch** (in Zeller & Smith 1964); (in Kreisel 1992)

= ***Calvatia pachyderma* (Peck) Morgan** (in Zeller & Smith 1964); (in Kreisel 1992 – see also *C. lepidophora* above, see also *C. pilula* above); (in Demoulin 1993)

Hypoblema pachyderma Lloyd (from Kreisel 1992)

≡ *Calvatia pachyderma* (Peck) Morgan (in Zeller & Smith 1964); (in Kreisel 1992 – see also *C. lepidophora* above, see also *C. pilula* above); (in Demoulin 1993)
= *Calvatia lepidophora* (Ellis & Everh.) Coker & Couch (in Zeller & Smith 1964); (in Kreisel 1992)

Langermannia aculeata Rostk. (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Langermannia bicolor (Lév.) Demoulin & Dring (from Kreisel 1992)
≡ *Calvatia bicolor* (Lév.) Kreisel (from Homrich & Wright 1973); (in Kreisel 1992)

Langermannia candida Rostk. (from Calonge 1998)
≡ *Calvatia candida* (Rostk.) Hollós (in Zeller & Smith 1964); (in Kreisel 1992); (in Calonge 1998)

Langermannia fenzi (Reichardt) Kreisel (from Guzman 1969)
= *Calvatia bicolor* (Lév.) Kreisel (from Homrich & Wright 1973); (in Kreisel 1992)

Langermannia flavescens Rostk. (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Langermannia gigantea (Batsch: Pers.) Rostk. (from Zeller & Smith 1964); (from Calonge 1998)
≡ *Calvatia gigantea* (Batch: Pers.) Lloyd (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)

Langermannia pachyderma (Peck) Kreisel (in Kreisel 1962), (from Demoulin 1993)
≡ *Calvatia pachyderma* (Peck) Morgan (in Zeller & Smith 1964); (in Kreisel 1992 – see also *C. lepidophora* above, see also *C. pilula* above); (in Demoulin 1993)

Langermannia punctata Rostk. (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Langermannia wahlbergii (Fr.) Dring (from Guzman 1969); (from Homrich & Wright 1973)
= *Calvatia bicolor* (Lév.) Kreisel (from Homrich & Wright 1973); (in Kreisel 1992)

Lanopila argentina Speg. (from Homrich & Wright 1973)
?= *Calvatia bicolor* (Lév.) Kreisel (from Homrich & Wright 1973); (in Kreisel 1992)

Lanopila bicolor (Lév.) Pat. (from Bottomley 1848); (in Homrich & Wright 1973); (from Kreisel 1992)
≡ *Calvatia bicolor* (Lév.) Kreisel (from Homrich & Wright 1973); (in Kreisel 1992)

Lanopila guaranitica Speg. (from Homrich & Wright 1973)

- = *Calvatia bicolor* (Lév.) Kreisel (from Homrich & Wright 1973); (in Kreisel 1992)
- = *Calvatia bicolor* (Lév.) Kreisel (from Homrich & Wright 1973); (in Kreisel 1992)
Lanopila radloffiana Verwoerd (from Kreisel 1992)
- Lanopila tabacina* (Sacc.) De Toni (from Kreisel 1967b)
= *Bovista pila* Berk. & M.A. Curtis (in Coker & Couch 1928); (in Kreisel 1967b)
- Lanopila wahlbergii* Fr. (in Bottomley 1848); (in Guzman1969); (from Homrich & Wright 1973); (from Kreisel 1992)
= *Calvatia bicolor* (Lév.) Kreisel (from Homrich & Wright 1973); (in Kreisel 1992)
- Lasiosphaera fenzi* Reichardt (from Zeller & Smith 1964); (from Guzman1969); (from Homrich & Wright 1973); (from Kreisel 1992)
= *Calvatia bicolor* (Lév.) Kreisel (from Homrich & Wright 1973); (in Kreisel 1992)
= *Calvatia gigantea* (Batch: Pers.) Lloyd (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)
- Lasiosphaera gigantea* (Batsch: Pers.) F. Smarda (from Calonge 1998)
= *Calvatia gigantea* (Batch: Pers.) Rostk. (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)
- Lycoperdon aculeatum* (Rostk.) Bonord. (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)
- Lycoperdon acuminatum* Bosc (in Coker & Couch 1928) ; (from Kreisel 1967b)
= *Bovista acuminata* (Bosc) Kreisel (in Kreisel 1967b)
- Lycoperdon admorsum* Batsch (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)
- Lycoperdon adustum* Velen. (from Demoulin 1972a)
= *Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger (in Krüger & Kreisel 2003)
- Lycoperdon aestivale* Bonord. (from Calonge 1998); (from Pegler et al. 1995)
= *Bovista aestivalis* (Bonord.) Demoulin (from Kreisel 1967b); (in Calonge 1998); (in Pegler et al. 1995); (in Demoulin 1996)
- Lycoperdon albidum* Velen. (from Demoulin 1972a)
= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)
- Lycoperdon alpigenum* Ellis & Everh.
?= *Handkea fumosa* (Zeller) Kreisel (in Kreisel 1989)

Lycoperdon americanum **Demoulin** (in Demoulin 1972a – see comments below regarding *L. echinatum*); (in Pegler et al. 1995)

Lycoperdon annularium Beck (from Kreisel 1967b)
= **Bovista aestivalis (Bonord.) Demoulin** (from Kreisel 1967b); (in Calonge 1998); (in Pegler et al. 1995); (in Demoulin 1996)

Lycoperdon ardesiacum Bull. (from Kreisel 1967b)
= **Bovista plumbea Pers.** (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon areolatum Schaeff. (from Kreisel 1989)
= **Handkea utrifomis (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon arrhizon Batsch (from Kreisel 1967b)
= **Bovista plumbea Pers.** (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon assimile Velen. (from Kreisel 1989)
= **Handkea excipuliformis (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon atropurpureum **Vittad.** (in Coker & Couch 1928); (in Demoulin 1972a – in N.A. replaced by *L. mauryanum* **Demoulin**); (in Pegler et al. 1995); (in Calonge 1998)
≡ *Lycoperdon molle* var. *atropurpureum* (Vittad.) F. Smarda (from Calonge 1998)
= **Lycoperdon decipiens Durieu & Mont.** (in Demoulin 1972a); (in Pegler et al. 1995); (from Calonge 1998)

Lycoperdon atropurpureum var. *arcticum* Berk. (from Demoulin 1972a)
= **Lycoperdon frigidum Demoulin** (in Demoulin 1972a)

Lycoperdon atrum **Pat.** (in Demoulin 1972a)
?= *Lycoperdon juruense* Henn. (from Demoulin 1972a)

Lycoperdon bayeri Velen. (from Kreisel 1989)
= **Handkea excipuliformis (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon beltulinum Velen. (from Demoulin 1972a)
= **Morganella pyriformis (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon bohemicum Velen. (from Kreisel 1989)
= **Handkea excipuliformis (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon bonordenii Masee (from Demoulin 1972a)

= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon bovista L. (from Coker & Couch 1928); (from Calonge 1998)
= *Calvatia gigantea* (Batch: Pers.) Lloyd (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)

Lycoperdon bovista Pers. (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)
= *Handkea utrififormis* (Bull.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon bovista Vittad. (from Zeller & Smith 1964)
= *Calvatia cyathiformis* (Bosc) Morgan (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

Lycoperdon bubakii Bres. (from Kreisel 1967b)
= *Bovista paludosa* Lév. (in Kreisel 1967b); (in Calonge 1998)

Lycoperdon caelatum Bull. (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)
= *Handkea utrififormis* (Bull.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon calcareum Velen. (from Demoulin 1972a)
= *Lycoperdon lividum* Pers. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon calvescens Berk. & M.A. (in Demoulin 1972a)
= *Lycoperdon wrightii* var. *calvescens* (Berk. & M.A. Curtis) Peck (from Demoulin 1972a)

Lycoperdon calyptriforme Berk. (from Coker and Couch 1928); (from Kreisel 1967b)
= *Bovista acuminata* (Bosc) Kreisel (in Kreisel 1967b)

Lycoperdon candidum Pers.: Pers. (from Demoulin 1972a)
= *Lycoperdon caudatum* J. Schröt. (from Coker & Couch 1928); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon caudatum J. Schröt. (from Coker & Couch 1928); (in Pegler et al. 1995); (in Calonge 1998)
= *Bovistella miyabei* Lloyd (from Demoulin 1972a)
= *Bovistella pedicellata* (Peck) Lloyd (from Demoulin 1972a); (from Kreisel & Calonge 1993)
= *Lycoperdon candidum* Pers.: Pers. (from Demoulin 1972a)
= *Lycoperdon gemmata* Lloyd (from Demoulin 1972a)
= *Lycoperdon miyabei* (Lloyd) Ito (from Demoulin 1972a)

= *Lycoperdon pedicellatum* Peck (in Coker and Couch 1928); (in Smith 1951); (in Demoulin 1972a); (from Pegler et al. 1995); (from Calonge 1998)
= *Lycoperdon pedicellatum* var. *areolatum* Smarda (from Demoulin 1972a)

Lycoperdon cepaeforme Bull. sensu Lloyd (from Kreisel 1967b)
= ***Bovista dakotensis* (Brenckle) Kreisel** (in Kreisel 1967b)

Lycoperdon cepaeforme Bull. (from Coker & Couch 1928); (from Cunningham 1944); (from Kreisel 1967b); (from Pegler et al. 1995); (from Demoulin 1996 – as *L. cepiforme*); (from Calonge 1998)
= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon clavariiforme Raddi . (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

***Lycoperdon cokeri* Demoulin** (in Demoulin 1972)

Lycoperdon colensoi Cooke & Masee (from Cunningham 1944); (from Bottomley 1948)
= ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon coloratum Peck (in Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (in Smith 1951); (from Kreisel 1967b); (from Pegler et al. 1995); (from Calonge 1998)
= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon constellatum Fr. (from Coker & Couch 1928)
= ***Lycoperdon echinatum* Pers.: Pers.** (in Coker and Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon cookei Masee (from Cunningham 1944)
= ***Lycoperdon lividum* Pers.** (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon coprophilum Cooke & Masee (from Kreisel 1967b)
= ***Bovista coprophila* (Cooke & Masee) G. Cunn.** (in Kreisel 1967b)

Lycoperdon corium Guers. ex DC. & Lam. (from Cunningham 1944); (from Bottomley 1948); (from Calonge 1998)
= ***Mycenastrum corium* (Guers. ex DC. & Lam.) Desv.** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Lycoperdon cretaceum Berk. (from Coker & Couch 1928); (from Zeller & Smith 1964);
(from Ponce de León 1975); (from Miller et al. 1980)
= ***Calvatia cretacea* (Berk.) Lloyd** (in Coker & Couch 1928); (in Zeller & Smith 1964);
(in Ponce de León 1975); (in Miller et al. 1980)

Lycoperdon cruciatum Rostk. (from Coker & Couch 1928); (from Demoulin 1972a)
= ***Lycoperdon marginatum* Vittad.** (in Coker & Couch 1928); (in Smith 1951); (in
Demoulin 1972a); (in Calonge 1998)

Lycoperdon cupreum Velen. (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel
2003)

Lycoperdon cupricolor Lloyd (from Cunningham 1944); (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel
2003)

Lycoperdon cupricum Bonord. (from Demoulin 1972a)
= ***Lycoperdon molle* Pers.: Pers.** (in Demoulin 1972a); (in Pegler et al. 1995); (in
Calonge 1998)

Lycoperdon curtisii Berk. (in Coker and Couch 1928); (in Smith 1951)
= ***Vascellum curtisii* (Berk.) Kreisel** (in Demoulin 1972a)

Lycoperdon cyathiforme Bosc (from Coker & Couch 1928); (from Zeller & Smith 1964);
(from Calonge 1998)
= ***Calvatia cyathiformis* (Bosc) Morgan** (in Coker & Couch 1928); (in Smith 1951); (in
Kreisel 1992); (in Calonge 1998)

Lycoperdon cyclicum McAlp. (from Cunningham 1944)
= ***Vascellum pratense* (Pers.: Pers.) Kreisel** (in Smith 1974 – see comments below
regarding this species); (in Pegler et al. 1995)

Lycoperdon dakotense Brenckle (from Kreisel 1967b)
= ***Bovista dakotensis* (Brenckle) Kreisel** (in Kreisel 1967b)

***Lycoperdon decipiens* Durieu & Mont.** (in Demoulin 1972a); (in Pegler et al. 1995);
(from Calonge 1998)
= ***Lycoperdon atropurpureum* Vittad.** (in Calonge 1998 – see comments regarding this
species)

Lycoperdon decipiens var. *rimulatum* (Peck ex Trelease) F. Smarda (from Demoulin
1972a)
= ***Lycoperdon rimulatum* Peck ex Trelease** (in Coker & Couch 1928); (in Smith 1951);
(in Demoulin 1972a); (in Calonge 1998)

Lycoperdon defossum Vittad. (from Calonge 1998)
= ***Disciseda bovista* (Klotzsch) Henn.** (in Moravec 1954); (in Calonge 1998)

Lycoperdon delicatum Berk. & M.A. Curtis non Berk. & Hook. (from Coker & Couch 1928); (from Zeller & Smith 1964)
= ***Calvatia craniiformis* (Schwein.) Fr.** (in Coker & Couch 1928); (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992)

Lycoperdon depressum Bonord. non Zeller & Smith (from Cunningham 1944); (from Pegler et al. 1995)
= ***Vascellum pratense* (Pers.: Pers.) Kreisel** (in Smith 1974 – see comments below regarding this species); (in Pegler et al. 1995)

Lycoperdon depressum Bonord. (from Zeller & Smith 1964 – sensu authors)
= ***Vascellum lloydianum* A.H. Sm.** (in Smith 1974)

Lycoperdon dermoxanthum Vittad. (from Bottomley 1948); (from Kreisel 1967b); (from Pegler et al. 1995)
≡ ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon desmazierei Lloyd (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon dominicensis Masee (from Kreisel 1967b)
≡ ***Bovista dominicensis* (Masee) Kreisel** (in Kreisel 1967b); (from Kreisel & Calonge 1993)

***Lycoperdon echinatum* Pers.: Pers.** (in Coker and Couch 1928); (in Smith 1951); (in Demoulin 1972a – replaced in N.A. by *Lycoperdon americanum*); (in Pegler et al. 1995); (in Calonge 1998)
= *Lycoperdon constellatum* Fr. (from Coker & Couch 1928)

Lycoperdon echinatum Schaeff. non Pers. (from Kreisel 1989)
= ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon elatum Masee (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon emodense Berk. (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon ericaeum Bonord. (from Kreisel 1967b); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

= ~~*Bovista aestivalis* (Bonord.) Demoulin~~ (from Kreisel 1967b)

= *Lycoperdon ericaeum* var. *subareolatum* (Kreisel) Demoulin (in Pegler et al. 1995 – see comments there regarding *L. muscorum*)

= *Lycoperdon muscorum* Morgan (in Coker & Couch 1928); (in Smith 1951); (from Pegler et al. 1995 – see comments below regarding this species); (from Calonge 1998)

= *Lycoperdon polytrichum* Lloyd (from Coker & Couch 1928)

= *Lycoperdon pseudoradicans* Lloyd (from Coker & Couch 1928)

Lycoperdon ericaeum var. *subareolatum* (Kreisel) Demoulin (in Pegler et al. 1995 – see comments there regarding *L. ericaeum* and *L. muscorum*)

= *Lycoperdon ericaeum* Bonord. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon ericetorum Pers. sensu Demoulin (from Demoulin 1972a)

= *Bovista aestivalis* (Bonord.) Demoulin (from Kreisel 1967b); (in Calonge 1998); (in Pegler et al. 1995); (in Demoulin 1996)

Lycoperdon ericetorum Pers. (from Kreisel 1967b); (from Pegler et al. 1995); (from Calonge 1998)

= *Bovista dermoxantha* (Vittad.) De Toni (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon ericetorum var. *cepaefrome* (Bull.) Bowerman (from Kreisel 1967b)

= *Bovista aestivalis* (Bonord.) Demoulin (from Kreisel 1967b); (in Calonge 1998); (in Pegler et al. 1995); (in Demoulin 1996)

Lycoperdon ericetorum var. *pusillum* (Batsch: Pers.) Smarda (from Kreisel 1967b)

= *Bovista dermoxantha* (Vittad.) De Toni (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon excipuliforme Scop. (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (from Zeller & Smith 1964 – as *L. excipuliform* Pers.)

= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon excipuliforme (Scop.: Pers.) Schaeff. (from Kreisel 1989); (from Calonge 1998)

≡ *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon excoriatum Lloyd (from Cunningham 1944); (from Bottomley 1948); (from Demoulin 1972a)

= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon eximium Morgan (in Coker & Couch 1928); (in Demoulin 1972a)

Lycoperdon eylesii Verwerd (from Bottomley 1948)

= *Vascellum pratense* (Pers.: Pers.) Kreisel (in Smith 1974 – see comments below regarding this species); (in Pegler et al. 1995)

Lycoperdon faveolum Lloyd (from Demoulin 1972a)

= *Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger (in Krüger & Kreisel 2003)

Lycoperdon favosum Oudemans non (Rostk.) Dietrich (from Kreisel 1989)

= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon favosum (Rostk.) Dietrich (from Zeller & Smith 1964); (from Kreisel 1989)

= *Handkea utrififormis* (Bull.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon flavescens (Rostk.) Dietrich (from Kreisel 1989)

= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon floccosum Lloyd (in Demoulin 1972a)

≡ *Lycoperdon umbrinum* var. *floccosum* (Lloyd) A.H. Sm. (in Smith 1951); (from Demoulin 1972a)

Lycoperdon foetidum Bonord. (in Demoulin 1972a); (from Pegler et al. 1995); (from Calonge 1998)

= *Lycoperdon nigrescens* Pers.: Pers. (from Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon fontanesii Durieu & Mont. (from Zeller & Smith 1964)

= *Handkea utrififormis* (Bull.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon fragile Velen. (from Calonge 1998 – non Vittad.)

= *Calvatia candida* (Rostk.) Hollós (in Zeller & Smith 1964); (in Kreisel 1992); (in Calonge 1998)

Lycoperdon fragile Vittad. (from Zeller & Smith 1964); (from Calonge 1998)

≡ *Calvatia fragilis* (Vittad.) Morgan (in Coker & Couch 1928); (in Smith 1951); (from Zeller & Smith 1964); (in Kreisel 1992)

= ~~*Calvatia cyathiformis* (Bose) Morgan~~ (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

Lycoperdon frigidum Demoulin (in Demoulin 1972a)

= *Lycoperdon atropurpureum* var. *arcticum* Berk. (from Demoulin 1972a)

Lycoperdon frostii Peck (from Coker & Couch 1928); (from Demoulin 1972a)
= ***Lycoperdon pulcherrimum* Berk. & M.A. Curtis** (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a)

Lycoperdon furfuraceum Schaeff. non. *Bovista furfuracea* (Gmelin: Pers.) Pers. (from Bottomley 1948); (from Cunningham 1944 – as *L. furfuracearum*); (from Kreisel 1967b); (from Calonge 1989 – as *L. furfuracea*); (from Pegler et al. 1995 – as *L. furfuracea*)
= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon fucatum Lév. (from Kreisel 1992)
= ***Calvatia cyathiformis* (Bosc) Morgan** (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

Lycoperdon fuscum Bonord. (in Coker & Couch 1928); (from Demoulin 1972a)
= ***Lycoperdon lividum* Pers.** (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon gemmata Lloyd (from Demoulin 1972a)
= ***Lycoperdon caudatum* J. Schröt.** (from Coker & Couch 1928); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon gemmatum Batsch (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)
= ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon gemmatum Fr. (from Calonge 1998)
= ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon gemmatum Schaeff. non Batsch (from Kreisel 1989)
= ***Handkea utrifomis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon gemmatum var. *excipuliforme* Fr. (from Demoulin 1972a)
= ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon gemmatum var. *excipuliforme* (Scop.) Fr. (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon gemmatum var. *hirtum* Fr. (from Bottomley 1948)

= *Lycoperdon umbrinum* Pers.: Pers. (in Coker & Couch 1928); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon gemmatum var. *perlatum* (Pers.: Pers.) Fr. (from Pegler et al. 1995)
= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon giganteum Batsch: Pers. (from Coker & Couch 1928); (from Zeller & Smith 1964); (from Calonge 1998)
= *Calvatia gigantea* (Batch: Pers.) Lloyd (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)

Lycoperdon glabellum Peck (from Demoulin 1972a)
= *Lycoperdon molle* Pers.: Pers. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon globoso-piriforme Lloyd (from Demoulin 1972a)
= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon gregarium Velen. (from Demoulin 1972a)
= *Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger (in Krüger & Kreisel 2003)

Lycoperdon hirtum Bonord. non Bull. (from Demoulin 1972a)
= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon hirtum Bull. (from Demoulin 1972a)
= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon hirtum Mart. (from Coker & Couch 1928); (from Bottomley 1948)
= *Lycoperdon umbrinum* Pers.: Pers. (in Coker & Couch 1928); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon hirtum var. *fuscescens* Pers. (from Demoulin 1972a)
= *Lycoperdon molle* Pers.: Pers. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon hirtum var. *nigricans* Pers. (from Demoulin 1972a)
= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon hongkongense Berk. & M.A. Curtis (from Kreisel 1967b); (from Calonge 1998)

= ***Bovista delicata* Berk. & M.A. Curtis** (in Kreisel 1967b); (in Calonge 1998)

Lycoperdon hungaricum Hollós (from Kreisel 1967b); (from Demoulin 1996)

= ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon hyemale Bull. (in Cunningham 1944 – as *L. hiemale*); (in Bottomley 1948); (from Pegler et al. 1995)

= ***Vascellum pratense* (Pers.: Pers.) Kreisel** (in Smith 1974 – see comments below regarding this species); (in Pegler et al. 1995)

Lycoperdon juruense Henn. (from Demoulin 1972a)

= ***Lycoperdon atrum* Pat.** (in Demoulin 1972a)

Lycoperdon kalchbrenneri De Toni (from Bottomley 1948); (from Cunningham 1944)

= ***Vascellum pratense* (Pers.: Pers.) Kreisel** (in Smith 1974 – see comments below regarding this species); (in Pegler et al. 1995)

Lycoperdon lacunosum (Bull.) Thore (from Demoulin 1972a)

= ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon laevisproum Velen. (from Demoulin 1972a)

= ***Lycoperdon nigrescens* Pers.: Pers.** (from Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

***Lycoperdon lambinonii* Demoulin** (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon lepidophorum Ellis & Everh. (from Zeller & Smith 1964)

= ***Calvatia lepidophora* (Ellis & Everh.) Coker & Couch** (in Zeller & Smith 1964); (in Kreisel 1992)

= ***Calvatia pachyderma* (Peck) Morgan** (in Zeller & Smith 1964); (in Kreisel 1992 – see also *C. lepidophora* above, see also *C. pilula* below); (in Demoulin 1993)

Lycoperdon leprosum Berk. & Ravenel (from Coker and Couch 1928); (from Kreisel 1967b)

= ***Bovista acuminata* (Bosc) Kreisel** (Kreisel 1967b)

Lycoperdon lilacinum (Berk.) Masee (from Zeller & Smith 1964); (from Calonge 1998)

= ***Calvatia cyathiformis* (Bosc) Morgan** (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

Lycoperdon limosum (Rostr.) Rauschert (from Kreisel 1967b); (from Pegler et al. 1995); (from Calonge 1998)

= ***Bovista limosa*** Rostr. (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon lividum Pers. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

= *Lycoperdon calcareum* Velen. (from Demoulin 1972a)

= *Lycoperdon cookei* Masee (from Cunningham 1944)

= *Lycoperdon fuscum* Bonord. (in Coker & Couch 1928); (from Demoulin 1972a)

= *Lycoperdon spadiceum* Pers. (in Cunningham 1944); (from Demoulin 1972a); (from Pegler et al. 1995); (from Calonge 1998)

= *Lycoperdon submontanum* Velen. (from Demoulin 1972a)

Lycoperdon macrogemmatum Lloyd (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (from Demoulin 1972a)

= ***Lycoperdon perlatum*** Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon macrorhizon Pers. (from Kreisel 1989)

= ***Handkea excipuliformis*** (Scop.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon marginatum Vittad. (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Calonge 1998)

= ~~*Lycoperdon calvescens* Berk. & M.A. Curtis~~ (from Coker & Couch 1928); (in Demoulin 1972a – see comments above regarding this species above)

= *Lycoperdon cruciatum* Rostk. (from Coker & Couch 1928); (from Demoulin 1972a)

= *Lycoperdon muricatum* Bonord. (from Demoulin 1972a)

= *Lycoperdon papillatum* Schaeff. sensu Hollós (from Coker & Couch 1928)

= *Lycoperdon separans* Peck (from Coker & Couch 1928); (from Demoulin 1972a)

= *Lycoperdon wrightii* var. *seprans* Peck (from Demoulin 1972a)

= *Vascellum cruciatum* (Rostk.) Ponce de León (from Demoulin 1972a)

Lycoperdon mauryanum Demoulin (in Demoulin 1972a – see comments above regarding *L. atropurpureum*)

Lycoperdon maximum Schaeff.: Pers. (from Calonge 1998)

= ***Calvatia gigantea*** (Batch: Pers.) Rostk. (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992); (from Calonge 1998)

Lycoperdon missouriense Trelease (from Coker & Couch 1928); (from Zeller & Smith 1964)

= ***Calvatia craniiformis*** (Schwein.) Fr. (in Coker & Couch 1928); (in Smith 1951); (in Zeller & Smith 1964); (in Kreisel 1992)

Lycoperdon mixtecorum Heim (from Demoulin 1972a)

= *Lycoperdon rimulatum* Peck ex Trelease (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Calonge 1998)

Lycoperdon cf. *miyabei* (Lloyd) Ito (from Kreisel & Calonge 1993)

= *Bovistella gemmatum* Lloyd (from Kreisel & Calonge 1993)

Lycoperdon miyabei (Lloyd) Ito (from Demoulin 1972a)

= *Lycoperdon caudatum* J. Schröt. (from Coker & Couch 1928); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon molle Pers.: Pers. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

= *Lycoperdon cupricum* Bonord. (from Demoulin 1972a)

= *Lycoperdon glabellum* Peck (from Demoulin 1972a)

= *Lycoperdon hirtum* var. *fuscescens* Pers. (from Demoulin 1972a)

= *Lycoperdon molle* var. *thermophilum* Smarda (from Demoulin 1972a)

= *Lycoperdon turbinatum* Pers. (from Demoulin 1972a)

= *Lycoperdon umbrinum* f. *glabellum* (Peck) Smarda (from Demoulin 1972a)

= *Lycoperdon umbrinum* var. *glabellum* (Peck) Hollós (from Demoulin 1972a)

= *Lycoperdon umbrinum* var. *pedicellatum* Velen. (from Demoulin 1972a)

Lycoperdon molle var. *atropurpureum* (Vittad.) F. Smarda (from Calonge 1998)

≡ *Lycoperdon atropurpureum* Vittad. (in Coker and Couch 1928); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon molle var. *thermophilum* Smarda (from Demoulin 1972a)

= *Lycoperdon molle* Pers.: Pers. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon montanum Quel. (from Demoulin 1972a)

= *Lycoperdon nigrescens* Pers.: Pers. (from Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon multiseptum Lloyd (from Bottomley 1948); (from Cunningham 1944)

= *Vascellum pratense* (Pers.: Pers.) Kreisel (in Smith 1974 – see comments below regarding this species); (in Pegler et al. 1995)

Lycoperdon mundula Kalchbr. (from Cunningham 1944); (from Bottomley 1948); (from Kreisel 1967b)

= *Bovista dermoxantha* (Vittad.) De Toni (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon muricatum Bonord. (from Demoulin 1972a)

= *Lycoperdon marginatum* Vittad. (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Calonge 1998)

Lycoperdon muscorum Morgan (in Coker & Couch 1928); (in Smith 1951); (from Pegler et al. 1995 – see comments above regarding *L. ericaeum*); (from Calonge 1998)
= ***Lycoperdon ericaeum* Bonord.** (in Demoulin 1972a); (in Pegler et al. 1995 – see comments there regarding *L. ericaeum* var. *subareolatum*); (in Calonge 1998)

Lycoperdon natalense Cooke & Masee (from Bottomley 1948); (from Cunningham 1944)
= ***Vascellum pratense* (Pers.: Pers.) Kreisel** (in Smith 1974 – see comments below regarding this species); (in Pegler et al. 1995)

***Lycoperdon nigrescens* Pers.: Pers.** (from Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)
= *Lycoperdon perlatum* var. *nigrescens* Pers. (from Demoulin 1972a); (from Pegler et al. 1995); (from Calonge 1998)
= *Lycoperdon foetidum* Bonord. (in Demoulin 1972a); (from Pegler et al. 1995); (from Calonge 1998)
= *Lycoperdon laevisproum* Velen. (from Demoulin 1972a)
= *Lycoperdon montanum* Quel. (from Demoulin 1972a)

Lycoperdon nigrum Lloyd (from Cunningham 1944); (from Bottomley 1948); (from Demoulin 1972a)
?= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Calonge 1998); (in Pegler et al. 1995); (in Demoulin 1996 – author suggests further study)

***Lycoperdon norvegicum* Demoulin** (in Demoulin 1972a)

Lycoperdon novae-zelandiae Lév. (from Kreisel 1992)
= ***Calvatia fragilis* (Vittad.) Morgan** (in Coker & Couch 1928); (in Smith 1951); (from Zeller & Smith 1964); (in Kreisel 1992)

Lycoperdon oblongisporum Berk. & M.A. Curtis (in Coker & Couch 1928); (from Kreisel 1967b – see also *B. longispora* above)
= ***Bovista dakotensis* (Brenckle) Kreisel** (in Kreisel 1967b)

Lycoperdon oblongisporum Berk. & M.A. Curtis (in Smith 1951)
= ***Bovista longispora* Kreisel** (in Kreisel 1967b – also see *B. dakotensis* above) (from Demoulin 1972a)

Lycoperdon oudemansii Ferd. (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon oviforme Pat. (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon ovoideum Bull. (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon pachydermum Peck (from Zeller & Smith 1964)
= ***Calvatia pachyderma* (Peck) Morgan** (in Zeller & Smith 1964); (in Kreisel 1992 – see also *C. lepidophora* above, see also *C. pilula* below); (in Demoulin 1993)
= ***Calvatia lepidophora* (Ellis & Everh.) Coker & Couch** (in Zeller & Smith 1964); (in Kreisel 1992 – see also *C. pachyderma* above)

Lycoperdon paludosum Lév. (from Kreisel 1967b); (from Calonge 1998)
= ***Bovista paludosa* Lév.** (in Kreisel 1967b); (in Calonge 1998)

Lycoperdon papillosum Velen. (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon papillatum Schaeff. sensu Hollós (from Coker & Couch 1928)
= ***Lycoperdon marginatum* Vittad.** (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Calonge 1998)

Lycoperdon papillatum Schumach. non Schaeff. (from Kreisel 1989)
= ***Handkea utrifomis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

***Lycoperdon peckii* Morgan** (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a)
= *Lycoperdon perlatum* var. *peckii* (Morg.) Bowerman (from Demoulin 1972a)

Lycoperdon pedicellatum Peck (in Coker and Couch 1928); (in Smith 1951); (in Demoulin 1972a); (from Pegler et al. 1995); (from Calonge 1998)
= ***Lycoperdon caudatum* J. Schröt.** (from Coker & Couch 1928); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon pedicellatum var. *areolatum* Smarda (from Demoulin 1972a)
= ***Lycoperdon caudatum* J. Schröt.** (from Coker & Couch 1928); (in Pegler et al. 1995); (in Calonge 1998)

***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)
= *Lycoperdon gemmatum* var. *perlatum* (Pers.: Pers.) Fr. (from Pegler et al. 1995)
= *Lycoperdon albidum* Velen. (from Demoulin 1972a)
= *Lycoperdon bonordenii* Masee (from Demoulin 1972a)
= *Lycoperdon colensoi* Cooke & Masee (from Cunningham 1944); (from Bottomley 1948)

= *Lycoperdon excipuliforme* Scop. (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)
 = *Lycoperdon excoriatum* Lloyd (from Cunningham 1944); (from Bottomley 1948); (from Demoulin 1972a)
 = *Lycoperdon gemmatum* Batsch (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)
 = *Lycoperdon gemmatum* Fr. (from Calonge 1998)
 = *Lycoperdon gemmatum* var. *excipuliforme* Fr. (from Demoulin 1972a)
 = *Lycoperdon globoso-piriforme* Lloyd (from Demoulin 1972a)
 = *Lycoperdon hirtum* Bonord. non Bull. (from Demoulin 1972a)
 = *Lycoperdon hirtum* Bull. (from Demoulin 1972a)
 = *Lycoperdon hirtum* var. *nigricans* Pers. (from Demoulin 1972a)
 = *Lycoperdon lacunosum* (Bull.) Thore (from Demoulin 1972a)
 = *Lycoperdon macrogemmatum* Lloyd (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948); (from Demoulin 1972a)
 = ~~*Lycoperdon montanum* Quel.~~ (from Cunningham 1944); (from Bottomley 1948); (from Demoulin 1972a – see *L. nigrescens* above)
 = *Lycoperdon perlatum* var. *albidum* (Velen.) Smarda (from Demoulin 1972a)
 = *Lycoperdon perlatum* var. *bonordenii* (Masse) Perdeck (from Demoulin 1972a)
 = *Lycoperdon perlatum* var. *excoriatum* (Lloyd) Smarda (from Demoulin 1972a)
 = *Lycoperdon perlatum* var. *lacunosum* Bull. (from Demoulin 1972a)
 = *Lycoperdon proteus* var. *echinatum* Rehl. (from Demoulin 1972a)
 = *Lycoperdon proteus* var. *hirtum* Bull. (from Demoulin 1972a)
 = *Lycoperdon proteus* var. *lacunosum* Bull. (from Demoulin 1972a)
 = *Lycoperdon scrobiculatum* Velen. non. Ces. (from Demoulin 1972a)
 = *Lycoperdon tasmanicum* Masse (from Cunningham 1944); (from Bottomley 1948)
 = *Lycoperdon turbinatum* Lloyd non. Pers. (from Demoulin 1972a)
 = *Lycoperdon verrucosum* var. *excipuliforme* (Fr.) Wallr. (from Demoulin 1972a)
 = *Lycoperdon verrucosum* var. *perlatum* (Pers.: Pers.) Wallr. (from Demoulin 1972a)
 = *Utraria gemmata* (Batsch) Quel. (from Demoulin 1972a)

Lycoperdon perlatum var. *albidum* (Velen.) Smarda (from Demoulin 1972a)
 = ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon perlatum var. *bonordenii* (Masse) Perdeck (from Demoulin 1972a)
 = ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon perlatum var. *excoriatum* (Lloyd) Smarda (from Demoulin 1972a)
 = ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon perlatum var. *lacunosum* Bull. (from Demoulin 1972a)

= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon perlatum var. *nigrescens* Pers. (from Demoulin 1972a); (from Pegler et al. 1995); (from Calonge 1998)

≡ *Lycoperdon nigrescens* Pers.: Pers. (from Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon perlatum var. *peckii* (Morg.) Bowerman (from Demoulin 1972a)

≡ *Lycoperdon peckii* Morgan (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a)

Lycoperdon pertusum Sowerby (from Demoulin 1972a)

= *Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger (in Krüger & Kreisel 2003)

Lycoperdon pistilliforme Bonord. (from Kreisel 1989)

= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon plumbeum (Pers.) Vittad. (from Kreisel 1967b); (from Calonge 1998)

≡ *Bovista plumbea* Pers. (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon polymorphum Vittad. (in Coker & Couch 1928); (from Kreisel 1967b)

= *Bovista dakotensis* (Brenckle) Kreisel (in Kreisel 1967b – see also *B. aestivalis* above)

Lycoperdon polymorphum Vittad. (from Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (from Kreisel 1967b); (from Demoulin 1996); (from Calonge 1998)

= *Bovista aestivalis* (Bonord.) Demoulin (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998 – see also *B. dakotensis* above)

Lycoperdon polymorphum f. *cepaeforme* Lloyd (in Smith 1951)

= *Bovista aestivalis* (Bonord.) Demoulin (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

= *Bovista dakotensis* (Brenckle) Kreisel (in Kreisel 1967b)

Lycoperdon polymorphum var. *excipuliforme* Scop. (from Kreisel 1989)

≡ *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon polytrichum Lloyd (from Coker & Couch 1928)

= *Lycoperdon ericaeum* Bonord. (in Demoulin 1972a); (in Pegler et al. 1995 – see comments there regarding *L. ericaeum* var. *subareolatum*); (in Calonge 1998)

Lycoperdon pratense Pers.: Pers. (from Bottomley 1948); (from Pegler et al. 1995)

≡ *Vascellum pratense* (Pers.: Pers.) Kreisel (in Smith 1974 – see comments below regarding this species); (in Pegler et al. 1995)

Lycoperdon proteus var. *echinatum* Rehl. (from Demoulin 1972a)
= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon proteus var. *excipuliformis* (Scop.) Bull. (from Kreisel 1989)
≡ *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon proteus var. *hirtum* Bull. (from Demoulin 1972a)
= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon proteus var. *lacunosum* Bull. (from Demoulin 1972a)
= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon proteus var. *ovoideum* Bull. (from Demoulin 1972a)
= *Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger (in Krüger & Kreisel 2003)

Lycoperdon proteus var. *pyriforme* (Schaeff.: Pers.) Rehl. (from Demoulin 1972a)
≡ *Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger (in Krüger & Kreisel 2003)

Lycoperdon pseudo-lilacinum Speg. (from Zeller & Smith 1964)
= *Calvatia cyathiformis* (Bosc) Morgan (in Coker & Couch 1928); (in Smith 1951); (in Kreisel 1992); (in Calonge 1998)

Lycoperdon pseudopusillum Hollós (from Cunningham 1944); (from Kreisel 1967b); (in Demoulin 1972a)
= *Bovista dermoxantha* (Vittad.) De Toni (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon pseudoradicans Lloyd (from Coker & Couch 1928)
= *Lycoperdon ericaeum* Bonord. (in Demoulin 1972a); (in Pegler et al. 1995 – see comments there regarding *L. ericaeum* var. *subareolatum*); (in Calonge 1998)

Lycoperdon pulcherrimum Berk. & M.A. Curtis (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a)
= *Lycoperdon frostii* Peck (from Coker & Couch 1928); (from Demoulin 1972a)

Lycoperdon punctatum (Rostk.) Bonord. (from Kreisel 1989)
= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon pusilliforme Kreisel (from Kreisel 1967b); (from Demoulin 1996)
= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Calonge 1998); (in Pegler et al. 1995); (in Demoulin 1996)

Lycoperdon pusillum Batsch (in Coker & Couch 1928); (in Bottomley 1948); (in Smith 1951); (from Kreisel 1967b)
= ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon pyriforme Bull. (from Bottomley 1948)
= ***Lycoperdon umbrinum* Pers.: Pers.** (in Coker & Couch 1928); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon pyriforme Schaeff.: Pers. (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon pyriforme var. *acuminatum* (Bosc) Smarda (from Kreisel 1967b)
= ***Bovista acuminata* (Bosc) Kreisel** (in Kreisel 1967b)

Lycoperdon pyriforme var. *beltulinum* (Velen.) Smarda . (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon pyriforme var. *desmazierei* Lloyd (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon pyriforme var. *excipuliforme* Desm. (in Pegler et al. 1995)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon pyriforme var. *flavum* Lloyd (from Cunningham 1944)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon pyriforme var. *sclerodermoides* Lloyd (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon pyriforme var. *serotinum* (Bonord.) Hollós (from Cunningham 1944)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon pyriforme var. *tessellatum* Pers. (from Demoulin 1972a); (in Pegler et al. 1995)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon quadricorne Swartz (from Kreisel 1989)
= ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon radicum Dur. & Mont. (from Kreisel & Calonge 1993); (from Calonge 1998)
≡ ***Bovistella radicata* (Dur. & Mont.) Pat.** (in Coker & Couch 1928); (in Kreisel & Calonge 1993); (from Calonge 1998)

Lycoperdon reticulatum Berk. (from Cunningham 1944); (from Bottomley 1948); (from Kreisel 1967b)
= ***Bovista dermoxantha* (Vittad.) De Toni** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

***Lycoperdon rimulatum* Peck ex Trelease** (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Calonge 1998)
≡ *Lycoperdon decipiens* var. *rimulatum* (Peck ex Trelease) F. Smarda (from Demoulin 1972a); (from Calonge 1998)
= *Lycoperdon mixtecorum* Heim (from Demoulin 1972a)

Lycoperdon rollandii Pat. (from Demoulin 1996)
= ***Bovista aestivalis* (Bonord.) Demoulin** (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon rubro-flavum Cragin (from Zeller & Smith 1964)
= ***Calvatia rugosa* (Berk. & M.A. Curtis) Reid** (in Kreisel 1992)

Lycoperdon rusticum Bonord. (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon saccatum Pers. (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon saccatum Vahl. (from Zeller & Smith 1964); (from Kreisel 1989); (from Calonge 1998)
= *Calvatia excipuliforme* var. *excipuliforme* Zeller & A.H. Sm. (in Zeller & Smith 1964)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon saccatum var. *apiocarpum* Hazsl. (from Kreisel 1989)

= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon saccatum var. *strangulatum* Hazsl. (from Kreisel 1989)

= *Handkea excipuliformis* (Scop.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon scrobiculatum Velen. non. Ces. (from Demoulin 1972a)

= *Lycoperdon perlatum* Pers.: Pers. (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon sculpta Harkn. (from Zeller & Smith 1964)

≡ *Calvatia sculpta* (Harkn.) Lloyd (in Zeller & Smith 1964); (in Kreisel 1992 – see comments there regarding similarity to *Calbovista sculpta*)

Lycoperdon semi-immersum Lloyd (from Cunningham 1944); (from Bottomley 1948); (from Kreisel 1967b)

= *Bovista dermoxantha* (Vittad.) De Toni (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon separans Peck (from Coker & Couch 1928); (from Demoulin 1972a)

= *Lycoperdon marginatum* Vittad. (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Calonge 1998)

Lycoperdon septimum Lloyd (from Kreisel 1967b)

= *Bovista aestivalis* (Bonord.) Demoulin (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Lycoperdon serotinum Bonord. (from Cunningham 1944); (from Demoulin 1972a)

= *Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger (in Krüger & Kreisel 2003)

Lycoperdon sinclairii Berk. ex Masee (from Zeller & Smith 1964); (from Kreisel 1989)

?= *Handkea utrififormis* (Bull.: Pers.) Kreisel (in Kreisel 1989)

Lycoperdon spadiceum Pers. (in Cunningham 1944); (from Demoulin 1972a); (from Pegler et al. 1995); (from Calonge 1998)

= *Lycoperdon lividum* Pers. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon stigillata Cragin (from Zeller & Smith 1964)

≡ *Calvatia stigillata* (Cragin) Morgan (in Zeller & Smith 1964); (in Kreisel 1992 – known only from the type locality in Kansas)

Lycoperdon subincarnatum Peck (in Coker & Couch 1928); (in Bottomley 1948); (in Smith 1951); (from Kreisel & Dring 1967)

≡ *Morganella subincarnata* (Peck) Kreisel & Dring (in Kreisel & Dring 1967)

Lycoperdon submontanum Velen. (from Demoulin 1972a)
= ***Lycoperdon lividum* Pers.** (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon subpratense Lloyd (from Zeller & Smith 1964 – nom. rej., see comments there regarding this species)
= ***Vascellum lloydianum* A.H. Sm.** (in Smith 1974)

***Lycoperdon subvelatum* Lloyd** (in Coker & Couch 1928); (in Demoulin 1972a)

Lycoperdon sylvaticum Wettstein (from Bottomley 1948)
= ***Lycoperdon umbrinum* Pers.: Pers.** (in Coker & Couch 1928); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon tasmanicum Masee (from Cunningham 1944); (from Bottomley 1948)
= ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon tephrum Berk. (from Cunningham 1944); (from Bottomley 1948)
= ***Morganella subincarnata* (Peck) Kreisel & Dring** (in Kreisel & Dring 1967)

Lycoperdon tessellatum Baumg. (from Kreisel 1989)
= ***Handkea utrifomis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon tessellatum (Pers.) Schum. (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon tomentosum Quél. (from Calonge 1998)
= ***Bovista tomentosa* (Vittad.) Quél.** (in Calonge 1998)

Lycoperdon truncatum Batsch (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon truncicolum Velen. (from Demoulin 1972a)
= ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Lycoperdon turbinatum Lloyd non. Pers. (from Demoulin 1972a)
= ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon turbinatum Pers. (from Demoulin 1972a)

= *Lycoperdon molle* Pers.: Pers. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon turneri Ellis & Everh. (from Demoulin & Lange 1990)

≡ *Calvatia turneri* (Ellis & Everh.) Demoulin & Lange (in Demoulin & Lange 1990); (in Kreisel 1992)

Lycoperdon umbrinum Pers.: Pers. (in Coker & Couch 1928); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

≡ *Lycoperdon umbrinum* var. *umbrinum* Pers.: Pers. (in Smith 1951)

= ~~*Lycoperdon atropurpureum* Vittad.~~ (from Bottomley 1948); (in Demoulin 1972a – retained by author as a distinct species)

= *Lycoperdon gemmatum* var. *hirtum* Fr. (from Bottomley 1948)

= ~~*Lycoperdon glabellum* Peck~~ (from Coker & Couch 1928); (from Bottomley 1948); (from Demoulin 1972a – author synonymized this taxon with *L. molle*; see that species above)

= *Lycoperdon hirtum* Mart. (from Coker & Couch 1928); (from Bottomley 1948)

= ~~*Lycoperdon laxum* Bonord.~~ (from Bottomley 1948); (from Demoulin 1972a – author synonymized this taxon with *L. mammiforme*, which does not occur in N.A.)

= *Lycoperdon pyriforme* Bull. (from Bottomley 1948)

= *Lycoperdon sylvaticum* Wettstein (from Bottomley 1948)

= *Lycoperdon umbrinum* f. *fissispinum* Kreisel (in Demoulin 1972a)

Lycoperdon umbrinum f. *fissispinum* Kreisel (in Demoulin 1972a)

= *Lycoperdon umbrinum* Pers.: Pers. (in Coker & Couch 1928); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon umbrinum f. *glabellum* (Peck) Smarda (from Demoulin 1972a)

= *Lycoperdon molle* Pers.: Pers. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon umbrinum var. *atropurpureum* (Vittad.) Hollós (from Smith 1951)

≡ *Lycoperdon atropurpureum* Vittad. (in Coker and Couch 1928); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon umbrinum var. *umbrinum* Pers.: Pers. (in Smith 1951)

≡ *Lycoperdon umbrinum* Pers.: Pers. (in Coker & Couch 1928); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon umbrinum var. *floccosum* (Lloyd) A.H. Sm. (in Smith 1951)

≡ *Lycoperdon floccosum* Lloyd (in Demoulin 1972a)

Lycoperdon umbrinum var. *glabellum* (Peck) Hollós (from Demoulin 1972a)

= *Lycoperdon molle* Pers.: Pers. (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon umbrinum var. *pedicellatum* Velen. (from Demoulin 1972a)
= ***Lycoperdon molle* Pers.: Pers.** (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon utriforme Bull.: Pers. (from Kreisel 1989); (from Calonge 1998)
≡ ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Lycoperdon velutinum Berk. ex Masee (from Kreisel & Dring 1967)
≡ ***Morganella velutina* (Berk. ex Masee) Kreisel & Dring** (in Kreisel & Dring 1967)

Lycoperdon verrucosum var. *excipuliforme* (Fr.) Wallr. (from Demoulin 1972a)
= ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon verrucosum var. *perlatum* (Pers.: Pers.) Wallr. (from Demoulin 1972a)
≡ ***Lycoperdon perlatum* Pers.: Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Lycoperdon violascens Cooke & Masee (from Kreisel 1992)
= ***Calvatia fragilis* (Vittad.) Morgan** (in Coker & Couch 1928); (in Smith 1951); (from Zeller & Smith 1964); (in Kreisel 1992)

Lycoperdon wrightii Berk. & M.A. Curtis (from Coker and Couch 1928)
= ***Vascellum curtisii* (Berk.) Kreisel** (in Demoulin 1972a)

Lycoperdon wrightii var. *calvescens* (Berk. & M.A. Curtis) Peck (from Demoulin 1972a)
≡ ***Lycoperdon calvescens* Berk. & M.A.** (in Demoulin 1972a – retained as a distinct species from *L. marginatum* Vittad.)

Lycoperdon wrightii var. *seprans* Peck (from Demoulin 1972a)
= ***Lycoperdon marginatum* Vittad.** (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Calonge 1998)

***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

≡ *Lycoperdon proteus* var. *pyriforme* (Schaeff.: Pers.) Rehl. (from Demoulin 1972a)
≡ *Lycoperdon pyriforme* Schaeff.: Pers. (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

≡ *Utraria pyriformis* (Schaeff.: Pers.) Quel. (from Demoulin 1972a)

= *Globalaria bresadolae* Schulzer (from Demoulin 1972a)

= *Lycoperdon adustum* Velen. (from Demoulin 1972a)

= *Lycoperdon beltulinum* Velen. (from Demoulin 1972a)

= *Lycoperdon clavariiforme* Raddi . (from Demoulin 1972a)

= *Lycoperdon cupreum* Velen. (from Demoulin 1972a)

= *Lycoperdon cupricolor* Lloyd (from Cunningham 1944); (from Demoulin 1972a)
 = *Lycoperdon desmazierei* Lloyd (from Demoulin 1972a)
 = *Lycoperdon emodense* Berk. (from Demoulin 1972a)
 = *Lycoperdon faveolum* Lloyd (from Demoulin 1972a)
 = ~~*Lycoperdon globoso-piriforme* Lloyd~~ (from Cunningham 1944); (Demoulin 1972a – author synonymized this taxon with *L. perlatum*, see that species above)
 = *Lycoperdon gregarium* Velen. (from Demoulin 1972a)
 = *Lycoperdon oviforme* Pat. (from Demoulin 1972a)
 = *Lycoperdon ovoideum* Bull. (from Demoulin 1972a)
 = *Lycoperdon pertusum* Sowerby (from Demoulin 1972a)
 = *Lycoperdon proteus* var. *ovoideum* Bull. (from Demoulin 1972a)
 = *Lycoperdon pyriforme* var. *beltulinum* (Velen.) Smarda . (from Demoulin 1972a)
 = *Lycoperdon pyriforme* var. *desmazierei* Lloyd (from Demoulin 1972a)
 = *Lycoperdon pyriforme* var. *excipuliforme* Desm. (in Pegler et al. 1995)
 = *Lycoperdon pyriforme* var. *flavum* Lloyd (from Cunningham 1944)
 = *Lycoperdon pyriforme* var. *sclerodermoides* Lloyd (from Demoulin 1972a)
 = *Lycoperdon pyriforme* var. *serotinum* (Bonord.) Hollós (from Cunningham 1944)
 = *Lycoperdon pyriforme* var. *tessellatum* Pers. (from Demoulin 1972a); (in Pegler et al. 1995)
 = *Lycoperdon saccatum* Pers. (from Demoulin 1972a)
 = *Lycoperdon serotinum* Bonord. (from Cunningham 1944); (from Demoulin 1972a)
 = *Lycoperdon tessellatum* (Pers.) Schum. (from Demoulin 1972a)
 = *Lycoperdon truncicolum* Velen. (from Demoulin 1972a)

***Morganella subincarnata* (Peck) Kreisel & Dring** (in Kreisel & Dring 1967); (in Ponce de León 1971)

= *Lycoperdon subincarnatum* Peck (in Coker & Couch 1928); (in Bottomley 1948); (in Smith 1951); (from Kreisel & Dring 1967); (from Ponce de León 1971)
 = *Lycoperdon tephrum* Berk. (from Cunningham 1944); (from Bottomley 1948)

***Morganella velutina* (Berk. ex Masee) Kreisel & Dring** (in Kreisel & Dring 1967); (in Ponce de León 1971)

= *Lycoperdon velutinum* Berk. ex Masee (from Kreisel & Dring 1967); (from Ponce de León 1971)

Mycenastrum beccarii Pass. (from Bottomley 1948)

= ***Mycenastrum corium* (Guers. ex DC. & Lam.) Desv.** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Mycenastrum chilense Mont. (from Cunningham 1944); (from Bottomley 1948)

= ***Mycenastrum corium* (Guers. ex DC. & Lam.) Desv.** (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Mycenastrum clausum Schulz. (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Mycenastrum corium (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)
≡ *Lycoperdon corium* Guers. ex DC. & Lam. (from Cunningham 1944); (from Bottomley 1948); (from Calonge 1998)

≡ *Scleroderma corium* (Guers. ex DC. & Lam.) A.H. Graves (from Bottomley 1948)

= *Bovista spinulosa* Peck (from Cunningham 1944); (from Bottomley 1948)

= *Bovista suberosa* Fr. (from Cunningham 1944); (from Bottomley 1948)

= *Endoneuron suberosum* Czern. (from Bottomley 1948)

= *Mycenastrum beccarii* Pass. (from Bottomley 1948)

= *Mycenastrum chilense* Mont. (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum clausum* Schulz. (from Bottomley 1948)

= *Mycenastrum leptodermeum* Durieu & Mont. (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum olivaceum* Cooke & Masee (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum phaeotrichum* Berk. (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum radicum* Durieu (from Bottomley 1948)

= *Mycenastrum spinulosum* Peck (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)

= *Pachyderma strossmayeri* Schulz. (from Bottomley 1948)

= *Scleroderma beccarii* (Pass.) De Toni (from Bottomley 1948)

= *Scleroderma chilense* (Mont.) De Toni (from Bottomley 1948)

= *Scleroderma leptodermeum* (Durieu & Mont.) De Toni (from Bottomley 1948)

= *Scleroderma olivaceum* (Cooke & Masee) De Toni (from Cunningham 1944); (from Bottomley 1948)

= *Scleroderma phaeotrichum* (Berk.) De Toni (from Cunningham 1944); (from Bottomley 1948)

= *Scleroderma radicum* (Durieu) De Toni (from Bottomley 1948)

= *Scleroderma spinulosum* (Peck) De Toni (from Bottomley 1948)

= *Sterrebeckia geaster* Fr. (from Bottomley 1948)

Mycenastrum fragile Lév. (from Kreisel 1992); (from Demoulin 1993)

= *Calvatia pachyderma* (Peck) Morgan (in Zeller & Smith 1964); (in Kreisel 1992 – see also *C. lepidophora* above, see also *C. pilula* below); (in Demoulin 1993)

= *Calvatia pilula* Kreisel (in Kreisel 1992 – see *C. pachyderma* above)

Mycenastrum leptodermeum Durieu & Mont. (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Mycenastrum lycoperdoides Cooke (from Kreisel 1967b)

= *Bovista paludosa* Lév. (in Kreisel 1967b); (in Calonge 1998)

Myenastrum ohiense Ellis & Morgan (from Kreisel & Calonge 1993); (from Calonge 1998)

= *Bovistella radicata* (Dur. & Mont.) Pat. (in Coker & Couch 1928); (in Kreisel & Calonge 1993); (from Calonge 1998)

Mycenastrum olivaceum Cooke & Masee (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Mycenastrum oregonense Ellis & Everh. (from Kreisel 1967b)

= *Bovista pila* Berk. & M.A. Curtis (in Coker & Couch 1928); (in Kreisel 1967b)

Mycenastrum phaeotrichum Berk. (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Mycenastrum radicum Durieu (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Mycenastrum spinulosum Peck (from Coker & Couch 1928); (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Pachyderma strossmayeri Schulz. (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Pseudolycomperdon pusillum (Batsch: Pers.) Velen. (from Kreisel 1967b)

= *Bovista dermoxantha* (Vittad.) De Toni (from Kreisel 1967b); (in Pegler et al. 1995); (in Demoulin 1996); (in Calonge 1998)

Sackea plumbea (Pers.) Rostk. (from Kreisel 1967b)

= *Bovista plumbea* Pers. (in Coker & Couch 1928); (in Kreisel 1967b); (in Pegler et al. 1995); (in Calonge 1998)

Scleroderma beccarii (Pass.) De Toni (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Scleroderma chilense (Mont.) De Toni (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Scleroderma cookei De Toni (from Kreisel 1967b)

= *Bovista paludosa* Lév. (in Kreisel 1967b); (in Calonge 1998)

Scleroderma corium (Guers. ex DC. & Lam.) A.H. Graves (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Scleroderma leptodermeum (Durieu & Mont.) De Toni (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Scleroderma lycoperdoides (Cooke) De Toni (from Kreisel 1967b)

= *Bovista paludosa* Lév. (in Kreisel 1967b); (in Calonge 1998)

Scleroderma olivaceum (Cooke & Masee) De Toni (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Scleroderma oregonense (Ellis & Everh.) De Toni (from Kreisel 1967b)

= *Bovista pila* Berk. & M.A. Curtis (in Coker & Couch 1928); (in Kreisel 1967b)

Scleroderma phaeotrichum (Berk.) De Toni (from Cunningham 1944); (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Scleroderma radicum (Durieu) De Toni (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Scleroderma spinulosum (Peck) De Toni (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Sterrebeckia geaster Fr. (from Bottomley 1948)

= *Mycenastrum corium* (Guers. ex DC. & Lam.) Desv. (in Coker & Couch 1928); (in Cunningham 1944); (in Bottomley 1948); (in Smith 1951); (in Calonge 1998)

Utraria caelata (Bull.) Quéf. (from Zeller & Smith 1964); (from Kreisel 1989)

= *Handkea utrifomis* (Bull.: Pers.) Kreisel (in Kreisel 1989)

Utraria caelata var. *utriformis* (Bull.: Pers.) Quél. (from Kreisel 1989)
≡ ***Handkea utriformis* (Bull.: Pers.) Kreisel** (in Kreisel 1989)

Utraria excipuliformis (Scop.) Quél. (from Kreisel 1989)
≡ ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Utraria gemmata (Batsch) Quél. (from Demoulin 1972a)
= ***Lycoperdon perlatum* Pers.** (in Bottomley 1948); (in Smith 1951); (in Demoulin 1972a); (in Pegler et al. 1995); (in Calonge 1998)

Utraria pyriformis (Schaeff.: Pers. Quél. (from Demoulin 1972a)
≡ ***Morganella pyriformis* (Schaeff.: Pers.) Kreisel & D. Krüger** (in Krüger & Kreisel 2003)

Utraria saccata (Vahl.) Quél. (from Kreisel 1989)
= ***Handkea excipuliformis* (Scop.: Pers.) Kreisel** (in Kreisel 1989)

Vascellum cruciatum (Rostk.) Ponce de León (from Demoulin 1972a)
= ***Lycoperdon marginatum* Vittad.** (in Coker & Couch 1928); (in Smith 1951); (in Demoulin 1972a); (in Calonge 1998)

***Vascellum curtisii* (Berk.) Kreisel** (in Demoulin 1972a); (in Smith 1974)
≡ *Lycoperdon curtisii* Berk. (in Coker and Couch 1928); (in Smith 1951); (from Smith 1974)
= *Lycoperdon wrightii* Berk. & M.A. Curtis (from Coker and Couch 1928)

Vascellum depressum (Bonord.) Smarda (from Bottomley 1948); (from Pegler et al. 1995)
= ***Vascellum pratense* (Pers.: Pers.) Kreisel** (in Smith 1974 – see comments below regarding this species); (in Pegler et al. 1995)

***Vascellum floridanum* A.H. Sm.** (in Smith 1974)

***Vascellum intermedium* A.H. Sm.** (in Smith 1974)

***Vascellum lloydianum* A.H. Sm.** (in Smith 1974 – this species possibly replaces *V. pratense* in N.A., see comments there regarding this species)
= *Calvatia depressa* (Bonord.) Zeller & A.H. Sm. (in Zeller & Smith 1964)
= *Calvatia subpratense* (Lloyd) Coker & Zeller (from Zeller & Smith 1964)
= *Lycoperdon depressum* Bonord. (from Zeller & Smith 1964)
= *Lycoperdon subpratense* Lloyd (from Zeller & Smith 1964)
= *Vascellum subpratense* (Lloyd) Ponce de León (from Smith 1974 – nom. rej., de León apparently selected an immature specimen of *L. calvescens* as his lectotype)

***Vascellum pratense* (Pers.: Pers.) Kreisel** (in Smith 1974 – this species possibly does not occur in N.A. and is replaced by *V. lloydianum*; see comments regarding that species); (in Pegler et al. 1995)

= *Lycoperdon pratense* Pers.: Pers. (from Bottomley 1948); (from Pegler et al. 1995)

= *Calvatia depressa* (Bonord.) Z. Moravec non Zeller & Smith (from Pegler et al. 1995)

= ~~*Lycoperdon curtisii* Berk.~~ (from Bottomley 1948)

= *Lycoperdon cyclicum* McAlp. (from Cunningham 1944)

= *Lycoperdon depressum* Bonord. non Zeller & Smith (from Cunningham 1944); (from Pegler et al. 1995)

= *Lycoperdon eylesii* Verwerd (from Bottomley 1948)

= *Lycoperdon hiemale* Bull. (in Cunningham 1944)

= *Lycoperdon hyemale* Bull. (in Bottomley 1948); (from Pegler et al. 1995)

= *Lycoperdon kalchbrenneri* De Toni (from Bottomley 1948); (from Cunningham 1944)

= *Lycoperdon multiseptum* Lloyd (from Bottomley 1948); (from Cunningham 1944)

= *Lycoperdon natalense* Cooke & Masee (from Bottomley 1948); (from Cunningham 1944)

= *Vascellum depressum* (Bonord.) Smarda (from Bottomley 1948); (from Pegler et al. 1995)

Vascellum subpratense (Lloyd) Ponce de León (from Smith 1974 – nom. rej., see comments there regarding *V. lloydianum*)

= ***Vascellum lloydianum* A.H. Sm.** (in Smith 1974)

***Vascellum texense* A.H. Sm.** (in Smith 1974)