Table S1 Taxa information and GenBank accession numbers for sequences used in the molecular phylogeny of Amanitaceae.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Taxon* | voucher | locality | GenBank accession number | | | | |
| LSU | ITS | *rpb*2 | *tef1-α* | *β-tubulin* |
| *A.* aff. *brunneofuliginea* | HKAS96170 | Austria | MH486361 | MH508249 | MH485858 | MH508664 | MH485396 |
| *A.* aff. *brunneofuliginea* | HKAS96171 | Austria | MH486362 | MH508250 | MH485859 | MH508665 | MH485397 |
| *A.* aff. *brunneofuliginea* | HKAS96174 | Austria | MH486363 | MH508251 | MH485860 | MH508666 | MH485398 |
| *A.* aff. *brunneofuliginea* | MB-000633 (duplicate HKAS84873) | Germnay | MH486364 | MH508252 | MH485861 | MH508667 | — |
| *A.* aff. *fulva* | HKAS29518 | Yunnan, China | AF024456 | — | — | — | — |
| *A.* aff. *mafingensis* | MA898 | Republic of the Congo | KF877262 | — | KF877069 | KF877151 | — |
| *A.* aff. *masasiensis* | De Kesel 3579 | Benin | KF877265 | — | KF87707 | KF877153 | — |
| *A.* aff. *princeps* | TRTC-150309 | Thailand | KF877274 | JX844734 | — | KF877160 | — |
| *A.* aff. *volvata* | HKAS26898 | Yunnan, China | AF024487 | — | — | — | — |
| *A. albidostipes* | HKAS101412 | Yunnan, China | MH486755 | — | — | — | — |
| *A. albidostipes* | HKAS57358 | Baoshan, Yunnan, China | MH486756 | MH508500 | — | — | — |
| *A. albidostipes* | HKAS95189 | Qiubei, Yunnan, China | MH486757 | MH508501 | — | — | MH485681 |
| *A. alboflavescens* | HKAS77235 | Dali, Yunnan, China | MH486365 | — | MH486365 | — | — |
| *A. alboumbelliformis* | HKAS100495 | Fujan, China | MH486634 | — | MH486084 | MH508891 | MH485597 |
| *A. alboumbelliformis* | HKAS83448 | Qiubei, Yunnan, China | MH486635 | — | MH486085 | MH508892 | MH485598 |
| *A. altipes* | HKAS48653 | Lijiang, Yunnan, China | MH486366 | MH508253 | — | MH508668 | — |
| *A. altipes* | HKAS58805 | Shangri-La, Yunnan, China | JN941158 | JN943175 | JQ031112 | KR824810 | MH485399 |
| *A. altipes* | HKAS58890 | Yulong, Yunnan, China | JN941159 | JN943174 | KR824801 | KR824811 | MH485400 |
| *A. altipes* | HKAS91125 | Ganzi, Sichuan, China | MH486367 | MH508254 | MH485862 | MH508669 | MH485401 |
| *A. altipes* | HKAS91168 | Deqin, Yunnnan, China | MH486368 | — | MH485863 | MH508670 | MH485402 |
| *A. angustilamellata* | HKAS24158 | Yunnan, China | AF024440 | — | — | — | — |
| *A. aporema* | FRI62674 | Malaysia | KU714551 | KU714575 | KU714593 | KU714538 | — |
| *A. arenaria* | VPI679 | Australia | GQ925382 | — | — | — | — |
| *A. arenaria* | VPI363 | Australia | GQ925384 | — | — | — | — |
| *A. arkansana* | RET 354-9 | USA | KF877197 | — | KF877038 | KF877100 | — |
| *A. aspericeps* | HKAS100519 | Mount Wuyi, Fujian, China | MH486369 | MH508255 | MH485864 | MH508671 | MH485403 |
| *A. aspericeps* | HKAS101391 | Heishiding, Guangdong, China | MH486370 | — | MH485865 | MH508672 | MH485404 |
| *A. aspericeps* | HKAS77677 | Heishiding, Guangdong, China | MH486371 | MH508256 | — | MH508673 | MH485405 |
| *A. aspericeps* | HKAS77783 | Heishiding, Guangdong, China | MH486372 | — | MH485866 | MH508674 | MH485406 |
| *A. aspericeps* | HKAS78435 | Heishiding, Guangdong, China | MH486373 | — | MH485867 | MH508675 | MH485407 |
| *A. aspericeps* | HKAS80014 | Ailaoshan, Yunnan, China | MH486374 | MH508257 | MH485868 | MH508676 | MH485408 |
| *A. atrobrunnea* | BZ-N09 | Thailand | KT934314 | KY747455 | KY656871 | — | KY656852 |
| *A. augusta* | HKAS101418 | USA | MH486375 | — | MH485869 | MH508677 | — |
| *A. augusta* | HKAS101419 | USA | MH486376 | — | MH485870 | MH508678 | — |
| *A. avellaneifolia* | HKAS79891 | Jindong, Yunnan, China | MH486377 | — | MH485871 | MH508679 | MH485409 |
| *A. avellaneifolia* | HKAS80011 | Ailaoshan, Yunnan, China | MH486378 | — | MH485872 | MH508680 | MH485410 |
| *A. avellaneosquamosa* | HKAS100602 | Jinzhai, Anhui, China | MH486379 | MH508258 | MH485873 | MH508681 | — |
| *A. avellaneosquamosa* | HKAS29500 | Yunnan, China | AF024441 | — | — | — | — |
| *A. avellaneosquamosa* | HKAS54587 | Lijiang, Yunnan, China | MH486380 | MH508259 | — | MH508682 | — |
| *A. avellaneosquamosa* | HKAS77339 | Incheon's Central park, South Korea | KJ466482 | KJ466417 | KJ466647 | KJ481981 | KJ466561 |
| *A. avellaneosquamosa* | HKAS77340 | Lushan, Jiangxi, China | KJ466483 | KJ466418 | KJ466648 | KJ481982 | KJ466562 |
| *A. avellaneosquamosa* | HKAS82425 | Nantou, Taiwan, China | — | MH508260 | — | — | — |
| *A. ballerina* | OR1014 | Thailand | — | KY747466 | KY656883 | — | KY656864. |
| *A. ballerina* | OR1026 | Thailand | — | KY747467 | KY656884 | — | KY656865 |
| *A. basii* | FCMESanchezS44 | Mexico | KF877202 | — | KF877040 | KF877103 | — |
| *A. battarrae* | HKAS101399 | Kangding, Sichuan, China | MH486381 | MH508261 | MH485874 | MH508683 | MH485411 |
| *A. battarrae* | HKAS56255 | Changbai mountain, Jilin, China | MH486382 | — | — | — | — |
| *A. battarrae* | HKAS57229 | Changdu, Tibet, China | MH486383 | MH508262 | MH485875 | MH508684 | MH485412 |
| *A. battarrae* | HKAS57263 | Gonjo, Tibet, China | MH486384 | MH508263 | MH485876 | MH508685 | MH485413 |
| *A. battarrae* | HKAS70128 | Lijiang, Yunnan, China | MH486385 | — | MH485877 | MH508686 | MH485414 |
| *A. battarrae* | HKAS76348 | Muli, Sichuan, China | MH486386 | MH508264 | MH485878 | MH508687 | MH485415 |
| *A. battarrae* | HKAS92083 | Changbai mountain, Jilin, China | MH486387 | MH508265 | MH485879 | MH508688 | MH485416 |
| *A. battarrae* | HKAS92090 | Changbai mountain, Jilin, China | MH486388 | MH508266 | MH485880 | MH508689 | — |
| *A. battarrae* | MB-000643 (duplicate HKAS84849) | Germany | MH486389 | MH508267 | MH485881 | MH508690 | MH485417 |
| *A. bisporigera* | RET 377-9 | TN, USA | KJ466434 | KJ466374 | — | KJ481936 | KJ466501 |
| *A. breckonii* | NY00066695 | USA | KJ535440 | — | — | — | — |
| *A. brunneitoxicaria* | BZ2015-01 | Thailand | — | NR\_151655 | KY656879 | — | KY656860 |
| *A. brunneitoxicaria* | BZ2015-02 | Thailand | — | KY747463 | KY656880. | — | KY656861 |
| *A. brunneofuliginea* | HKAS83536 | Aba, Sichuan, China | MH486392 | MH508268 | MH485884 | MH508692 | MH485420 |
| *A. brunneofuliginea* | HKAS89226 | Daofu, Sichuan, China | MH486393 | MH508269 | MH485885 | MH508693 | MH485421 |
| *A. brunneofuliginea* | HKAS92078 | Changbai mountain, Jilin, China | MH486394 | MH508270 | MH485886 | MH508694 | MH485422 |
| *A. brunneofuliginea* | HKAS92110 | Yichun, Heilongjiang, China | MH486395 | — | MH485887 | MH508695 | MH485423 |
| *A. brunneofuliginea* | HKAS93980 | Daofu, Sichuan, China | MH486396 | MH508271 | MH485888 | — | MH485424 |
| *A. brunneolimbata* | HKAS100537 | Heishiding, Guangdong, China | MH486397 | — | — | — | — |
| *A. brunneolimbata* | HKAS101392 | Heishiding, Guangdong, China | MH486398 | MH508272 | MH485889 | MH508696 | MH485425 |
| *A. brunneolimbata* | HKAS78138 | Heishiding, Guangdong, China | MH486399 | — | — | — | — |
| *A. brunneolimbata* | HKAS78438 | Heishiding, Guangdong, China | MH486400 | — | — | — | — |
| *A. brunneolimbata* | HKAS78439 | Heishiding, Guangdong, China | MH486401 | — | — | — | — |
| *A. brunneolimbata* | HKAS78455 | Heishiding, Guangdong, China | MH486402 | — | — | — | — |
| *A. brunneolimbata* | HKAS78456 | Heishiding, Guangdong, China | MH486403 | — | — | — | — |
| *A. brunneolimbata* | HKAS78458 | Heishiding, Guangdong, China | MH486404 | MH508273 | — | — | — |
| *A. brunneolimbata* | HKAS78459 | Heishiding, Guangdong, China | — | MH508274 | MH485890 | MH508697 | MH485426 |
| *A. brunneolimbata* | HKAS78460 | Heishiding, Guangdong, China | MH486405 | MH508275 | — | — | — |
| *A. brunneolimbata* | HKAS78466 | Heishiding, Guangdong, China | MH486406 | MH508276 | — | — | — |
| *A. brunneolimbata* | HKAS78476 | Heishiding, Guangdong, China | MH486407 | — | — | — | — |
| *A. brunneolimbata* | HKAS78480 | Heishiding, Guangdong, China | MH486408 | MH508277 | — | — | — |
| *A. brunneolimbata* | HKAS79025 | Heishiding, Guangdong, China | MH486409 | — | MH485891 | — | MH485427 |
| *A. brunneomaculata* | HKAS68393 | Lijiang, Yunnan, China | MH486410 | MH508278 | MH485892 | MH508698 | MH485428 |
| *A. brunneomaculata* | HKAS70032 | Lijiang, Yunnan, China | MH486411 | MH508279 | MH485893 | MH508699 | — |
| *A. brunneomaculata* | HKAS71664 | Lanping, Yunnan, China | MH486412 | MH508280 | MH485894 | MH508700 | MH485429 |
| *A. brunneomaculata* | HKAS74642 | Lanping, Yunnan, China | MH486413 | — | MH485895 | MH508701 | — |
| *A. brunneoprocera* | HKAS97514 | Lancang, Yunnan, China | MH486390 | — | MH485882 | — | MH485418 |
| *A. brunneoprocera* | HKAS98435 | Lancang, Yunnan, China | MH486391 | — | MH485883 | MH508691 | MH485419 |
| *A. brunneostrobilipes* | HKAS101441 | Limushan, Hainan, China | MH486414 | — | MH485896 | MH508702 | MH485430 |
| *A. brunneostrobilipes* | HKAS60291 | Limushan, Hainan, China | MH486415 | MH508281 | — | MH508703 | — |
| *A. brunneostrobilipes* | HKAS96787 | Limushan, Hainan, China | MH486416 | MH508282 | MH485897 | MH508704 | MH485431 |
| *A. brunneostrobilipes* | HKAS99660 | Limushan, Hainan, China | MH486417 | — | — | — | — |
| *A. caesarea* | HKAS96166 | Italy | MH486418 | MH508283 | MH485898 | MH508705 | — |
| *A. caesarea* | RET 036-2 | Italy | KF877205 | — | KF877042 | KF877105 | — |
| *A. caesareoides* | HKAS71021 | Tomakomai, Hokkaido, Japan | MH486419 | MH508284 | MH485899 | MH508706 | — |
| *A. caesareoides* | HKAS71058 | Tomakomai, Hokkaido, Japan | MH486420 | — | MH485900 | MH508707 | — |
| *A. caesareoides* | HKAS92009 | Benxi, Liaoning, China | MH486421 | MH508285 | MH485901 | MH508708 | — |
| *A. caesareoides* | HKAS92017 | Benxi, Liaoning, China | MH486422 | MH508286 | MH485902 | MH508709 | — |
| *A. caesareoides* | S-325 | Japan | LC056747 | — | — | — | — |
| *A. calyptratoides* | RET 273-7 | USA | KF877211 | — | KF877043 | KF877109 | — |
| *A. caojizong* | HKAS100503 | Xundian, Kunming, Yunnan | MH486423 | MH508287 | MH485903 | MH508710 | MH485432 |
| *A. caojizong* | HKAS100615 | Jinzhai, Anhui, China | MH486424 | — | MH485904 | MH508711 | — |
| *A. caojizong* | HKAS56933 | Nanjian, Yunnan, China | KJ466438 | KJ466378 | KJ466603 | KJ481943 | KJ466515 |
| *A. caojizong* | HKAS69717 | Yulong, Yunnan, China | MH486425 | MH508288 | MH485905 | MH508712 | MH485433 |
| *A. caojizong* | HKAS70000 | Binchuan, Yunnan, China | MH486426 | MH508289 | MH485906 | — | MH485434 |
| *A. caojizong* | HKAS75042 | Lanping, Yunnan, China | MH486427 | MH508290 | MH485907 | MH508713 | MH485435 |
| *A. caojizong* | HKAS78429 | Heishiding, Guangdong, China | MH486428 | — | — | — | — |
| *A. caojizong* | HKAS79673 | Kunming, Yunnan, China | MH486429 | MH508291 | MH485909 | MH508714 | — |
| *A. caojizong* | HKAS89051 | Xishuangbanna, Yunnan, China | — | — | — | MH508715 | — |
| *A. castanea* | MFLU 15-1424 | Tailand | KU877539 | KU904823 | — | — | — |
| *A. ceciliae* | C. Bas9341 | L | AF024444 | — | — | — | — |
| *A.* cf. *angustilamellata* | HKAS83453 | Puer, Yunnan, China | MH486430 | — | — | — | — |
| *A.* cf. *angustilamellata* | HKAS89451 | Mount Taishan, Shandong, China | MH486431 | MH508292 | MH485910 | MH508716 | MH485436 |
| *A.* cf. *incarnatifolia* | HKAS100579 | Jinzhai, Anhui, China | MH486432 | MH508293 | MH485911 | MH508717 | MH485437 |
| *A.* cf. *incarnatifolia* | HKAS100633 | Jinzhai, Anhui, China | MH486433 | MH508294 | MH485912 | MH508718 | MH485438 |
| *A.* cf. *incarnatifolia* | HKAS92007 | Benxi, Liaoning, China | MH486434 | MH508295 | MH485913 | — | MH485439 |
| *A.* cf. *incarnatifolia* | HKAS92048 | Huanren, Liaoning, China | MH486435 | MH508296 | MH485914 | MH508719 | MH485440 |
| *A.* cf. *javanica* | HKAS101408 | Hainan, China | MH486436 | — | MH485915 | MH508720 | MH485441 |
| *A.* cf. *javanica* | HKAS59789 | Ledong, Hainan, China | MH486437 | — | — | — | — |
| *A.* cf. *javanica* | HKAS59792 | Hainan, China | MH486438 | MH508297 | — | — | — |
| *‘A.* cf. *manginiana’* | BZ-N11 | Thailand | KY747474 | KY747457 | KY656873 | — | KY656854 |
| *‘A.* cf. *oberwinklerana’* | BZ2013-39 | Thailand | KY747476 | KY747459 | KY656876 | — | KY656857 |
| *‘A.* cf. *recutita’* | CSUCLOvrebo (4809B) | USA | KF877275 | — | — | KF877161 | — |
| *‘A.* cf. *sinensis’* | BZ-N17 | Tailand | KY747475 | KY747458 | KY656874 | — | KY656855 |
| *‘A.* cf. *spissacea’* | OR1214 | Tailand | KY747478 | KY747469 | KY656886 | — | KY656867 |
| *A.* cf. *vestita* | HKAS80175 | Yuexixian, Anhui, China | MH486439 | — | MH485916 | MH508721 | — |
| *‘A.* cf. *virosa’* | HKAS27133 | Jiangxi, China | AF024486 | — | — | — | — |
| *A.* cf. *xanthogala* | HKAS83444 | Menghai, Yunnan, China | MH486440 | — | MH485917 | MH508722 | MH485442 |
| *A.* cf. *xanthogala* | HKAS84707 | Menghai, Yunnan, China | MH486441 | MH508298 | MH485918 | MH508723 | MH485443 |
| *A. changtuia* | HKAS92100 | Mudanjiang, Heilongjiang, China | MH486442 | MH508299 | MH485919 | MH508724 | — |
| *A. changtuia* | HKAS92105 | Mudanjiang, Heilongjiang, China | MH486443 | MH508300 | MH485920 | MH508725 | MH485444 |
| *A. chatamagotake* | TNS: F-70016 | Japan | LC164653 | — | — | LC164655 | — |
| *‘A. chepangiana’* | HKAS25772 | Yunnan, China | AF024445 | — | — | — | — |
| *A. chepangiana* | HKAS56718 | Yunnan, China | KU714545 | KU714569 | KU714588 | KU714534 | — |
| *A. chepangiana* | Shrethsa154P | Nepal | KF877220 | — | — | KF877113 | — |
| *A. chiui* | HKAS54613 | Ailaoshan, Yunnan, China | MH486444 | MH508301 | MH485921 | MH508726 | MH485445 |
| *A. chiui* | HKAS68338 | Nujiang, Yunnan, China | MH486445 | — | — | — | — |
| *A. chiui* | HKAS73916 | Longlan, Gansu, China | MH486446 | MH508302 | MH485928 | — | — |
| *A. chiui* | HKAS76328 | Yanyuan, Sichuan, China | MH486447 | MH508303 | MH485930 | MH508727 | MH485453 |
| *A. cinctipes* | HKAS101388 | Heishiding, Guangdong, China | MH486448 | MH508304 | — | — | — |
| *A. cinctipes* | HKAS78465 | Heishiding, Guangdong, China | MH486449 | MH508305 | — | — | — |
| *A. cinereoconia* | BW-PSF | USA | HQ53967 | — | — | — | — |
| *A. cinereopannosa* | RET319-8 | USA | HQ539678 | — | — | — | — |
| *A. cinereopannosa* | RET 477-10 | USA | MH486450 | MH508306 | MH485932 | MH508728 | MH485457 |
| *A. cinereoradicata* | HKAS101435 | Yunnan, China | MH486451 | MH508307 | MH485933 | MH508729 | MH485458 |
| *A. cinereoradicata* | HKAS63641 | Ninglang, Yunnan, China | MH486452 | — | — | — | — |
| *A. cinereoradicata* | HKAS69389 | Ninglang, Yunnan, China | MH486453 | MH508308 | MH485934 | MH508730 | MH485459 |
| *A. cinereovelata* | HKAS81647 | Bangladesh | KP259291 | — | KP259288 | KP259289 | — |
| *A. cingulata* | HKAS100640 | Lushan, Jiangxi, China | MH486454 | MH508309 | MH485935 | MH508731 | — |
| *A. cingulata* | HKAS75600 | Yanling, Zhuzhou, China | NG\_058602 | MH508310 | — | — | — |
| *‘A. cinnamomescens’ nom. prov.* | RET 317-5 | Pakistan | KF877222 | — | KF877048 | KF877114 | — |
| *A. citrina* | HKAS101397 | France | MH486456 | MH508311 | MH485936 | MH508732 | MH485460 |
| *A. citrina* | HKAS53467 | Germnay | MH486457 | MH508312 | MH485937 | MH508733 | MH485461 |
| *‘A. citrina var. grisea’* | HKAS32506 | Yunnan, China | AF024447 | — | — | — | — |
| *A. citrinoannulata* | HKAS100523 | Lianyungang, Jiangsu, China | MH486458 | MH508313 | MH485938 | MH508734 | MH485462 |
| *A. citrinoannulata* | HKAS100524 | Qingdao, Shandong, China | MH486459 | MH508314 | MH485939 | MH508735 | MH485463 |
| *A. citrinoannulata* | HKAS101214 | Lancang, Yunnan, China | MH486460 | — | MH485940 | MH508736 | MH485464 |
| *A. citrinoannulata* | HKAS56865 | Baoshan, Yunnan, China | MH486461 | MH508315 | MH485941 | MH508737 | MH485465 |
| *A. citrinoannulata* | HKAS67956 | Tengchong, Yunnan, China | MH486462 | MH508316 | MH485942 | MH508738 | — |
| *A. citrinoannulata* | HKAS81994 | Baoshan, Yunnan, China | MH486463 | MH508317 | MH485943 | MH508739 | MH485466 |
| *A. citrinoannulata* | HKAS83459 | Chongqing, China | MH486464 | MH508318 | MH485944 | MH508740 | — |
| *A. citrinoannulata* | HKAS84765 | Guangnan, Yunnan, China | MH486465 | — | — | MH508741 | MH485467 |
| *A. citrinoannulata* | HKAS84932 | Qiubei, Yunnan, China | MH486466 | — | MH485945 | MH508742 | MH485468 |
| *A. citrinoannulata* | HKAS92001 | Nanjian, Yunnan, China | MH486467 | MH508319 | MH485946 | MH508743 | MH485469 |
| *A. citrinoindusiata* | HKAS100522 | Lijiang, Yunnan, China | MH486468 | MH508320 | MH485947 | MH508744 | MH485470 |
| *A. citrinoindusiata* | HKAS58796 | Shangri-La, Yunnan, China | MH486469 | MH508321 | MH485948 | MH508745 | MH485471 |
| *A. citrinoindusiata* | HKAS58874 | Lijiang, Yunnan, China | MH486470 | MH508322 | MH485949 | MH508746 | MH485472 |
| *A. citrinoindusiata* | HKAS58884 | Yulong, Yunnan, China | MH486471 | MH508323 | MH485950 | MH508747 | MH485473 |
| *A. citrinoindusiata* | HKAS58886 | Yulong, Yunnan, China | MH486472 | MH508324 | MH485951 | MH508748 | MH485474 |
| *A. citrinoindusiata* | HKAS58888 | Lijiang, Yunnan, China | MH486473 | MH508325 | MH485952 | — | MH485475 |
| *A. clarisquamosa* | HKAS29514 | Yunnan, China | AF024448 | — | — | — | — |
| *A. cochiseana nom. prov.* | RET497-10 | USA | KF877225 | — | KF877050 | KF877117 | — |
| *A. concentrica* | BZ2013-26 | Thailand | KU877534 | KU904816 | KY656875 | — | KY656856 |
| *A. concentrica* | HKAS84675 | Xishuangbanna, Yunnan, China | MH486474 | MH508326 | MH485953 | MH508749 | MH485476 |
| *A. concentrica* | HKAS87061 | Xishuangbanna, Yunnan, China | KR824785 | MH508327 | KR824794 | KR824827 | MH485477 |
| *A. cruzii* | BARONI8998 | Dominican Republic | KC855222 | KC855222 | — | MH508750 | MH485478 |
| *A. cruzii* | BARONI9791 | Dominican Republic | KC855223 | KC855223 | — | MH508751 | — |
| *A. detersa* | HKAS71476 | Lushui, Yunnan, China | MH486475 | MH508328 | MH485954 | MH508752 | MH485479 |
| *A. detersa* | HKAS74828 | Lushui, Yunnan, China | MH486476 | MH508329 | MH485955 | MH508753 | MH485480 |
| *A. detersa* | HKAS74830 | Lushui, Yunnan, China | MH486477 | MH508330 | MH485956 | MH508754 | MH485481 |
| *A. detersa* | HKAS83719 | Ailaoshan, Yunnan, China | MH486478 | MH508331 | MH485957 | MH508755 | — |
| *A. detersa* | HKAS83720 | Ailaoshan, Yunnan, China | MH486479 | MH508332 | MH485958 | MH508756 | MH485482 |
| *A. egregia* | RET 136-7 | Australia | KF877227 | — | KF877052 | KF877119 | — |
| *A. eijii* | HKAS100614 | Jinzhai, Anhui, China | MH486480 | — | MH485959 | MH508757 | MH485483 |
| *A. eijii* | HKAS100624 | Jinzhai, Anhui, China | MH486481 | — | — | — | MH485484 |
| *A. eijii* | HKAS100630 | Jinzhai, Anhui, China | MH486482 | — | MH485960 | MH508758 | MH485485 |
| *A. eijii* | HKAS54588 | Lijiang, Yunnan, China | — | — | MH485961 | MH508759 | — |
| *A. eijii* | HKAS57518 | Lijiang, Yunnan, China | MH486483 | — | MH485962 | MH508760 | — |
| *A. eijii* | HKAS70229 | Ninglang, Yunnan, China | MH486484 | MH508333 | MH485963 | MH508761 | MH485486 |
| *A. eijii* | HKAS81225 | Lijiang, Yunnan, China | MH486485 | — | MH485964 | MH508762 | MH485487 |
| *A. elata* | HKAS83449 | Xishuangbanna, Yunnan, China | MH486486 | MH508334 | MH485965 | MH508763 | MH485488 |
| *A. elliptica* | HKAS79602 | Heishiding, Guangdong, China | MH486487 | MH508335 | — | MH508764 | MH485489 |
| *A. elliptica* | HKAS96797 | Wuzhishan, Hainan, China | MH486488 | MH508336 | MH485966 | MH508765 | MH485490 |
| *A. elongata* | RET 384-5 | Canada | MH486489 | MH508337 | MH485967 | MH508766 | — |
| *A. esculenta* | HKAS89035 | Xishuangbanna, Yunnan, China | MH486490 | MH508338 | MH485968 | MH508767 | MH485491 |
| *A. esculenta* | HMLD—339 | Shandong, China | MH486491 | — | — | — | — |
| *A. excelsa* | Z.L. Yang D 97 | Germany | AF024449 | — | — | — | — |
| *A. excelsa* | HKAS96169 | Austria | MH486492 | — | — | — | — |
| *A. exitialis* | HKAS74673 | Kunming, Yunnan, China | KJ466435 | KJ466375 | KJ466590 | KJ481937 | KJ466502 |
| *A. exitialis* | HKAS75774 | Baiyun Mountain, Guangdong, China | JX998052 | JX998027 | KJ466591 | JX998001 | KJ466503 |
| *A. exitialis* | HKAS75775 | Guangzhou, Guangdong, China | JX998053 | JX998026 | KJ466592 | JX998002 | KJ466504 |
| *A. exitialis* | HKAS75776 | Guangzhou, Guangdong, China | JX998051 | JX998025 | KJ466593 | JX998003 | KJ466505 |
| *A. exitialis* | HKAS83674 | Lingbaoshan, Yunnan, China | MH486493 | — | — | MH508768 | — |
| *A. exitialis* | HKAS89095 | Puer, Yunnan, China | MH486494 | — | MH485969 | — | MH485492 |
| *A. farinosa* | HKAS100490 | Zhangping, Fujian, China | MH486495 | MH508339 | MH485970 | MH508769 | MH485493 |
| *A. farinosa* | HKAS100578 | Jinzhai, Anhui, China | MH486496 | MH508340 | MH485971 | MH508770 | MH485494 |
| *A. farinosa* | HKAS54770 | Jinghong, Yunnan, China | MH486497 | — | MH485972 | MH508771 | MH485495 |
| *A. farinosa* | HKAS56816 | Baoshan, Yunnan, China | JN941154 | JN943180 | JQ031110 | MH508772 | MH485496 |
| *A. farinosa* | HKAS67958 | Tengchong, Yunnan, China | MH486498 | MH508341 | MH485973 | MH508773 | MH485497 |
| *A. farinosa* | HKAS83707 | Ailaoshan, Yunnan, China | MH486499 | — | — | MH508774 | MH485498 |
| *A. farinosa* | RET 534-10 | USA | KU186823 | — | — | — | — |
| *A. farinosa* | RET8-3-92-D | USA | AF024450 | — | — | — | — |
| *A. flavipes* | HKAS56824 | Baoshan, Yunnan, China | MH486500 | MH508342 | MH485974 | MH508775 | MH485499 |
| *A. flavipes* | HKAS57650 | Dali, Yunnan, China | MH486501 | MH508343 | MH485975 | MH508776 | MH485500 |
| *A. flavipes* | HKAS58786 | Shangri-La, Yunnan, China | MH486502 | — | MH485976 | MH508777 | MH485501 |
| *A. flavipes* | HKAS58803 | Shangri-La, Yunnan, China | — | — | MH485977 | MH508778 | — |
| *A. flavipes* | HKAS68624 | Lanping, Yunnan, China | — | — | MH485978 | MH508779 | — |
| *A. flavipes* | HKAS75556 | Shennongjia, Hubei, China | MH486503 | — | — | — | — |
| *A. flavipes* | HKAS79689 | Kunming, Yunnan, China | MH486504 | — | — | — | — |
| *A. flavipes* | HKAS82812 | Kunming, Yunnan, China | — | — | — | MH508780 | MH485502 |
| *A. flavipes* | HKAS83600 | Bomi, Tibet, China | MH486505 | — | — | MH508781 | — |
| *A. flavipes* | HKAS84703 | Xishuangbanna, Yunnan, China | MH486506 | — | — | MH508782 | MH485503 |
| *A. flavipes* | HKAS87944 | Shangri-La, Yunnan, China | MH486507 | MH508344 | MH485979 | MH508783 | MH485504 |
| *A. flavipes* | HKAS87990 | Shangri-La, Yunnan, China | MH486508 | MH508345 | MH485980 | MH508784 | — |
| *A. flavipes* | HKAS88080 | Deqin, Yunnnan, China | MH486509 | MH508346 | MH485981 | MH508785 | MH485505 |
| *A. flavipes* | HKAS91158 | Yadong, Tibet, China | MH486510 | MH508347 | MH485982 | MH508786 | MH485506 |
| *A. flavoconia* | RET 439-8 | CT, USA | MH486511 | MH508348 | MH485983 | MH508787 | — |
| *A. flavoconia* | RET 450-10 | NJ, USA | MH486512 | MH508349 | MH485984 | MH508788 | — |
| *A. flavoconia* | RET 480-5 | NY, USA | MH486513 | MH508350 | — | MH508789 | — |
| *A. flavoconia* | RET 485-6 | NY, USA | MH486514 | MH508351 | MH485985 | MH508790 | — |
| *A. flavofloccosa* | HKAS101443 | Mianyang, Sichuan, China | MH486515 | — | MH485986 | MH508791 | MH485507 |
| *A. flavofloccosa* | HKAS90174 | Nanjian, Yunnan, China | KT833801 | MH508352 | KT833818 | KT833831 | MH485508 |
| *A. flavofloccosa* | HKAS92006 | Kunming, Yunnan, China | MH486516 | — | MH485987 | MH508792 | MH485509 |
| *A. flavopantherina* | HKAS51045 | Docheng, Sichuan, China | MH486517 | MH508353 | MH485988 | MH508793 | MH485510 |
| *A. flavopantherina* | HKAS58795 | Shangri-La, Yunnan, China | MH486518 | MH508354 | — | MH508794 | MH485511 |
| *A. flavopantherina* | HKAS82613 | Shangri-La, Yunnan, China | MH486519 | MH508355 | MH485989 | MH508795 | MH485512 |
| *A. flavosquamosa* | HKAS83080 | Lingbaoshan, Yunnan, China | MH486520 | — | MH485990 | MH508796 | MH485513 |
| *A. flavosquamosa* | HKAS83692 | Lingbaoshan, Yunnan, China | MH486521 | MH508356 | MH485991 | MH508797 | — |
| *A. franzii* | HKAS37013 | Mangshan, Hunan, China | MH486522 | — | — | — | — |
| *A. franzii* | HKAS77321 | Kunming, Yunnan, China | KJ466481 | MH508357 | KJ466646 | MH508798 | KJ466560 |
| *A. franzii* | HKAS79559 | Kunming, Yunnan, China | MH486523 | — | MH485992 | MH508799 | MH485514 |
| *A. franzii* | HKAS82832 | Kunming, Yunnan, China | MH486524 | — | MH485993 | MH508800 | MH485515 |
| *A. franzii* | HKAS91231 | Kunming, Yunnan, China | MH486525 | MH508358 | MH485994 | MH508801 | MH485516 |
| *A. fritillaria* | HKAS100520 | Fujan, China | MH486527 | MH508359 | MH485995 | MH508802 | MH485517 |
| *A. fritillaria* | HKAS100521 | Lushan, Jiangxi, China | MH486528 | MH508360 | MH485996 | MH508803 | MH485518 |
| *A. fritillaria* | HKAS100598 | Jinzhai, Anhui, China | MH486529 | MH508361 | MH485997 | MH508804 | MH485519 |
| *A. fritillaria* | HKAS100599 | Jinzhai, Anhui, China | MH486530 | — | MH485998 | MH508805 | MH485520 |
| *A. fritillaria* | HKAS100621 | Jinzhai, Anhui, China | MH486531 | MH508362 | MH485999 | MH508806 | MH485521 |
| *A. fritillaria* | HKAS101405 | Fujan, China | MH486532 | — | — | — | — |
| *A. fritillaria* | HKAS101409 | Qingdao, Shandong, China | MH486533 | — | MH486000 | — | MH485522 |
| *A. fritillaria* | HKAS54718 | Lijiang, Yunnan, China | MH486534 | — | MH486001 | MH508807 | MH485523 |
| *A. fritillaria* | HKAS56800 | Baoshan, Yunnan, China | MH486535 | MH508363 | MH486002 | MH508808 | MH485524 |
| *A. fritillaria* | HKAS56814 | Baoshan, Yunnan, China | MH486536 | MH508364 | MH486003 | MH508809 | MH485525 |
| *A. fritillaria* | HKAS56955 | Nanjian, Yunnan, China | MH486537 | — | MH486004 | MH508810 | MH485526 |
| *A. fritillaria* | HKAS56992 | Yongping, Yunnan, China | MH486538 | — | MH486005 | MH508811 | MH485527 |
| *A. fritillaria* | HKAAS57559 | Nanjian, Yunnan, China | MH486526 | — | — | — | — |
| *A. fritillaria* | HKAS67915 | Baoshan, Yunnan, China | MH486539 | — | MH486006 | MH508812 | MH485528 |
| *A. fritillaria* | HKAS74815 | Fugong, Yunnan, China | MH486540 | — | MH486007 | MH508813 | MH485529 |
| *A. fritillaria* | HKAS79618 | Heishiding, Guangdong, China | MH486541 | — | — | — | — |
| *A. fritillaria* | HKAS79621 | Heishiding, Guangdong, China | MH486542 | — | — | — | MH485530 |
| *A. fritillaria* | HKAS80227 | Zhenping, Shaanxi, China | MH486543 | MH508365 | MH486008 | MH508814 | MH485531 |
| *A. fritillaria* | HKAS83458 | Chongqing, China | MH486544 | — | MH486009 | — | — |
| *A. fritillaria* | HKAS83632 | Nanjian, Yunnan, China | — | — | MH486010 | MH508815 | — |
| *A. fritillaria* | HKAS83682 | Lingbaoshan, Yunnan, China | MH486545 | — | MH486011 | MH508816 | — |
| *A. fritillaria* | HKAS83708 | Ailaoshan, Yunnan, China | MH486546 | — | MH486012 | MH508817 | MH485532 |
| *A. fritillaria* | HKAS83900 | Kunming, Yunnan, China | MH486547 | MH508366 | MH486013 | MH508818 | MH485533 |
| *A. fritillaria* | HKAS89003 | Xishuangbanna, Yunnan, China | — | — | MH486014 | MH508819 | MH485534 |
| *A. fritillaria* | HKAS91952 | Xishuangbanna, Yunnan, China | MH486548 | MH508367 | MH486015 | MH508820 | MH485535 |
| *A. fritillaria* | HKAS91986 | Dali, Yunnan, China | MH486549 | — | MH486016 | MH508821 | MH485536 |
| *A. fritillaria* | HKAS96088 | Dali, Yunnan, China | MH486550 | MH508368 | MH486017 | — | MH485537 |
| *A. frostiana* | RET7-25-92-E | USA | AF024453 | — | — | — | — |
| *A. fuliginea* | HKAS100628 | Jinzhai, Anhui, China | MH486551 | MH508369 | MH486018 | MH508822 | MH485538 |
| *A. fuliginea* | HKAS78481 | Heishiding, Guangdong, China | MH486552 | — | MH486019 | MH508823 | MH485539 |
| *A. fuliginea* | HKAS75780 | Heishiding, Guangdong, China | JX998048 | JX998023 | KJ466595 | JX997995 | KJ466507 |
| *A. fuliginea* | HKAS75782 | Heishiding, Guangdong, China | JX998049 | JX998022 | KJ466597 | JX997996 | KJ466509 |
| *A. fuliginea* | HKAS77132 | Fuzhou, Jiangxi, China | KJ466436 | KJ466376 | KJ466598 | KJ481939 | KJ466510 |
| *A. fuliginea* | HKAS79685 | Mangshan, Hunan, China | KJ466437 | KJ466377 | KJ466594 | KJ481938 | KJ466506 |
| *A. fuligineoides* | HKAS52727 | Mangshan, Hunan, China | JX998047 | JX998024 | KJ466599 | — | KJ466511 |
| *A. fuligineoides* | HKAS83694 | Lingbaoshan, Yunnan, China | MH486553 | — | MH486020 | MH508824 | MH485540 |
| *A. fulva* | HKAS101420 | France | MH486554 | MH508370 | MH486021 | MH508825 | MH485541 |
| *A. fulva* | HKAS96168 | Austria | MH486555 | MH508371 | MH486022 | MH508826 | MH485542 |
| *A. fulva* | N. Arnold 2 | L | AF024455 | — | — | — | — |
| *A. fuscoflava* | HKAS59742 | Hainan, China | MH486556 | — | — | — | — |
| *A. fuscoflava* | HKAS59800 | Limushan, Hainan, China | MH486557 | MH508372 | MH486023 | MH508827 | MH485543 |
| *A. fuscosquamosa* | PDD92862 | Australia | MH486558 | MH508373 | — | MH508828 | — |
| *A. garabitoana* | RET 333-6 | Costa Rica | KF877231 | — | KF877054 | KF877122 | — |
| *A. gemmata* | C. Bas8942 | L | AF024457 | — | — | — | — |
| *A. grandispora* | H0792 | Australia | GQ925385 | — | — | — | — |
| *A. griseofarinosa* | HKAS80017 | Ailaoshan, Yunnan, China | — | MH508374 | MH486024 | MH508829 | MH485544 |
| *A. griseofarinosa* | HKAS80926 | Macheng, Hubei, China | MH486559 | MH508375 | MH486025 | MH508830 | MH485545 |
| *A. griseofarinosa* | HKAS81840 | Macheng, Hubei, China | MH486560 | — | MH486026 | MH508831 | MH485546 |
| *A. griseofarinosa* | HKAS83447 | Baoshan, Yunnan, China | MH486561 | — | MH486027 | MH508832 | MH485547 |
| *A. griseofarinosa* | HKAS83685 | Lingbaoshan, Yunnan, China | MH486562 | — | — | MH508833 | — |
| *A. griseofarinosa* | HKAS83741 | Ailaoshan, Yunnan, China | MH486563 | — | MH486028 | MH508834 | MH485548 |
| *A. griseofolia* | HKAS38159 | Yunnan, China | AY436488 | AY436448 | — | — | — |
| *A. griseofolia* | HKAS54443 | Kunming, Yunnan, China | MH486564 | MH508376 | MH486029 | MH508835 | — |
| *A. griseofolia* | HKAS71055 | Tomakomai, Hokkaido, Japan | MH486565 | MH508377 | MH486030 | MH508836 | — |
| *A. griseofolia* | HKAS96901 | Lancang, Yunnan, China | MH486566 | MH508378 | MH486031 | — | MH485549 |
| *A. griseofolia* | HKAS96928 | Lancang, Yunnan, China | MH486567 | MH508379 | MH486032 | MH508837 | MH485550 |
| *A. griseopantheirna* | HKAS53688 | Aba, Sichuan, China | MH486568 | MH508380 | — | MH508838 | MH485551 |
| *A. griseopantheirna* | HKAS58801 | Shangri-La, Yunnan, China | MH486569 | MH508381 | MH486033 | — | MH485552 |
| *A. griseopantheirna* | HKAS79953 | Dege, Sichuan, China | MH486570 | MH508382 | MH486034 | MH508839 | MH485553 |
| *A. griseopantheirna* | HKAS82340 | Aba, Sichuan, China | MH486571 | MH508383 | MH486035 | MH508840 | MH485554 |
| *A. griseopantheirna* | HKAS83547 | Aba, Sichuan, China | MH486572 | MH508384 | MH486036 | MH508841 | MH485555 |
| *A. griseopantheirna* | HKAS83560 | Basu, Tibet, China | MH486573 | MH508385 | — | MH508842 | MH485556 |
| *A. griseopantheirna* | HKAS83578 | Bomi, Tibet, China | MH486574 | MH508386 | MH486037 | MH508843 | MH485557 |
| *A. griseorosea* | HKAS79176 | Heishiding, Guangdong, China | MH486575 | — | — | MH508844 | MH485558 |
| *A. griseorosea* | HKAS77332 | Limushan, Hainan, China | KJ466474 | KJ466411 | — | KJ481992 | KJ466578 |
| *A. griseorosea* | HKAS77333 | Baisha, Hainan, China | KJ466475 | KJ466412 | KJ466660 | — | KJ466579 |
| *A. griseorosea* | HKAS77334 | Lingshui, Hainan, China | KJ466476 | KJ466413 | KJ466661 | — | KJ466580 |
| *A. griseorosea* | HKAS89004 | Xishuangbanna, Yunnan, China | KU168387 | — | KU168388 | KU168386 | KU168389 |
| *A. griseoumbonata* | HKAS69588 | Lanping, Yunnan, China | MH486576 | MH508387 | MH486038 | MH508845 | — |
| *A. griseoumbonata* | HKAS75594 | Yichang, Hubei, China | MH486577 | MH508388 | MH486039 | MH508846 | MH485559 |
| *A. griseoumbonata* | HKAS92103 | Mudanjiang, Heilongjiang, China | MH486578 | MH508389 | MH486040 | MH508847 | — |
| *A. griseoverrucosa* | HKAS100613 | Jinzhai, Anhui, China | MH486579 | MH508390 | MH486041 | MH508848 | MH485560 |
| *A. griseoverrucosa* | HKAS100620 | Jinzhai, Anhui, China | MH486580 | MH508391 | MH486042 | MH508849 | MH485561 |
| *A. griseoverrucosa* | HKAS38459 | Yunnan, China | AY436495 | — | — | — | — |
| *A. griseoverrucosa* | HKAS57357 | Baoshan, Yunnan, China | MH486581 | MH508392 | MH486043 | MH508850 | MH485562 |
| *A. gymnopus* | HKAS71618 | Baoshan, Yunnan, China | MH486582 | MH508393 | MH486044 | MH508851 | — |
| *A. gymnopus* | HKAS89031 | Xishuangbanna, Yunnan, China | MH486583 | — | MH486045 | MH508852 | MH485563 |
| *A. hamadae* | HKAS79076 | Heishiding, Guangdong, China | MH486584 | MH508394 | MH486046 | — | MH485564 |
| *A. hamadae* | HKAS79081 | Heishiding, Guangdong, China | MH486585 | — | MH486047 | — | MH485565 |
| *A. hamadae* | HKAS83451 | Fujan, China | MH486586 | MH508395 | MH486048 | MH508853 | MH485566 |
| *A. heishidingensis* | HKAS76122 | Heishiding, Guangdong, China | KC429045 | NR\_151651 | — | — | — |
| *A. heishidingensis* | HKAS81484 | Heishiding, Guangdong, China | KJ922993 | KJ922999 | MH486049 | MH508854 | MH485567 |
| *A. heishidingensis* | HKAS82282 | Heishiding, Guangdong, China | KJ922992 | KJ922997 | — | MH508855 | MH485568 |
| *A. hemibapha* | HKAS54784 | Ninger, Yunnan, China | MH486587 | — | — | — | — |
| *‘A. hemibapha* var. *ochracea’* | HKAS29522 | Yunnan, China | AF024458 | — | — | — | — |
| *A. hesleri* | RET155-1 | USA | HQ539701 | — | — | — | — |
| *A. hunanensis* | HKAS100632 | Jinzhai, Anhui, China | MH486588 | MH508396 | MH486050 | MH508856 | MH485569 |
| *A. hunanensis* | MHHNU30281 | Hunan, China | KP276140 | — | — | — | — |
| *A. ibotengutake* | HKAS56045 | Xifeng, Jilin, China | MH486589 | — | — | MH508857 | — |
| *A. ibotengutake* | HKAS83269 | Changbai mountain,Jilin, China | MH486590 | — | MH486051 | MH508858 | MH485570 |
| *A. imazekii* | HKAS71045 | Tomakomai, Hokkaido, Japan | MH486591 | MH508397 | MH486052 | MH508859 | MH485571 |
| *A. imazekii* | HKAS92011 | Benxi, Liaoning, China | MH486592 | MH508398 | MH486053 | MH508860 | MH485572 |
| *A. imazekii* | HKAS92022 | Benxi, Liaoning, China | — | — | MH486054 | — | MH485573 |
| *A. incarnatifolia* | HKAS100583 | Jinzhai, Anhui, China | MH486593 | MH508399 | MH486055 | MH508861 | MH485574 |
| *A. incarnatifolia* | HKAS100593 | Jinzhai, Anhui, China | MH486594 | MH508400 | MH486056 | MH508862 | MH485575 |
| *A. incarnatifolia* | HKAS100594 | Jinzhai, Anhui, China | MH486595 | MH508401 | MH486057 | MH508863 | MH485576 |
| *A. incarnatifolia* | HKAS100596 | Jinzhai, Anhui, China | MH486596 | MH508402 | MH486058 | MH508864 | MH485577 |
| *A. incarnatifolia* | HKAS100601 | Jinzhai, Anhui, China | MH486597 | MH508403 | MH486059 | MH508865 | MH485578 |
| *A. incarnatifolia* | HKAS100626 | Jinzhai, Anhui, China | MH486598 | MH508404 | — | MH508866 | — |
| *A. incarnatifolia* | HKAS100627 | Jinzhai, Anhui, China | MH486599 | MH508405 | MH486060 | — | MH485579 |
| *A. incarnatifolia* | HKAS100629 | Jinzhai, Anhui, China | MH486600 | MH508406 | — | MH508867 | — |
| *A. incarnatifolia* | HKAS100634 | Jinzhai, Anhui, China | MH486601 | MH508407 | MH486061 | MH508868 | MH485580 |
| *A. incarnatifolia* | HKAS100635 | Jinzhai, Anhui, China | MH486602 | MH508408 | — | MH508869 | — |
| *A. incarnatifolia* | HKAS100637 | Jinzhai, Anhui, China | MH486603 | MH508409 | MH486062 | MH508870 | MH485581 |
| *‘A. incarnatifolia’* | HKAS29519 | Yunnan, China | AF024459 | — | — | — | — |
| *A. incarnatifolia* | HKAS43098 | Jianchuan, Yunnan, China | MH486604 | — | — | — | — |
| *A. inculta* | H7335 | Australia | KY053410 | — | — | — | — |
| *A. innatifibrilla* | HKAS60296 | Limushan, Hainan, China | MH486605 | — | — | MH508871 | — |
| *A. jacksonii* | RET 109-4 | USA | KF877247 | — | KF877064 | KF877136 | — |
| *A. jacksonii* | Wolf 2183 | USA | MH486606 | — | MH486063 | MH508872 | — |
| *A. japonica* | TMI26147 | Japan | KJ922990 | KJ922994 | — | — | — |
| *A. javanica* | FRIM:61503 | Malaysia | KU714548 | KU714572 | — | KU714536 | — |
| *A. kitamagotake* | EN-4 | Japan | AB721450 | AB721450 | — | — | — |
| *A. kitamagotake* | HKAS101410 | Yunnan, China | MH486607 | — | — | MH508873 | — |
| *A. kitamagotake* | HKAS68593 | Lanping, Yunnan, China | MH486608 | MH508410 | MH486064 | — | MH485582 |
| *A. kitamagotake* | HKAS81218 | Lijiang, Yunnan, China | MH486609 | MH508411 | MH486065 | — | MH485583 |
| *A. kitamagotake* | HKAS81261 | Lijiang, Yunnan, China | MH486610 | MH508412 | MH486066 | — | MH485584 |
| *A. kitamagotake* | HKAS91997 | Nanjian, Yunnan, China | MH486611 | MH508413 | MH486067 | — | MH485585 |
| *A. kotohiraensis* | HKAS100499 | Heishiding, Guangdong, China | MH486612 | — | — | — | — |
| *A. kotohiraensis* | HKAS100500 | Heishiding, Guangdong, China | MH486613 | MH508414 | — | — | — |
| *A. kotohiraensis* | HKAS100577 | Jinzhai, Anhui, China | MH486614 | MH508415 | MH486068 | MH508874 | MH485586 |
| *A. kotohiraensis* | HKAS101421 | Yunnan, China | MH486615 | — | MH486069 | MH508875 | MH485587 |
| *A. kotohiraensis* | HKAS79599 | Heishiding, Guangdong, China | MH486616 | — | — | — | MH485588 |
| *A. kotohiraensis* | HKAS79600 | Heishiding, Guangdong, China | — | — | — | — | MH485589 |
| *A. lanigera* | HKAS101249 | Lancang, Yunnan, China | MH486617 | MH508416 | MH486070 | MH508876 | — |
| *A. lanigera* | HKAS101413 | Yunnan, China | MH486618 | MH508417 | MH486071 | MH508877 | — |
| *A. lanigera* | HKAS57599 | Yongping, Yunnan, China | MH486619 | MH508418 | MH486072 | MH508878 | — |
| *A. lanigera* | HKAS75018 | Lanping, Yunnan, China | MH486620 | MH508419 | MH486073 | MH508879 | MH485590 |
| *A. lanigera* | HKAS89030 | Xishuangbanna, Yunnan, China | MH486621 | MH508420 | MH486074 | MH508880 | — |
| *A. lanigera* | HKAS97561 | Lancang, Yunnan, China | MH486622 | MH508421 | MH486075 | — | MH485591 |
| *A. lignitincta* | HKAS29512 | Lijiang, Yunnan, China | AF024461 | — | — | — | — |
| *A. lignitincta* | HKAS58788 | Shangri-la, Yunnan, China | — | — | — | MH508881 | — |
| *A. lignitincta* | HKAS67734 | Lijiang, Yunnan, China | MH486623 | MH508422 | — | — | — |
| *A. lignitincta* | HKAS69408 | Yulong, Yunnan, China | MH486624 | MH508423 | — | MH508882 | — |
| *A. lignitincta* | HKAS69411 | Yulong, Yunnan, China | MH486625 | MH508424 | — | MH508883 | — |
| *A. lippiae* | RET418-2 | Brazil | KP258992 | NR\_154692 | — | — | — |
| *A. liquii* | HKAS36611 | Yunnan, China | AY436493 | AY436462 | — | — | — |
| *A. liquii* | HKAS58800 | Shangri-La, Yunnan, China | MH486626 | MH508425 | MH486076 | MH508884 | MH485592 |
| *A. liquii* | HKAS58885 | Yulong, Yunnan, China | MH486627 | MH508426 | MH486077 | MH508885 | MH485593 |
| *A. liquii* | HKAS93915 | Shangri-La, Yunnan, China | MH486628 | MH508427 | MH486078 | MH508886 | MH485594 |
| *A. longistriata* | C. Bas9040 | L | AF024462 | — | — | — | — |
| *A. longistriata* | HKAS53282 | Lijiang, Yunnan, China | MH486629 | — | MH486079 | — | — |
| *A. longistriata* | HKAS54578 | Yulong, Yunnan, China | MH486630 | — | MH486080 | MH508887 | — |
| *A. longistriata* | HKAS68331 | Lanping, Yunnan, China | MH486631 | MH508428 | MH486081 | MH508888 | MH485595 |
| *A. longistriata* | HKAS68431 | Yulong, Yunnan, China | MH486632 | — | MH486082 | MH508889 | — |
| *A. luteofolia* | HKAS81895 | Shennongjia, Hubei, China | MH486633 | — | MH486083 | MH508890 | MH485596 |
| *A. macrocarpa* | 31939L | Guangdong, China | KC408378 | — | — | — | — |
| *A. mafingensis* | RET 348-8 | Zambia | KF877259 | — | — | KF877148 | — |
| *A. manginiana* | HKAS101268 | Viet Nam | MH486636 | — | MH486086 | MH508893 | MH485599 |
| *A. manginiana* | HKAS101404 | Zhangping, Fujian, China | MH486637 | — | — | — | — |
| *A. manginiana* | HKAS101432 | Mile, Yunnan, China | — | — | — | MH508894 | — |
| *‘A. manginiana’* | HKAS26146 | Yunnan, China | AF024463 | — | — | — | — |
| *A. manginiana* | MHHNU 30818 | Hunan, China | MH605436 | — | MH614263 | MH614264 | MH614265 |
| *A. manicata* | PDD88353 | New Zealand | MH486638 | — | MH486087 | MH508895 | MH485600 |
| *A. manicata* | PDD93831 | New Zealand | MH486639 | — | — | MH508896 | — |
| *A. manicata* | PDD99110 | New Zealand | KT833802 | — | MH486088 | KT833832 | MH485601 |
| *A. melleialba* | HKAS83216 | Changsha, Hunan, China | KR824766 | MH508429 | KR824791 | KR824812 | MH485602 |
| *A. melleialba* | HKAS83446 | Puer, Yunnan, China | KR824767 | MH508430 | KR824792 | KR824813 | MH485603 |
| *A. melleialba* | HKAS87085 | Puer, Yunnan, China | KR824768 | MH508431 | KR824793 | KR824814 | MH485604 |
| *A. melleiceps* | HKAS80145 | Macheng, Hubei, China | MH486640 | MH508432 | MH486089 | MH508897 | MH485605 |
| *A. melleiceps* | HKAS80184 | Xinyang, Henan, China | MH486641 | MH508433 | MH486090 | MH508898 | MH485606 |
| *A. melleiceps* | HKAS80940 | Huoshan, Anhui, China | MH486642 | — | MH486091 | MH508899 | MH485607 |
| *A. miculifera* | HKAS100515 | Incheon, South Korea | — | MH508434 | MH486092 | MH508900 | MH485608 |
| *A. miculifera* | HKAS101425 | Shenyang, China | MH486643 | — | MH486093 | MH508901 | MH485609 |
| *A. miculifera* | HKAS80010 | Binchuan, Yunnan, China | — | — | — | — | MH485610 |
| *A. miculifera* | HKAS92046 | Huanren, Liaoning, China | — | — | MH486094 | — | MH485611 |
| *A. minutisquama* | HKAS100504 | Ledong, Hainan, China | MH486644 | MH508435 | MH486095 | MH508902 | — |
| *A. minutisquama* | HKAS101424 | Yunnan, China | MH486645 | MH508436 | MH486096 | MH508903 | MH485612 |
| *A. mira* | HKAS22549 |  | AF024464 | — | — | — | — |
| *A. mira* | HKAS91953 | Mengla, Yunnan, China | MH486646 | MH508437 | MH486097 | — | — |
| *A. modesta* | HKAS100505 | Heishiding, Guangdong, China | MH486647 | MH508438 | MH486098 | MH508904 | MH485613 |
| *A. modesta* | HKAS78424 | Heishiding, Guangdong, China | MH486648 | — | — | MH508905 | — |
| *A. modesta* | HKAS78432 | Heishiding, Guangdong, China | MH486649 | — | — | MH508906 | — |
| *A. modesta* | HKAS78433 | Heishiding, Guangdong, China | MH486650 | — | MH486099 | MH508907 | — |
| *A. modesta* | HKAS79688 | Heishiding, Guangdong, China | KJ466440 | — | KJ466604 | KJ481944 | KJ466516 |
| *A. molliuscula* | HKAS75555 | Shennongjia, Hubei, China | KJ466471 | KJ466408 | KJ466638 | KJ481973 | KJ466552 |
| *A. molliuscula* | HKAS77324 | Zhouzhi, Shaanxi, China | KJ466472 | KJ466409 | KJ466639 | KJ481974 | KJ466553 |
| *A. molliuscula* | HMJAU20469 | Changbai mountain,Jilin, China | KJ466473 | KJ466410 | KJ466640 | KJ481975 | KJ466554 |
| *A. morenoi* | MES1301 | Argentina | KY053407 | — | — | — | — |
| *A. morenoi* | MES1588 | Chile | KY053383 | — | — | — | — |
| *A. morrisii* | RET 271-7 | USA | KT213442 | — | — | — | — |
| *A. murinoflammeum* | NYBG66697 | Australia | HQ539711 | — | — | — | — |
| *A. murrilliana* | RET 278-1 | USA | KF877269 | — | — | — | — |
| *A. muscaria* | HKAS61888 | HuZhong, Heilongjiang, China | MH486651 | MH508439 | MH486100 | MH508908 | MH485614 |
| *A. muscaria* | HMJAU4549 | Kyrov, Russia | KR824787 | MH508440 | — | KR824829 | MH485615 |
| *A. muscaria* | HMJAU4585 | Kyrov, Russia | KR824786 | MH508441 | — | KR824828 | MH485616 |
| *A. muscaria* | MB-001171 (duplicate HKAS84851) | Germnay | MH486652 | MH508442 | MH486101 | MH508909 | MH485617 |
| *A. neocinctipes* | HKAS78463 | Heishiding, Guangdong, China | — | MH508443 | MH486102 | — | MH485618 |
| *A. neocinctipes* | HKAS79627 | Heishiding, Guangdong, China | MH486653 | — | MH486103 | MH508910 | — |
| *A. neoovoidea* | HKAS100506 | Fujan, China | MH486654 | MH508444 | MH486104 | MH508911 | MH485619 |
| *A. neoovoidea* | HKAS84931 | Qiubei, Yunnan, China | MH486655 | — | MH486105 | MH508912 | MH485620 |
| *A. neoovoidea* | HKAS89025 | Xishuangbanna, Yunnan, China | MH486656 | MH508445 | MH486106 | MH508913 | MH485621 |
| *A. neoovoidea* | HKAS89065 | Puer, Yunnan, China | MH486657 | — | MH486107 | MH508914 | MH485622 |
| *A. nivalis* | R. Watling 17489 | L | AF024466 | — | — | — | — |
| *A. nouhrae* | MES1126 | Argentina | KY053389 | — | — | — | — |
| *A. nouhrae* | MES1213 | Argentina | KY053413 | — | — | — | — |
| *A. nouhrae* | MES1921 | Argentina | KY053391 | — | — | — | — |
| *A. oberwinklerana* | HKAS100507 | Heishiding, Guangdong, China | MH486658 | — | — | — | — |
| *A. oberwinklerana* | HKAS100508 | Lingshui, Hainan, China | MH486659 | — | — | — | — |
| *A. oberwinklerana* | HKAS100509 | Lingshui, Hainan, China | — | — | — | MH508916 | — |
| *A. oberwinklerana* | HKAS100510 | Limushan, Hainan, China | MH486660 | — | — | — | — |
| *A. oberwinklerana* | HKAS100511 | Limushan, Hainan, China | MH486661 | — | MH486108 | — | MH485623 |
| *A. oberwinklerana* | HKAS100576 | Jinzhai, Anhui, China | MH486662 | — | MH486109 | — | MH485624 |
| *A. oberwinklerana* | HKAS100600 | Jinzhai, Anhui, China | MH486663 | — | MH486110 | — | MH485625 |
| *A. oberwinklerana* | HKAS100605 | Jinzhai, Anhui, China | MH486664 | — | MH486111 | — | MH485626 |
| *A. oberwinklerana* | HKAS100606 | Jinzhai, Anhui, China | MH486665 | — | MH486112 | — | MH485627 |
| *A. oberwinklerana* | HKAS100611 | Jinzhai, Anhui, China | MH486666 | — | MH486113 | — | MH485628 |
| *A. oberwinklerana* | HKAS100612 | Jinzhai, Anhui, China | MH486667 | — | MH486114 | — | MH485629 |
| *A. oberwinklerana* | HKAS100639 | Jinzhai, Anhui, China | MH486668 | — | MH486115 | — | MH485630 |
| *A. oberwinklerana* | HKAS52718 | Mangshan, Hunan, China | MH486669 | — | MH486116 | — | — |
| *A. oberwinklerana* | HKAS77330 | Limushan, Hainan, China | KJ466441 | KJ466380 | KJ466606 | KJ481946 | — |
| *A. oberwinklerana* | HKAS78443 | Heishiding, Guangdong, China | MH486670 | — | — | — | — |
| *A. oberwinklerana* | HKAS78448 | Heishiding, Guangdong, China | MH486671 | — | — | — | — |
| *A. oberwinklerana* | HKAS78474 | Heishiding, Guangdong, China | MH486672 | MH508446 | — | — | — |
| *A. oberwinklerana* | HKAS78475 | Heishiding, Guangdong, China | MH486673 | MH508447 | — | — | — |
| *A. oberwinklerana* | HKAS78477 | Heishiding, Guangdong, China | MH486674 | MH508448 | — | — | — |
| *A. oberwinklerana* | HKAS78485 | Heishiding, Guangdong, China | MH486675 | MH508449 | — | — | — |
| *A. oberwinklerana* | HKAS78487 | Heishiding, Guangdong, China | MH486676 | MH508450 | — | — | — |
| *A. oberwinklerana* | HKAS80150 | Macheng, Hubei, China | MH486677 | — | MH486117 | — | — |
| *A. oberwinklerana* | HKAS80205 | Shiyan, Hubei, China | MH486678 | — | — | — | MH485631 |
| *A. oberwinklerana* | HKAS82402 | Taiwan, China | MH486679 | — | — | — | — |
| *A. oberwinklerana* | HKAS82403 | Taiwan, China | MH486680 | — | — | — | — |
| *A. oberwinklerana* | HKAS85832 | Xishuangbanna, Yunnan, China | MH486681 | — | MH486118 | — | MH485632 |
| *A. oberwinklerana* | HKAS99661 | Limushan, Hainan, China | MH486682 | — | MH486119 | — | MH485633 |
| *A. oberwinklerana* | HMJAU20940 | Changbai mountain, Jilin, China | MH486683 | MH508451 | MH486120 | — | MH485634 |
| *A. ochracea* | HKAS87941 | Shangri-La, Yunnan, China | MH486684 | MH508452 | MH486121 | — | MH485635 |
| *A. ochracea* | HKAS87973 | Shangri-La, Yunnan, China | MH486685 | MH508453 | MH486122 | — | MH485636 |
| *A. ochracea* | HKAS87986 | Shangri-La, Yunnan, China | MH486686 | MH508454 | MH486123 | — | MH485637 |
| *A. ochracea* | HKAS89599 | Nyingchi, Tibet, China | MH486687 | — | MH486124 | — | MH485638 |
| *A. ocreata* | HKAS79686 | CA, USA | MH486688 | KJ466381 | KJ466607 | KJ481947 | KJ466518 |
| *A. oleosa* | H7627 | Australia | KY053414 | — | — | — | — |
| *A. olivaceofusca* | HKAS80243 | Sanming, Fujian, China | MH486689 | MH508455 | MH486125 | — | MH485639 |
| *A. olivaceofusca* | HKAS87076 | Puer, Yunnan, China | MH486690 | MH508456 | MH486126 | — | MH485640 |
| *A. olivaceofusca* | HKAS97581 | Lancang, Yunnan, China | MH486691 | MH508457 | MH486127 | — | — |
| *A. olivaceofusca* | HKAS97766 | Lancang, Yunnan, China | MH486692 | MH508458 | MH486128 | — | — |
| *A. olivaceofusca* | HKAS98437 | Lancang, Yunnan, China | MH486693 | MH508459 | MH486129 | — | MH485641 |
| *A. orienticrocea* | HKAS101411 | Yunnan, China | MH486694 | — | — | — | — |
| *A. orienticrocea* | HKAS56870 | Baoshan, Yunnan, China | MH486695 | MH508460 | — | — | — |
| *A. orienticrocea* | HKAS71388 | Gongshan, Yunnan, China | MH486696 | MH508461 | MH486130 | — | MH485642 |
| *A. orienticrocea* | HKAS71502 | Lushui, Yunnan, China | MH486697 | MH508462 | MH486131 | — | MH485643 |
| *A. orienticrocea* | HKAS73823 | Lushui, Yunnan, China | MH486698 | MH508463 | MH486132 | — | MH485644 |
| *A. orienticrocea* | HKAS73915 | Longlan, Gansu, China | MH486699 | — | — | — | — |
| *A. orienticrocea* | HKAS80029 | Kunming, Yunnan, China | MH486700 | MH508464 | — | — | — |
| *A. orienticrocea* | HKAS90455 | Jingdong, Yunnan, China | MH486701 | MH508465 | MH486133 | — | MH485645 |
| *A. orienticrocea* | HKAS93327 | Baoshan, Yunnan, China | MH486702 | MH508466 | MH486134 | — | MH485646 |
| *A. orientifulva* | HKAS32522 | Yunnan, China | AY436496 | NR\_137544 | — | — | — |
| *A. orientifulva* | HKAS101433 | Batang, Sichuan, China | MH486703 | MH508467 | MH486135 | — | — |
| *A. orientifulva* | HKAS87937 | Shangri-La, Yunnan, China | MH486704 | MH508468 | MH486136 | — | — |
| *A. orientifulva* | HKAS87985 | Shangri-La, Yunnan, China | MH486705 | — | MH486137 | — | MH485647 |
| *A. orientifulva* | HKAS97891 | Kangding, Sichuan, China | MH486706 | — | MH486138 | — | MH485648 |
| *A. orientifulva* | HKAS97971 | Lancang, Yunnan, China | MH486707 | — | MH486139 | — | — |
| *A. orientigemmata* | HKAS80978 | Lanping, Yunnan, China | MH486708 | MH508469 | MH486140 | — | MH485649 |
| *A. orsonii* | HKAS100582 | Jinzhai, Anhui, China | MH486709 | MH508470 | MH486141 | — | MH485650 |
| *A. orsonii* | HKAS100592 | Jinzhai, Anhui, China | MH486710 | — | MH486142 | — | MH485651 |
| *A. orsonii* | HKAS100607 | Jinzhai, Anhui, China | MH486711 | MH508471 | MH486143 | — | MH485652 |
| *A. orsonii* | HKAS101426 | Lushan, Jiangxi, China | MH486712 | MH508472 | MH486144 | — | MH485653 |
| *A. orsonii* | HKAS101439 | Lushan, Jiangxi, China | MH486713 | MH508473 | — | — | — |
| *A. orsonii* | HKAS52264 | Kunming, Yunnan, China | MH486714 | MH508474 | MH486145 | — | — |
| *A. orsonii* | HKAS67901 | Baoshan, Yunnan, China | MH486715 | MH508475 | MH486146 | — | MH485654 |
| *A. orsonii* | HKAS79670 | Kunming, Yunnan, China | MH486716 | — | — | — | MH485655 |
| *A. orsonii* | HKAS80204 | Shiyan, Hubei, China | MH486717 | — | — | — | MH485656 |
| *A. orsonii* | HKAS84764 | Guangnan, Yunnan, China | MH486718 | MH508476 | MH486147 | — | MH485657 |
| *‘A. orsonii’* | RET 717-8 | India | KX270345 | KX270327 | — | — | — |
| *‘A. orsonii’* | RET 390-4 | Pakistan | KU248131 | KU248132 | — | — | — |
| *A. ovalispora* | HKAS101394 | Heishiding, Guangdong, China | MH486719 | MH508477 | — | — | — |
| *A. ovalispora* | HKAS101406 | Hainan, China | MH486720 | MH508478 | MH486148 | — | MH485658 |
| *A. ovalispora* | HKAS68349 | Lanping, Yunnan, China | MH486721 | — | MH486149 | — | — |
| *A. ovalispora* | HKAS79625 | Heishiding, Guangdong, China | MH486722 | MH508479 | MH486150 | — | MH485659 |
| *A. ovalispora* | HKAS96114 | Yunnan, China | MH486723 | — | MH486151 | — | MH485660 |
| *A. pachycolea* | HKAS101422 | USA | MH486724 | MH508480 | MH486152 | — | — |
| *A. pachycolea* | HKAS101423 | USA | MH486725 | MH508481 | MH486153 | — | — |
| *A. pallidocarnea* | HKAS84704 | Xishuangbanna, Yunnan, China | MH486726 | — | MH486154 | — | — |
| *A. pallidocarnea* | HKAS98422 | Lancang, Yunnan, China | MH486727 | — | MH486155 | — | MH485661 |
| *A. pallidocarnea* | HKSA97678 | Lancang, Yunnan, China | MH486728 | MH508482 | MH486156 | — | — |
| *A. pallidocarnea* | HKSA97689 | Lancang, Yunnan, China | MH486729 | MH508483 | MH486157 | — | — |
| *A. pallidochlorotica* | HKAS77280 | Kunming, Yunnan, China | MH486730 | — | MH486158 | — | MH485662 |
| *A. pallidorosea* | HKAS100625 | Jinzhai, Anhui, China | MH486731 | MH508484 | — | — | — |
| *A. pallidorosea* | HKAS61937 | Meixian, Shaanxi, China | KJ466443 | KJ466382 | KJ466609 | KJ481949 | KJ466520 |
| *A. pallidorosea* | HKAS75786 | Tianshui, Gansu, China | JX998054 | JX998037 | KJ466627 | JX998011 | KJ466539 |
| *A. pallidorosea* | HKAS77329 | Suiyang, Guizhou, China | KJ466447 | KJ466387 | KJ466610 | KJ481950 | KJ466521 |
| *A. pallidorosea* | HKAS77337 | Shiyan, Hubei, China | MH486732 | — | MH486159 | — | MH485663 |
| *A. pallidorosea* | HKAS77338 | Qingzhou, Shandong, China | MH486733 | — | MH486160 | — | MH485664 |
| *A. pallidorosea* | HKAS75783 | Gongshan, Yunnan, China | JX998055 | JX998035 | KJ466625 | JX998010 | KJ466537 |
| *A. pallidorosea* | HKAS75483 | Yichang, Hubei, China | KJ466445 | KJ466385 | KJ466623 | KJ481959 | KJ466535 |
| *A. pallidorosea* | HKAS75784 | Neixiang, Henan, China | JX998056 | JX998036 | KJ466626 | JX998009 | KJ466538 |
| *A. pallidorosea* | HKAS77327 | Daozhen, Guizhou, China | KJ466446 | KJ466386 | KJ466608 | KJ481948 | KJ466519 |
| *A. pallidorosea* | HKAS78885 | Tianshui, Gansu, China | MH486734 | — | MH486161 | — | MH485665 |
| *A. pallidorosea* | HKAS80213 | Shiyan, Hubei, China | MH486735 | — | — | — | MH485666 |
| *A. pallidorosea* | HKAS80214 | Shennongjia, Hubei, China | MH486736 | — | MH486162 | — | MH485667 |
| *A. pallidorosea* | HKAS82350 | Mount Taishan, Shandong, China | MH486737 | MH508485 | MH486163 | — | MH485668 |
| *A. pallidorosea* | HKAS90776 | Benxi, Liaoning, China | MH486738 | — | — | — | MH485669 |
| *A. pallidozonata* | HKAS100608 | Jinzhai, Anhui, China | MH486739 | MH508486 | MH486164 | — | — |
| *A. pallidozonata* | HKAS57718 | Lijiang, Yunnan, China | MH486740 | — | — | — | — |
| *A. pallidozonata* | HKAS70139 | Lijiang, Yunnan, China | — | — | MH486165 | — | — |
| *A. pallidozonata* | HKAS80934 | Huoshan, Anhui, China | MH486741 | — | MH486166 | — | — |
| *A. pannosa* | HKAS77447 | Heishiding, Guangdong, China | MH486742 | — | — | — | — |
| *A. pantherina* | C.Bas7474 | L | AF024467 | — | — | — | — |
| *A. pantherina* | HKAS56702 | Czech Republic | KR824782 | MH508487 | KR824789 | KR824825 | MH485670 |
| *A. pantherina* | MB-102863 (duplicate HKAS84852) | Germnay | MH486743 | MH508488 | MH486167 | — | MH485671 |
| *‘A. pantherina var. lutea’* | HKAS29627 | Yunnan, China | AF024468 | — | — | — | — |
| *A. parvicurta* | HKAS100497 | Mount Wuyi, Fujian, China | MH486744 | MH508489 | MH486168 | — | — |
| *A. parvicurta* | HKAS101215 | Lancang, Yunnan, China | MH486745 | MH508490 | MH486169 | — | — |
| *A. parvieixitials* | HKAS79049 | Heishiding, Guangdong, China | KT971342 | — | KT971345 | KT971343 | KT971346 |
| *A. parvieixitials* | HKAS79601 | Heishiding, Guangdong, China | — | — | — | KT971344 | KT971347 |
| *A. parvifritillaria* | HKAS54733 | Puer, Yunnan, China | MH486746 | MH508491 | MH486170 | — | MH485672 |
| *A. parvifritillaria* | HKAS73309 | Baoshan, Yunnan, China | MH486747 | MH508492 | MH486171 | — | MH485673 |
| *A. parvifritillaria* | HKAS74488 | Lushui, Yunnan, China | MH486748 | MH508493 | MH486172 | — | MH485674 |
| *A. parvifritillaria* | HKAS83737 | Ailaoshan, Yunnan, China | MH486749 | MH508494 | MH486173 | — | MH485675 |
| *A. parvipantherina* | HKAS32492 | Yunnan, China | HQ539719 | — | — | — | — |
| *A. parvipantherina* | HKAS54723 | Puer, Yunnan, China | KR824780 | MH508495 | KR824802 | KR824807 | MH485676 |
| *A. parvipantherina* | HKAS67828 | Fugong, Yunnan, China | MH486750 | MH508496 | MH486174 | — | MH485677 |
| *A. parvipantherina* | HKAS67892 | Baoshan, Yunnan, China | MH486751 | MH508497 | MH486175 | — | MH485678 |
| *A. parvipantherina* | HKAS67907 | Baoshan, Yunnan, China | KR824781 | MH508498 | KR824803 | KR824808 | MH485679 |
| *A. parvipantherina* | HKAS83663 | Lingbaoshan, Yunnan, China | MH486752 | MH508499 | MH486176 | — | MH485680 |
| *A. parvivirginea* | HKAS79051 | Heishiding, Guangdong, China | MH486753 | — | — | — | — |
| *A. persicina* | RET151-4 | USA | EU071969 | NR\_154668 | — | — | — |
| *A. phalloides* | HKAS75773 | CA, USA | JX998060 | JX998031 | KJ466612 | JX998000 | KJ466523 |
| *A. phalloides* | MB-102659 (duplicate HKAS84853) | Germnay | MH486754 | — | — | — | — |
| *‘A. pilosella’* | HKAS32517 | Yunnan, China | AF024470 | — | — | — | — |
| *A. pinophila* | HKAS68307 | Lanping, Yunnan, China | MH486758 | MH508503 | MH486177 | — | — |
| *A. pinophila* | HKAS70167 | Ninglang, Yunnan, China | MH486759 | MH508504 | MH486178 | — | MH485682 |
| *A. pinophila* | HKAS71662 | Lanping, Yunnan, China | MH486760 | MH508505 | MH486179 | — | MH485683 |
| *A. populiphila* | RET 068-7 | USA | KP221315 | — | — | — | — |
| *A. porphyria* | HKAS92088 | Changbai mountain,Jilin, China | MH486761 | MH508506 | MH486180 | — | MH485684 |
| *A. porphyria* | MB-100156 (duplicate HKAS84871) | Germnay | MH486762 | MH508507 | MH486181 | — | MH485685 |
| *A. porphyria* | RET 079-1 | Switzerland | KP866192 | — | — | — | — |
| *A. princeps* | FRI:62849 | Malaysia | KU714552 | KU714576 | KU714594 | KU714539 | — |
| *A. princeps* | HKAS59777 | Ledong, Hainan, China | JX998066 | KC006434 | MH486182 | — | MH485686 |
| *A. princeps* | HKAS59779 | Ledong, Hainan, China | MH486763 | — | MH486183 | — | MH485687 |
| *A. princeps* | HKAS59782 | Ledong, Hainan, China | MH486764 | MH508508 | — | — | MH485688 |
| *A. princeps* | HKAS59793 | Ledong, Hainan, China | MH486765 | MH508509 | — | — | MH485689 |
| *A. princeps* | HKAS60269 | Limushan, Hainan, China | MH486766 | — | MH486184 | — | MH485690 |
| *A. pseudogemmtata* | HKAS84744 | Puer, Yunnan, China | MH486767 | — | MH486185 | — | MH485691 |
| *A. pseudogemmtata* | HKAS85889 | Puer, Yunnan, China | MH486768 | — | MH486186 | — | MH485692 |
| *A. pseudogemmtata* | HKAS87060 | Xishuangbanna, Yunnan, China | MH486769 | — | — | — | MH485693 |
| *A. pseudoinculta* | PERTH08105731 | Western Australia, Australia | MH486770 | — | — | — | — |
| *A. pseudoinculta* | PERTH08474028 | Western Australia, Australia | MH486771 | — | — | — | — |
| *A. pseudoinculta* | VPI 366 | Australia | GQ925372 | — | — | — | — |
| *A. pseudoinculta* | VPI 555 | Australia | GQ925375 | — | — | — | — |
| *A. pseudomanginiana* | HKAS83470 | Hejiang, Sichuan, China | MH486772 | — | MH486187 | — | MH485694 |
| *A. pseudopantheirna* | HKAS54869 | Shangri-La, Yunnan, China | MH486773 | MH508510 | — | — | — |
| *A. pseudopantheirna* | HKAS57611 | Yongping, Yunnan, China | MH486774 | MH508511 | MH486188 | — | MH485695 |
| *A. pseudopantheirna* | HKAS68314 | Lanping, Yunnan, China | MH486775 | MH508512 | MH486189 | — | MH485696 |
| *A. pseudopantheirna* | HKAS76228 | Muli, Sichuan, China | MH486776 | MH508513 | MH486190 | — | MH485697 |
| *A. pseudopantheirna* | HKAS80007 | Binchuan, Yunnan, China | MH486777 | MH508514 | MH486191 | — | MH485698 |
| *A. pseudopantheirna* | HKAS83636 | Wuliangshan, Yunnan, China | MH486778 | MH508515 | MH486192 | — | MH485699 |
| *A. pseudopantheirna* | HKAS83747 | Yongping, Yunnan, China | MH486779 | MH508516 | MH486193 | — | MH485700 |
| *A. pseudoporphyria* | BZ-N10 | Thailand | KU904823 | KY747456 | KY656872 | — | KY656853 |
| *A. pseudoporphyria* | HKAS100512 | Heishiding, Guangdong, China | MH486780 | MH508517 | MH486194 | — | MH485701 |
| *A. pseudoporphyria* | HKAS100513 | Yongping, Yunnan, China | — | — | MH486195 | — | MH485702 |
| *A. pseudoporphyria* | HKAS26143 | Yunnan, China | AF024471 | — | — | — | — |
| *A. pseudoporphyria* | HKAS56984 | Lanping, Yunnan, China | KJ466450 | KJ466390 | KJ466614 | KJ481953 | KJ466525 |
| *A. pseudoporphyria* | HKAS57356 | Lanping, Yunnan, China | KJ466451 | MH508518 | KJ466613 | KJ481952 | KJ466524 |
| *A. pseudoporphyria* | HKAS68320 | Heishiding, Guangdong, China | MH486781 | MH508519 | MH486196 | — | MH485703 |
| *A. pseudoporphyria* | HKAS75019 | Xinyang, Henan, China | MH486782 | MH508520 | MH486197 | — | MH485704 |
| *A. pseudoporphyria* | HKAS78484 | Baoshan, Yunnan, China | MH486783 | MH508521 | — | — | — |
| *A. pseudoporphyria* | HKAS79614 | Puer, Yunnan, China | — | MH508522 | — | — | MH485705 |
| *A. pseudoporphyria* | HKAS80179 | Puer, Yunnan, China | MH486784 | MH508523 | MH486198 | — | MH485706 |
| *A. pseudoporphyria* | HKAS89074 | Nanjian, Yunnan, China | MH486785 | MH508524 | MH486199 | — | MH485707 |
| *A. pseudoporphyria* | HKAS91971 | Lancang, Yunnan, China | — | — | — | — | MH485708 |
| *A. pseudoprinceps* | HKAS91995 | Lancang, Yunnan, China | MH486786 | MH508525 | MH486200 | — | MH485709 |
| *A. pseudoprinceps* | HKAS97520 | Lancang, Yunnan, China | MH486787 | MH508526 | MH486201 | — | — |
| *A. pseudoprinceps* | HKAS97523 | Heishiding, Guangdong, China | MH486788 | MH508527 | MH486202 | — | MH485710 |
| *A. pseudoprinceps* | HKAS97642 | Heishiding, Guangdong, China | MH486789 | — | MH486203 | — | MH485711 |
| *A. pseudosychnopyramis* | HKAS78417 | Jinghong, Yunnan, China | KR824777 | MH508528 | — | — | — |
| *A. pseudosychnopyramis* | HKAS82293 | Lijiang, Yunnan, China | MH486790 | MH508529 | MH486204 | — | MH485712 |
| *A. pseudosychnopyramis* | HKAS87999 | Lijiang, Yunnan, China | KR824778 | MH508530 | KR824790 | KR824824 | MH485713 |
| *A. pseudovaginata* | HKAS70138 | Wuliangshan, Yunnan, China | MH486791 | MH508531 | MH486205 | — | MH485714 |
| *A. pseudovaginata* | HKAS70170 | Binchuan, Yunnan, China | MH486792 | MH508532 | MH486206 | — | MH485715 |
| *A. pseudovaginata* | HKAS76312 | Xichang, Sichuan, China | MH486793 | MH508533 | MH486207 | — | MH485716 |
| *A. pseudovaginata* | HKAS95305 | Longling, Yunnan, China | MH486794 | MH508534 | MH486208 | — | MH485717 |
| *A. pyramidata* | HKAS87943 | Shangri-La, Yunnan, China | MH486795 | MH508535 | MH486209 | — | MH485718 |
| *A. ravenelii* | RET 459-10 | NC, USA | MH486796 | MH508536 | MH486210 | — | MH485719 |
| *A. regalis* | HKAS56699 | Czech Republic | MH486797 | MH508537 | — | — | — |
| *A. retenta* | HKAS54604 | Lijiang, Yunnan, China | MH486798 | MH508538 | MH486211 | — | — |
| *A. retenta* | HKAS54654 | Lijiang, Yunnan, China | — | MH508539 | MH486212 | — | — |
| *A. retenta* | HKAS54672 | Lijiang, Yunnan, China | MH486799 | MH508540 | MH486213 | — | — |
| *A. retenta* | HKAS68379 | Lijiang, Yunnan, China | MH486800 | MH508541 | — | — | — |
| *A. retenta* | HKAS69787 | Lijiang, Yunnan, China | MH486801 | MH508542 | MH486214 | — | MH485720 |
| *A. retenta* | HKAS70020 | Lijiang, Yunnan, China | MH486802 | MH508543 | MH486215 | — | MH485721 |
| *A. retenta* | HKAS70024 | Lijiang, Yunnan, China | MH486803 | MH508544 | MH486216 | — | — |
| *A. retenta* | HKAS70130 | Lijiang, Yunnan, China | MH486804 | MH508545 | MH486217 | — | — |
| *A. retenta* | HKAS82591 | Lijiang, Yunnan, China | MH486805 | MH508546 | — | — | — |
| *A. rimosa* | HKAS101393 | Heishiding, Guangdong, China | MH486806 | — | MH486218 | — | MH485722 |
| *A. rimosa* | HKAS75777 | Baisha, Hainan, China | JX998044 | JX998018 | KJ466615 | JX998005 | KJ466526 |
| *A. rimosa* | HKAS75778 | Limushan, Hainan, China | JX998045 | JX998019 | KJ466616 | JX998006 | KJ466527 |
| *A. rimosa* | HKAS75779 | Shixing, Guangdong, China | JX998046 | JX998020 | KJ466617 | JX998004 | KJ466528 |
| *A. rimosa* | HKAS77105 | Fuzhou, Jiangxi, China | KJ466452 | KJ466391 | KJ466618 | KJ481954 | KJ466529 |
| *A. rimosa* | HKAS77120 | Fuzhou, Jiangxi, China | KJ466453 | MH508547 | KJ466619 | KJ481955 | KJ466530 |
| *A. rimosa* | HKAS77335 | Limushan, Hainan, China | KJ466455 | KJ466393 | KJ466621 | KJ481957 | KJ466532 |
| *A. rimosa* | HKAS77336 | Zhaoqing, Guangdong, China | KJ466456 | KJ466394 | KJ466622 | KJ481958 | KJ466533 |
| *A. ristichii* | RET 096-1 | USA | KF877276 | JX844738 | KF877075 | KF877162 | — |
| *A. roseitincta* | RET 032-7 | MD, USA | KC855226 | MH508549 | — | — | MH485724 |
| *A. roseitincta* | RET 284-10 | TX, USA | KC855224 | MH508550 | — | — | — |
| *A. roseitincta* | RET 313-5 | TX, USA | KC855225 | MH508551 | — | — | MH485725 |
| *A. roseolamellata* | RET476-4 | Australia | KF877278 | — | — | — | — |
| *A. roseolifolia* | HKAS101403 | Limushan, Hainan, China | MH486807 | MH508548 | MH486219 | — | MH485723 |
| *A. rubescens* | HKAS100525 | Qingdao, Shandong, China | MH486808 | MH508552 | MH486220 | — | MH485726 |
| *A. rubescens* | HKAS100535 | Yantai, Shandong, China | MH486809 | MH508553 | MH486221 | — | MH485727 |
| *A. rubescens* | HKAS100631 | Jinzhai, Anhui, China | MH486810 | MH508554 | — | — | — |
| *A. rubescens* | HKAS101398 | France | MH486811 | — | MH486222 | — | MH485728 |
| *A. rubescens* | HKAS101417 | Neixiang, Henan, China | MH486812 | MH508555 | MH486223 | — | MH485729 |
| *A. rubescens* | HKAS56859 | Baoshan, Yunnan, China | MH486813 | MH508556 | MH486224 | — | — |
| *A. rubescens* | HKAS71049 | Tomakomai, Hokkaido, Japan | MH486814 | MH508557 | MH486225 | — | MH485730 |
| *A. rubescens* | HKAS92034 | Anshan, Liaoning, China | MH486815 | MH508558 | MH486226 | — | MH485731 |
| *A. rubescens* | HKAS92040 | Anshan, Liaoning, China | MH486816 | MH508559 | MH486227 | — | MH485732 |
| *A. rubescens* | MB-001172 (duplicate HKAS84854) | Germnay | — | MH508560 | MH486228 | — | MH485733 |
| *A. rubiginosa* | HKAS52216 | Kunming, Yunnan, China | MH486817 | MH508561 | MH486229 | — | MH485734 |
| *A. rubiginosa* | HKAS56959 | Dali, Yunnan, China | MH486818 | MH508562 | MH486230 | — | MH485735 |
| *A. rubiginosa* | HKAS57045 | Nanhua, Yunnan, China | MH486819 | MH508563 | MH486231 | — | MH485736 |
| *A. rubiginosa* | HKAS57726 | Jianchuan, Yunnan, China | MH486820 | MH508564 | MH486232 | — | MH485737 |
| *A. rubiginosa* | HKAS57740 | Jianchuan, Yunnan, China | MH486821 | MH508565 | MH486233 | — | MH485738 |
| *A. rubiginosa* | HKAS63581 | Lijiang, Yunnan, China | MH486822 | — | MH486234 | — | MH485739 |
| *A. rubiginosa* | HKAS92483 | Weixi, Yunnan, China | MH486823 | — | MH486235 | — | MH485740 |
| *A. rubroflava* | HKAS101414 | Yunnan, China | MH486824 | — | MH486236 | — | — |
| *A. rubroflava* | HKAS101434 | Jingdong, Yunnan, China | MH486825 | MH508566 | MH486237 | — | MH485741 |
| *A. rubroflava* | HKAS82576 | Lijiang, Yunnan, China | MH486826 | MH508567 | — | — | MH485742 |
| *A. rubroflava* | HKAS83089 | Lingbaoshan, Yunnan, China | MH486827 | MH508568 | MH486238 | — | MH485743 |
| *A. rubroflava* | HKAS83649 | Ailaoshan, Yunnan, China | MH486828 | MH508569 | MH486239 | — | MH485744 |
| *A. rubroflava* | HKAS83715 | Ailaoshan, Yunnan, China | MH486829 | MH508570 | MH486240 | — | MH485745 |
| *A. rubroflava* | HKAS83748 | Binchuan, Yunnan, China | MH486830 | MH508571 | MH486241 | — | MH485746 |
| *A. rubromarginata* | HKAS101240 | Lancang, Yunnan, China | MH486831 | MH508572 | MH486242 | — | MH485747 |
| *A. rubromarginata* | HKAS89018 | Xishuangbanna, Yunnan, China | MH486832 | MH508573 | MH486243 | — | MH485748 |
| *A. rubromarginata* | HKAS97697 | Lancang, Yunnan, China | MH486833 | — | — | — | — |
| *A. rubromarginata* | RET 383-1 | Japan | KF877279 | — | — | KF877164 | — |
| *A. rubrovolvata* | BZ2015-68 | Thailand | KY747477 | KY747465 | KY656882 | — | KY656863 |
| *A. rubrovolvata* | HKAS54725 | Puer, Yunnan, China | MH486834 | MH508574 | MH486244 | — | MH485749 |
| *A. rubrovolvata* | HKAS54491 | Puer, Yunnan, China | JN941153 | JN943178 | JQ031116 | KR824823 | — |
| *A. rubrovolvata* | HKAS63011 | Lushui, Yunnan, China | MH486835 | MH508575 | MH486245 | — | MH485750 |
| *A. rubrovolvata* | HKAS81993 | Baoshan, Yunnan, China | MH486836 | MH508576 | MH486246 | — | MH485751 |
| *A. rubrovolvata* | HKAS82407 | Nantou, Taiwan, China | MH486837 | MH508577 | MH486247 | — | MH485752 |
| *A. rubrovolvata* | HKAS87151 | Lijiang, Yunnan, China | MH486838 | — | MH486248 | — | — |
| *A. rufobrunnescens* | GDGM42374 | Guangdong, China | KT865210 | — | — | — | — |
| *A. rufoferruginea* | HKAS101395 | Heishiding, Guangdong, China | MH486839 | MH508578 | MH486249 | — | MH485753 |
| *A. rufoferruginea* | HKAS101396 | Heishiding, Guangdong, China | MH486840 | — | MH486250 | — | MH485754 |
| *A. rufoferruginea* | HKAS78428 | Heishiding, Guangdong, China | MH486841 | — | MH486251 | — | MH485755 |
| *A. rufoferruginea* | HKAS79616 | Heishiding, Guangdong, China | MH486842 | MH508579 | MH486252 | — | MH485756 |
| *A. rufoferruginea* | HKAS84974 | Puer, Yunnan, China | MH486843 | MH508580 | MH486253 | — | — |
| *A. sepiacea* | HKAS100603 | Jinzhai, Anhui, China | MH486844 | MH508581 | — | — | — |
| *A. sepiacea* | HKAS100604 | Jinzhai, Anhui, China | MH486845 | MH508582 | MH486254 | — | MH485757 |
| *A. sepiacea* | HKAS38716 | Yunnan, China | AY436501 | — | — | — | — |
| *A. sepiacea* | HKAS52252 | Kunming, Yunnan, China | MH486846 | MH508583 | MH486255 | — | MH485758 |
| *A. sepiacea* | HKAS56799 | Baoshan, Yunnan, China | MH486847 | MH508584 | MH486256 | — | MH485759 |
| *A. sepiacea* | HKAS57371 | Dali, Yunnan, China | MH486848 | — | MH486257 | — | MH485760 |
| *A. sepiacea* | HKAS68336 | Lanping, Yunnan, China | MH486849 | — | MH486258 | — | MH485761 |
| *A. sepiacea* | HKAS68383 | Lijiang, Yunnan, China | MH486850 | — | MH486259 | — | MH485762 |
| *A. sepiacea* | HKAS68614 | Lanping, Yunnan, China | MH486851 | MH508585 | MH486260 | — | MH485763 |
| *A. sepiacea* | HKAS69709 | Lijiang, Yunnan, China | MH486852 | — | MH486261 | — | — |
| *A. sepiacea* | HKAS70045 | Lijiang, Yunnan, China | MH486853 | MH508586 | MH486262 | — | MH485764 |
| *A. sepiacea* | HKAS70175 | Ninglang, Yunnan, China | MH486854 | — | MH486263 | — | MH485765 |
| *A. sepiacea* | HKAS70250 | Binchuan, Yunnan, China | MH486855 | — | MH486264 | — | MH485766 |
| *A. sepiacea* | HKAS73329 | Baoshan, Yunnan, China | MH486856 | — | MH486265 | — | MH485767 |
| *A. sepiacea* | HKAS74750 | Gongshan, Yunnan, China | MH486857 | MH508587 | MH486266 | — | MH485768 |
| *A. sepiacea* | HKAS78139 | Heishiding, Guangdong, China | MH486858 | — | — | — | — |
| *A. sepiacea* | HKAS79669 | Kunming, Yunnan, China | MH486859 | MH508588 | MH486267 | — | MH485769 |
| *A. sepiacea* | HKAS80970 | Zhenping, Shaanxi, China | MH486860 | MH508589 | MH486268 | — | MH485770 |
| *A. sepiacea* | HKAS83643 | Wuliangshan, Yunnan, China | MH486861 | — | MH486269 | — | — |
| *A. shennongjiana* | HKAS75553 | Shennongjia, Hubei, China | MH486862 | MH508590 | MH486270 | — | MH485771 |
| *A. shennongjiana* | HKAS75554 | Shennongjia, Hubei, China | MH486863 | MH508591 | — | — | MH485772 |
| *A. siamensis* | HKAS67855 | Lushui, Yunnan, China | MH486864 | MH508592 | MH486271 | — | MH485773 |
| *A. siamensis* | HKAS83680 | Lingbaoshan, Yunnan, China | MH486865 | — | MH486272 | — | — |
| *A. siamensis* | HKAS83681 | Lingbaoshan, Yunnan, China | MH486866 | MH508593 | MH486273 | — | MH485774 |
| *A. similis* | FRI:3740 | Malaysia | JF710796 | KU714566 | — | KU714531 | — |
| *A. sinensis* | HKAS100492 | Zhangping, Fujian, China | MH486867 | MH508594 | MH486274 | — | MH485775 |
| *A. sinensis* | HKAS100493 | Xuandian, Yunnan, China | MH486868 | MH508595 | MH486275 | — | MH485776 |
| *A. sinensis* | HKAS100623 | Jinzhai, Anhui, China | MH486869 | — | MH486276 | — | MH485777 |
| *A. sinensis* | HKAS74388 | Xundian, Kunming, Yunnan | MH486870 | MH508596 | MH486277 | — | MH485778 |
| *A. sinensis* | HKAS80012 | Jingdong, Yunnan, China | MH486871 | MH508597 | — | — | — |
| *A. sinensis* | HKAS97604 | Lancang, Yunnan, China | MH486872 | — | MH486278 | — | — |
| *A. sinocitrina* | HKAS100530 | Suiyang, Guizhou, China | MH486873 | MH508598 | MH486279 | — | MH485779 |
| *A. sinocitrina* | HKAS100531 | Qingdao, Shandong, China | MH486874 | MH508599 | MH486280 | — | MH485780 |
| *A. sinocitrina* | HKAS52714 | Mangshan, Hunan, China | MH486875 | MH508600 | — | — | MH485781 |
| *A. sinocitrina* | HKAS83445 | Lechang, Guangdong, China | MH486876 | MH508601 | MH486281 | — | MH485782 |
| *A. solitaria* | Z. L. Yang D85 | Germany | AF024475 | — | — | — | — |
| *A.* sp. | HKAS101224 | Lancang, Yunnan, China | — | MH508602 | MH486282 | MH509098 | — |
| *A.* sp. | HKAS101389 | Heishiding, Guangdong, China | MH486877 | — | MH486283 | MH509099 | — |
| *A.* sp. | HKAS101390 | Heishiding, Guangdong, China | MH486878 | MH508603 | MH486284 | MH509100 | MH485783 |
| *A.* sp. | HKAS101407 | Hainan, China | — | — | — | — | — |
| *A.* sp. | HKAS101408 | Hainan, China | — | — | — | — | — |
| *A.* sp. | HKAS59778 | Hainan, China | MH486879 | MH508604 | — | MH509101 | MH485784 |
| *A.* sp. | HKAS59801 | Hainan, China | MH486880 | MH508605 | — | MH509102 | — |
| *A.* sp. | HKAS75475 | Yichang, Hubei, China | MH486881 | MH508606 | MH486285 | MH509103 | MH485785 |
| *A.* sp. | HKAS84697 | Xishuangbanna, Yunnan, China | MH486882 | — | MH486286 | MH509104 | MH485786 |
| *A.* sp. | HKAS89019 | Xishuangbanna, Yunnan, China | MH486883 | — | MH486287 | MH509105 | MH485787 |
| *A.* sp. | HKAS91096 | Puer, Yunnan, China | MH486884 | MH508607 | MH486288 | MH509106 | — |
| *A.* sp. | HKAS91972 | Puer, Yunnan, China | MH486885 | MH508608 | MH486289 | MH509107 | MH485788 |
| *‘A.* sp-M36*’* | RET 293-3 | Mexico | KF877286 | — | KF877079 | KF877171 | — |
| *‘A.* sp-Thai03’ | RET 350-1 | Laos | KF877289 | — | KF877081 | KF877174 | — |
| *‘A.* sp-Thai03’ | RET351-7 | Thailand | KF877290 | — | KF877082 | KF877175 | — |
| A. *sphaerobulbosa* | HKAS83215 | Yongshun, Hunan, China | — | — | — | — | MH485789 |
| *A. spissa* | HKAS100533 | France | MH486891 | — | MH486294 | MH509113 | MH485794 |
| *A. spissa* | HKAS92051 | Huanren, Liaoning, China | MH486892 | MH508611 | MH486295 | MH509114 | MH485795 |
| *A. spissa* | HKAS92089 | Changbai mountain, Jilin, China | MH486893 | MH508612 | MH486296 | MH509115 | MH485796 |
| *A. spissacea* | HKAS56832 | Baoshan, Yunnan, China | KJ466479 | KJ466372 | KJ466644 | KJ481979 | KJ466558 |
| *A. spissacea* | HKAS57649 | Dali, Yunnan, China | KJ466480 | KJ466373 | KJ466645 | KJ481980 | KJ466559 |
| *A. spissacea* | HKAS57754 | Yulong, Yunnan, China | MH486886 | MH508609 | MH486290 | MH509108 | MH485790 |
| *A. spissacea* | HKAS67873 | Caojian, Yunnan, China | MH486887 | — | MH486291 | MH509109 | MH485791 |
| *A. spissacea* | HKAS71041 | Tomakomai, Hokkaido, Japan | MH486888 | MH508610 | MH486292 | MH509110 | MH485792 |
| *A. spissacea* | HKAS75533 | Shennongjia, Hubei, China | MH486889 | — | — | MH509111 | MH485793 |
| *A. spissacea* | HKAS83652 | Lingbaoshan, Yunnan, China | MH486890 | — | MH486293 | MH509112 | — |
| *A. spreta* | RET 296-10 | USA | KF877294 | — | KF877085 | KF877179 | — |
| *A. squarrosipes* | HKAS76359 | Muli, Sichuan, China | MH486894 | MH508613 | MH486297 | MH509116 | MH485797 |
| *A. strobiliformis* | MB-001177  (duplicate HKAS84872) | Germnay | MH486895 | MH508614 | MH486298 | MH509117 | MH485798 |
| *A. strobiliformis* | M. Geesteranus 15644 | L | AF024476 | — | — | — | — |
| *A. suballiacea* | RET 478-6 | PA, USA | KJ466484 | KJ466419 | KJ466600 | KJ481940 | KJ466512 |
| *A. suballiacea* | RET 490-1 | CT, USA | KJ466485 | KJ466420 | KJ466601 | KJ481941 | KJ466513 |
| *A. suballiacea* | RET 491-7 | MI, USA | KJ466486 | KJ466421 | KJ466602 | KJ481942 | KJ466514 |
| *A. subfrostiana* | HKAS32513 | Dali, Yunnan, China | AF024477 | — | — | — | — |
| *A. subfrostiana* | HKAS101416 | Yunnan, China | MH486896 | MH508615 | — | MH509118 | — |
| *A. subfrostiana* | HKAS57042 | Nanhua, Yunnan, China | JN941162 | JN943173 | JQ031118 | KJ482003 | KJ466565 |
| *A. subfrostiana* | HKAS58750 | Nanhua, Yunnan, China | MH486897 | — | MH486299 | MH509119 | MH485799 |
| *A. subfrostiana* | HKAS58847 | Jianchuan, Yunnan, China | JN941161 | JN943172 | JQ031119 | KR824806 | MH485800 |
| *A. subfrostiana* | HKAS76308 | Xichang, Sichuan, China | MH486898 | MH508616 | MH486300 | — | — |
| *A. subfuliginea* | HKAS77326 | Lechang, Guangdong, China | KJ466467 | KJ466404 | KJ466636 | KJ481971 | KJ466550 |
| *A. subfuliginea* | HKAS77347 | Mangshan, Hunan, China | KJ466468 | KJ466405 | KJ466637 | KJ481972 | KJ466551 |
| *A. subglobosa* | HKAS100494 | Neixiang, Henan, China | MH486899 | MH508617 | — | MH509120 | — |
| *A. subglobosa* | HKAS12009 | Xichang, Sichuan, China | AF024478 | — | — | — | — |
| *A. subglobosa* | HKAS54787 | Ninger, Yunnan, China | MH486900 | MH508618 | MH486301 | MH509121 | MH485801 |
| *A. subglobosa* | HKAS56893 | Baoshan, Yunnan, China | JN941157 | JN943176 | JQ031120 | KR824826 | MH485802 |
| *A. subglobosa* | HKAS58834 | Yongping, Yunnan, China | MH486901 | — | MH486302 | MH509122 | MH485803 |
| *A. subglobosa* | HKAS67914 | Baoshan, Yunnan, China | MH486902 | MH508619 | MH486303 | MH509123 | MH485804 |
| *A. subglobosa* | HKAS68639 | Lanping, Yunnan, China | MH486903 | — | MH486304 | MH509124 | MH485805 |
| *A. subglobosa* | HKAS75017 | Lanping, Yunnan, China | MH486904 | MH508620 | MH486305 | MH509125 | MH485806 |
| *A. subglobosa* | HKAS92050 | Huanren, Liaoning, China | MH486905 | — | MH486306 | MH509126 | MH485807 |
| *A. subhemibapha* | HKAS96847 | Lancang, Yunnan, China | MH486906 | — | MH486307 | MH509127 | — |
| *A. subhemibapha* | HKAS97518 | Lancang, Yunnan, China | MH486907 | MH508621 | MH486308 | — | — |
| *A. subjunquillea* | HKAS100581 | Jinzhai, Anhui, China | MH486908 | MH508622 | MH486309 | MH509128 | MH485808 |
| *A. subjunquillea* | HKAS100597 | Jinzhai, Anhui, China | MH486909 | MH508623 | MH486310 | MH509129 | MH485809 |
| *A. subjunquillea* | HKAS100622 | Jinzhai, Anhui, China | MH486910 | MH508624 | MH486311 | MH509130 | MH485810 |
| *A. subjunquillea* | HKAS101428 | Tianshui, Gansu, China | MH486911 | — | MH486312 | MH509131 | MH485811 |
| *A. subjunquillea* | HKAS101429 | Zhouzhi, Shaanxi, China | MH486912 | — | MH486313 | MH509132 | MH485812 |
| *A. subjunquillea* | HKAS54509 | Kunming, Yunnan, China | KJ466487 | KJ466422 | — | KJ481985 | KJ466568 |
| *A. subjunquillea* | HKAS63418 | Antu, Jilin, China | KJ466488 | KJ466423 | KJ466651 | KJ481986 | KJ466569 |
| *A. subjunquillea* | HKAS74993 | Lanping, Yunnan, China | KJ466489 | KJ466424 | KJ466652 | KJ481987 | KJ466570 |
| *A. subjunquillea* | HKAS75550 | Shennongjia, Hubei, China | MH486913 | — | — | — | MH485813 |
| *A. subjunquillea* | HKAS75552 | Shennongjia, Hubei, China | MH486914 | — | MH486314 | MH509133 | MH485814 |
| *A. subjunquillea* | HKAS75770 | Meixian, Shaanxi, China | JX998062 | JX998034 | KJ466653 | JX997999 | KJ466571 |
| *A. subjunquillea* | HKAS75771 | Shennongjia, Hubei, China | JX998063 | JX998032 | KJ466654 | JX997997 | KJ466572 |
| *A. subjunquillea* | HKAS75772 | Tianshui, Gansu, China | JX998061 | JX998033 | KJ466655 | JX997998 | KJ466573 |
| *A. subjunquillea* | HKAS77325 | Neixiang, Henan, China | KJ466490 | KJ466425 | KJ466656 | KJ481988 | KJ466574 |
| *A. subjunquillea* | HKAS77345 | Shennongjia, Hubei, China | KJ466491 | KJ466426 | KJ466657 | KJ481989 | KJ466575 |
| *A. subjunquillea* | HMJAU20412 | Changbai mountain,Jilin, China | KJ466492 | KJ466427 | KJ466658 | KJ481990 | KJ466576 |
| *A. subjunquillea* | HMJAU23276 | Helong, Jilin, China | KJ466493 | KJ466428 | KJ466659 | KJ481991 | KJ466577 |
| *A. submembranacea* | HKAS96167 | Austria | MH486915 | MH508625 | MH486315 | MH509134 | MH485815 |
| *A. submembranacea* | MB-001174 (duplicate HKAS84857) | Germany | MH486916 | MH508626 | — | MH509135 | MH485816 |
| *A. submembranacea* | MB-001175  (duplicate HKAS84858) | Germnay | MH486917 | MH508627 | — | — | MH485817 |
| *A. subpallidorosea* | LHJ140923-41 | Guizhou, China | KP691692 | KP691683 | KP691701 | KP691670 | KP691711 |
| *A. subpallidorosea* | HKAS77350 | Taichung, Taiwan, China | KJ466462 | KJ466400 | KJ466631 | KJ481966 | KJ466545 |
| *A. subparvipantherina* | HKAS56817 | Baoshan, Yunnan, China | JN941160 | JN943171 | JQ031114 | KR824815 | MH485818 |
| *A. subparvipantherina* | HKAS56986 | Yongping, Yunnan, China | KR824776 | — | — | KR824820 | — |
| *A. subparvipantherina* | HKAS58891 | Yulong, Yunnan, China | MH486918 | MH508628 | MH486316 | MH509136 | MH485819 |
| *A. subparvipantherina* | HKAS67853 | Lushui, Yunnan, China | KR824773 | MH508629 | KR824797 | KR824817 | MH485820 |
| *A. subparvipantherina* | HKAS80008 | Binchuan, Yunnan, China | MH486919 | — | MH486317 | — | MH485821 |
| *A. subparvipantherina* | HKAS83709 | Ailaoshan, Yunnan, China | MH486920 | MH508630 | — | MH509137 | MH485822 |
| *A. subparvipantherina* | HKAS87232 | Lijiang, Yunnan, China | MH486921 | — | MH486318 | MH509138 | MH485823 |
| *A. subparvipantherina* | HKAS70252 | Dali, Yunnan, China | KR824770 | — | KR824798 | KR824821 | — |
| *A. sychnopyramis* | HKAS101427 | Xiamen, Fujian, China | MH486922 | MH508631 | — | MH509139 | MH485824 |
| *A. sychnopyramis* | HKAS101437 | Mount Tianmu, Zhejiang, China | MH486923 | MH508632 | MH486319 | MH509140 | MH485825 |
| *A. sychnopyramis* | HKAS101438 | Lushan, Jiangxi, China | MH486924 | — | MH486320 | MH509141 | — |
| *A. sychnopyramis* | HKAS101442 | Yunnan, China | MH486925 | MH508633 | MH486321 | MH509142 | MH485826 |
| *A. sychnopyramis* f. *subannulata* | HKAS26144 | Yunnan, China | AF024480 | — | — | — | — |
| *A. sychnopyramis* f. *subannulata* | HKAS75485 | Yongzhou, Hunan, China | MH486926 | MH508634 | — | MH509143 | MH485827 |
| *A. sychnopyramis* f. *sychnopyramis* | HKAS83454 | Wenshan, Yunnan, China | MH486927 | — | — | MH509144 | MH485828 |
| *A. tenuifulva* | HKAS58877 | Yulong, Yunnan, China | MH486928 | MH508635 | — | MH509145 | — |
| *A. tenuifulva* | HKAS87120 | Baoshan, Yunnan, China | MH486929 | — | MH486322 | MH509146 | MH485829 |
| *A. thiersii* | Skay4041 | USA (JGI) | — | — | JGI | JGI | — |
| *A. timida* | HKAS83228 | Heishiding, Guangdong, China | MH486930 | MH508636 | MH486323 | MH509147 | MH485830 |
| *A. timida* | HKAS83455 | Xishuangbanna, Yunnan, China | MH486931 | — | MH486324 | MH509148 | MH485831 |
| *A. timida* | HKAS89001 | Xishuangbanna, Yunnan, China | MH486932 | — | MH486325 | MH509149 | — |
| *A. torrendii* | LOU Fungi 17408 | Spain | GQ925369 | GQ925386 | — | — | — |
| *A. torrendii* | LOU Fungi 19028 | Spain | GQ925370 | — | — | — | — |
| *A. umbrinella* | PSC1813 | Australia | HQ539753 | — | — | — | — |
| *A. umbrinolutea* | HKAS31451 | Germany | AF024481 | — | — | — | — |
| *A. umbrinolutea* | HKAS89201 | Luhuo, Sichuan, China | MH486933 | MH508637 | MH486326 | MH509150 | MH485832 |
| *A. umbrinolutea* | HKAS89637 | Batang, Sichuan, China | MH486934 | MH508638 | MH486327 | MH509151 | MH485833 |
| *A. umbrinolutea* | HKAS94089 | Batang, Sichuan, China | MH486935 | MH508639 | MH486328 | MH509152 | MH485834 |
| *A. umbrinolutea* | HKAS97906 | Kangding, Sichuan, China | MH486936 | MH508640 | MH486329 | MH509153 | MH485835 |
| *A. umbrinolutea* | MB-000658 (duplicate HKAS84965) | Germnay | MH486937 | MH508641 | MH486330 | MH509154 | MH485836 |
| *A. vaginata* | H.A.v.d.Aa s.n. | L | AF024482 | — | — | — | — |
| *A. velatipes* | RET 378-3 | TN, USA | — | MH508642 | — | — | — |
| *A. velatipes* | RET 489-2 | MI, USA | MH486938 | MH508643 | MH486331 | MH509155 | MH485837 |
| *A. vernicoccora* | RET 281-9 | USA | KF877299 | — | KF877088 | KF877183 | — |
| *A. verrucosivolva* | HKAS28253 | Maguan, Yunnan, China | AF024483 | — | — | — | — |
| *A. verrucosivolva* | HKAS75608 | Guilin, Guangxi, China | MH486939 | — | MH486332 | MH509156 | MH485838 |
| *A. verrucosivolva* | HKAS87106 | Baoshan, Yunnan, China | — | — | — | MH509157 | MH485839 |
| *A. verrucosivolva* | HKAS87156 | Baoshan, Yunnan, China | — | — | MH486333 | MH509158 | MH485840 |
| *A. vestita* | HKAS100517 | Zhangping, Fujian, China | MH486940 | MH508644 | MH486334 | MH509159 | MH485841 |
| *A. vestita* | HKAS101444 | Lushan, Jiangxi, China | MH486941 | — | MH486335 | MH509160 | MH485842 |
| *A. vestita* | HKAS60351 | Hainan, China | — | MH508645 | — | MH509161 | — |
| *A. vestita* | HKAS77277 | Limushan, Hainan, China | — | MH508646 | MH486336 | MH509162 | — |
| *A. vestita* | HKAS78437 | Heishiding, Guangdong, China | MH486942 | — | MH486337 | MH509163 | MH485843 |
| *A. vestita* | HKAS79687 | Baisha, Hainan, China | KJ466494 | MH508647 | KJ466662 | KJ481995 | KJ466581 |
| *A. vestita* | HKAS89002 | Xishuangbanna, Yunnan, China | MH486943 | — | MH486338 | MH509164 | MH485844 |
| *A. virgineoides* | HKAS100518 | Neixiang, Henan, China | MH486944 | MH508648 | MH486339 | MH509165 | MH485845 |
| *A. virgineoides* | HKAS77278 | Hainan, China | MH486945 | — | MH486340 | MH509166 | MH485846 |
| *A. virgineoides* | HKAS79691 | Qingdao, Shandong, China | KJ466495 | MH508649 | KJ466663 | KJ481996 | KJ466582 |
| *A. virgineoides* | HKAS80015 | Jingdong, Yunnan, China | MH486946 | — | — | — | — |
| *A. virginiana* | RET 268-10 | USA | KF877303 | — | — | KF877091 | — |
| *A. virosa* | HKAS56694 | Juva, Filand | JX998058 | JX998030 | KJ466664 | JX998007 | KJ466583 |
| *A. virosa* | MB-001176 (duplicate HKAS84859 ) | Germnay | MH486949 | — | KR862367 | MH509168 | MH485848 |
| *A. virosa* | HKAS87260 | Changbai mountain,Jilin, China | MH486947 | — | — | — | — |
| *A. virosa* | HKAS90176 | Changbai mountain,Jilin, China | MH486948 | MH508650 | MH486341 | MH509167 | MH485847 |
| *A. virosa* | HMJAU23303 | Fusong, Jilin, China | KJ466497 | KJ466430 | KJ466667 | KJ481998 | KJ466586 |
| *A. virosa* | HMJAU23304 | Fusong, Jilin, China | KJ466498 | KJ466431 | KJ466667 | KJ481999 | KJ466587 |
| *A. vittadinii* | HKAS101430 | Italy | MH486950 | MH508651 | MH486342 | MH509169 | — |
| *A. vittadinii* | TO AV18996 | Italy | KC137252 | — | — | — | — |
| *A. volvata* | S. Harsch 304 | USA | AF024485 | — | — | — | — |
| *A. yenii* | HKAS84698 | Xishuangbanna, Yunnan, China | — | — | MH486343 | MH509170 | MH485849 |
| *A. yenii* | HKAS87047 | Xishuangbanna, Yunnan, China | MH486951 | MH508652 | MH486344 | MH509171 | MH485850 |
| *A. yenii* | HKAS89016 | Xishuangbanna, Yunnan, China | MH486952 | — | MH486345 | MH509172 | MH485851 |
| *A. yuaniana* | HKAS54577 | Yulong, Yunnan, China | MH486953 | — | MH486346 | MH509173 | — |
| *A. yuaniana* | HKAS58807 | Lijiang, Yunnan, China | MH486954 | MH508653 | MH486347 | MH509174 | MH485852 |
| *A. yuaniana* | HKAS58835 | Lijiang, Yunnan, China | MH486955 | — | MH486348 | MH509175 | — |
| *A. yuaniana* | HKAS58871 | Yulong, Yunnan, China | MH486956 | — | MH486349 | MH509176 | MH485853 |
| *A. yuaniana* | HKAS68662 | Lijiang, Yunnan, China | MH486957 | MH508654 | MH486350 | MH509177 | MH485854 |
| *A. zambiana* | DeKesel3227 | Benin | KF877307 | — | KF877093 | KF877189 | — |
| *A. zangii* | GDGM29241 | Fujan, China | KJ466499 | — | KJ466668 | KJ482000 | KJ466588 |
| *A. zangii* | HKAS99663 | Limushan, Hainan, China | MH486958 | MH508655 | MH486351 | MH509178 | MH485855 |
| *A. zangii* | HKAS77331 | Limushan, Hainan, China | KJ466500 | KJ466433 | KJ466669 | KJ482001 | KJ466589 |
| *A. zonata* | HKAS97240 | Lancang, Yunnan, China | MH486959 | — | MH486352 | MH509179 | — |
| *A. zonata* | HKAS97244 | Lancang, Yunnan, China | MH486960 | MH508656 | MH486353 | MH509180 | MH485856 |
| *A. zonata* | HKAS97705 | Lancang, Yunnan, China | MH486961 | MH508657 | MH486354 | MH509181 | — |
| *A. zonata* | HKAS97706 | Lancang, Yunnan, China | MH486962 | — | MH486355 | MH509182 | — |
| *A. zonata* | HKAS97707 | Lancang, Yunnan, China | MH486963 | — | MH486356 | MH509183 | MH485857 |
| *C. costaricensis* | DAOM 211663 | Costa Rica | KT833804 | — | KT833819 | KT833834 | — |
| *C. indica* | TBGT 14057 | India | KT833805 | — | KT833820 | — | — |
| *C. indica* | TBGT 14256 | India | KT833806 | — | KT833821 | — | — |
| *L. delicata* | ZT Myc 55818 | Austria | KT833807 | — | KT833822 | KT833835 | — |
| *L. glioderma* | MB-000750 | Germnay | KT833809 | — | KT833824 | KT833837 | — |
| *L. glioderma* | MB-102389 | Germnay | KT833810 | — | KT833825 | KT833838 | — |
| *L. glioderma* | HKAS90169 | Mudanjiang, Heilongjiang, China | KT833808 | MH508658 | KT833823 | KT833836 | — |
| *‘L. glischra’* | RET 502-3 | USA | KT168223 | — | — | — | — |
| *‘L. glischra’* | Kuo-07020702 | USA | KT168227 | — | — | — | — |
| *Lim. asiatica* | HKAS82561 | Aba, Sichuan, China | KT833812 | — | KT833827 | KT833840 | — |
| *Lim. asiatica* | HKAS101436 | Kangding, Sichuan, China | MH486964 | — | MH486357 | MH509184 | — |
| *Lim. asiatica* | HKAS76497 | Lintan, Gansu, China | KT833811 | — | KT833826 | KT833839 | — |
| *Lim. guttata* | MB-100157 | Germany | KT833813 | — | KT833828 | KT833841 | — |
| *M. illinitum* | HKAS90168 | Mudanjiang, Heilongjiang, China | KT833814 | MH508659 | KT833829 | KT833842 | — |
| *M. ochraceoluteum* | HKAS90170 | Kunming, Yunnan, China | KT833815 | — | KT833830 | KT833843 | — |
| *M. ochraceoluteum* | MEL2305332 | Australia | MH486965 | MH508660 | MH486358 | MH509185 | — |
| *M. ochraceoluteum* | MEL2341329 | Australia | MH486966 | MH508661 | MH486359 | MH509186 | — |
| *M. ochraceoluteum* | PERTH07901828 | New Zealand | MH486967 | MH508662 | — | — | — |
| *M. ochraceoluteum* | PERTH08478031 | New Zealand | MH486968 | MH508663 | — | MH509187 | — |
| *M. olivaceum* | HKAS101960 | Yunnan, China | MH561738 | MH561739 | MH560356 | MH560357 | — |
| *M. subillinitum* | HKAS84245 | FL, USA | KT833816 | — | — | KT833844 | — |
| *M. subillinitum* | HKAS84246 | FL, USA | KT833817 | — | MH486360 | MH509188 | — |
| **Outgroups** |  |  |  |  |  |  |  |
| *Pluteus hongoi* | ZRL20151600 | China | KY418878 | LT716062 | KY419023 | KY419074 | — |
| *Pluteus romellii* | AFTOL-ID 625 | / | AY634279 | — | AY786063 | AY883433 | — |
| *Melanoleuca communis* | ZRL20151882-1 | China | KY418885 | — | KY419030 | KY419080 | — |
| *Melanoleuca verrucipes* | AFTOL-ID 818 | / | DQ457687 | — | DQ474119 | GU187726 | — |

“*A*.” is abbreviation of the generic name “*Amanita*”, “*C*.” is abbreviation of the generic name “*Catatrama*”, “*L.*” is abbreviation of the generic name “*Limacella*”, “*Lim*.” is abbreviation of the generic name “*Limacellopsis*” and “*M*.” is abbreviation of the generic name “*Myxoderma”*.

－ represents missing corresponding sequences.

Table S2 Accession numbers and voucher information of species used for the phylogeny of Agaricales in Dataset I.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Taxon | Herbarium ID | GenBank accession numbers | | |
| nrLSU | *rpb1* | *rpb2* |
| *Agaricus bisporus* | AFTOL ID 448 | AY635775 | — | AF107785 |
| *Agrocybe pediades* | AFTOL-ID 1493 | DQ110872 | — | — |
| *Agrocybe praecox* | AFTOL ID 728 | AY646101 | DQ516069 | DQ385876 |
| *Alnicola escharoides* | WTU PBM 1719 | AY380405 | AY351840 | AY337411 |
| *Amanita brunnescens* | AFTOL-ID 673 | AY631902 | AY788847 | AY780936 |
| *Amanita phalloides* | Ben Woo Oct 1986  (WTU) | AY380359 | AY485639 | AY485609 |
| *Ampulloclitocybe clavipes* | AFTOL ID 542 | AY639881 | AY788848 | AY780937 |
| *Anamika angustilamellata* | AFTOL ID 543 | AY575919 | — | — |
| *Anthracophyllum archeri* | AFTOL ID 973 | AY745709 | DQ435799 | DQ385877 |
| *Antrodia* sp. | AFTOL-ID 1504 | DQ457649 | — | — |
| *Armillaria mellea* | AFTOL ID 449 | AY700194 | AY788849 | AY780938 |
| *Asterophora lycoperdoides* | CBS170-86 | AF223190 | DQ367424 | DQ367431 |
| *Athelia bombacina* | ATCC 20629 | AF279377 | — | AY641027 |
| *Baeospora myosura* | AFTOL-ID 1799 | DQ457648 | DQ435801 | DQ470827 |
| *Bolbitius vitellinus* | AFTOL-ID 730 | AY691807 | DQ435802 | DQ385878 |
| *Boletopsis leucomelaena* | AFTOL-ID 1527 | DQ154112 | — | — |
| *Bondarzewia montana* | AFTOL-ID 452 | DQ234539 | — | — |
| *Calathella mangrovei* | 1-30-01Jones | AF426954 | — | — |
| *Callistosporium* sp. | AFTOL ID 978 | AY745702 | DQ825413 | DQ825406 |
| *Calocybe carnea* | CBS 552.50 | AF223178 | DQ825423 | DQ367432 |
| *Camarophyllopsis hymenocephala* | AFTOL-ID 1892 | DQ457679 | DQ516070 | DQ472726 |
| *Camarophyllus basidiosus* | AFTOL-ID 1759 | DQ457651 | DQ435805 | DQ470828 |
| *Catathelasma ventricosum* | AFTOL-ID 1488 | DQ089012 | — | DQ470830 |
| *Chaetocalathus liliputianus* | MCA485 | AY916680 | AY916683 | — |
| *Chamaeota sinica* | AFTOL-ID 1382 | DQ457653 | — | — |
| *Cheimonophyllum candidissimum* | AFTOL-ID 1765 | DQ457654 | DQ447888 | DQ470831 |
| *Cheimonophyllum candidissimum* | AFTOL-ID 1765 | DQ457654 | DQ447888 | DQ470831 |
| *Chlorophyllum agaricoides* | AFTOL ID 440 | AY700187 | DQ447889 | — |
| *Chondrostereum purpureum* | HHB-13334-sp. | AF518607 | — | AY218477 |
| *Chromosera cyanophylla* | AFTOL-ID 1684 | DQ457655 | — | — |
| *Chrysomphalina chrysophylla* | AFTOL ID 1523 | DQ457656 | DQ516071 | — |
| *Chrysomphalina grossula* | Gulden 417/75, O | U66444 | DQ516072 | DQ470832 |
| *Clavaria zollingeri* | AFTOL-ID 563 | AY639882 | AY857987 | AY780940 |
| *Clavulinopsis laeticolor* | AFTOL-ID 984 | AY745693 | DQ447890 | DQ385880 |
| *Clitocybe dealbata* | HC 95.cp3 | AF223175 | DQ825414 | DQ825407 |
| *Clitopilus* sp. | AFTOL-ID 522 | AY700181 | DQ825416 | DQ825408 |
| *Collybia tuberosa* | AFTOL ID 557 | AY639884 | AY857982 | AY787219 |
| *Coniophora arida* | 373 | AF098375 | — | DQ366282 |
| *Conocybe lactea* | AFTOL-ID 1675 | DQ457660 | DQ447893 | DQ470834 |
| *Coprinellus disseminatus* | — | AF056456 | — | DQ056143 |
| *Coprinus cinereus* | C13 | AF041494 | — | — |
| *Cortinarius iodes* | AFTOL ID 285 | AY702013 | AY857984 | AY536285 |
| *Cotylidia* sp. | AFTOL-ID 700 | AY629317 | — | — |
| *Crepidotus variabilis* | REG JE 5.3 | AY293174 | — | — |
| *Crinipellis zonata* | OKM 25450 | AY916690 | AY916693 | — |
| *Crucibulum laeve* | Crul1 | AF336246 | — | DQ470836 |
| *Cyathus striatus* | Cyst1 | AF336247 | DQ447895 | DQ472711 |
| *Cyphella digitalis* | AFTOL-ID 663 | AY635771 | — | — |
| *Cyphellopsis anomala* | CBS151.79 | AF426955 | — | — |
| *Cyphellostereum laeve* | AFTOL-ID 982 | AY745705 | — | — |
| *Cyptotrama asprata* | RV98/78 | AF261353 | — | — |
| *Cystoderma amianthinum* | AFTOL-ID 1553 | DQ154108 | DQ516073 | — |
| *Dendrocollybia racemosa* | DED5575 | AF042598 | DQ825417 | DQ825409 |
| *Dendrocollybia racemosa* | DED5575 | AF042598 | DQ825417 | DQ825409 |
| *Descolea maculata* | AFTOL-ID 1521 | DQ457664 | DQ447897 | — |
| *Echinodontium tinctorium* | DAOM16666 | AF393056 | — | — |
| *Entoloma prunuloides* | AFTOL-ID 523 | AY700180 | DQ447898 | DQ385883 |
| *Epithele typhae* | AFTOL-ID 1724 | DQ457665 | — | — |
| *Fibulorhizoctonia* sp. | AFTOL-ID 576 | AY635779 | AY857985 | AY885161 |
| *Fistulina antarctica* | CBS 701.85 | AY293181 | DQ447899 | DQ472713 |
| *Flammula alnicola* | AFTOL-ID 1501 | DQ457666 | DQ447900 | DQ472714 |
| *Flammulaster* sp. | PBM 1871 | AY380408 | AY333308 | AY333315 |
| *Flammulina velutipes* | AFTOL-ID 558 | AY639883 | AY858966 | AY786055 |
| *Galerina atkinsoniana* | AFTOL-ID 1760 | DQ457668 | — | — |
| *Galerina semilanceata* | PBM 1398 | AY038309 | AF389531 | AY337357 |
| *Gliophorus laetus* | AFTOL-ID 1555 | DQ154109 | — | — |
| *Gloeophyllum sepiarium* | DAOM137861 | AF393059 | — | — |
| *Gloiocephala aquatica* | AFTOL-ID 517 | DQ097343 | — | DQ472715 |
| *Granulobasidium vellereum* | AFTOL-ID 887 | AY745729 | — | — |
| *Gymnopilus sapineus* | PBM 1541 (WTU) | AY380362 | AY351789 | AY337358 |
| *Gymnopus contrarius* | AFTOL-ID 1758 | DQ457670 | DQ447902 | DQ472716 |
| *Halocyphina villosa* | IFO32086 | AF426957 | — | — |
| *Hebeloma velutipes* | AFTOL-ID 980 | AY745703 | DQ447904 | DQ472718 |
| *Hemimycena gracilis* | AFTOL-ID 1732 | DQ457671 | DQ447905 | DQ472719 |
| *Henningsomyces candidus* | RGThorn156 | AF287864 | AY860521 | AY218513 |
| *Hericium americanum* | AFTOL-ID 469 | DQ411538 | — | — |
| *Heterobasidion annosum* | DAOM73191 | AF287866 | — | — |
| *Hohenbuehelia tristis* | RV95/573 | AF042602 | — | — |
| *Humidicutis marginata* | JM96/33 | AF042580 | — | — |
| *Hydnellum geogenium* | AFTOL-ID 680 | AY631900 | — | — |
| *Hydnochaete duportii* | AFTOL-ID 666 | AY635770 | — | — |
| *Hydropus* cf*. scabripes* | PBM2513 | DQ411536 | DQ447908 | DQ457634 |
| *Hydropus marginellus* | AFTOL-ID 1720 | DQ457674 | — | DQ472722 |
| *Hygrocybe cantharellus* | AFTOL-ID 1714 | DQ457675 | DQ447909 | — |
| *Hygrocybe coccinea* | AFTOL-ID 1715 | DQ457676 | DQ447910 | DQ472723 |
| *Hygrophoropsis aurantiaca* | AFTOL-ID 714 | AY684156 | AY858961 | AY786059 |
| *Hygrophorus auratocephala* | AFTOL-ID 1727 | DQ457672 | DQ447906 | DQ472720 |
| *Hymenagaricus taiwanensis* | AFTOL-ID 1383 | DQ457680 | — | — |
| *Hyphoderma praetermissum* | AFTOL-ID 518 | AY700185 | — | — |
| *Hypholoma fasciculare* | PBM 1844 | AY380409 | AY351829 | AY337413 |
| *Infundibulicybe gibba* | AFTOL-ID 1508 | DQ457682 | DQ447913 | DQ472727 |
| *Inocephalus* sp. | AFTOL-ID 1558 | DQ457683 | — | DQ472728 |
| *Inocybe dulcamara* | AFTOL-ID 482 | AY700196 | DQ447916 | AY803751 |
| *Kuehneromyces rostratus* | AFTOL-ID 1676 | DQ457684 | DQ447918 | DQ472730 |
| *Laccaria ochropurpurea* | AFTOL-ID 477 | AY700200 | — | DQ472731 |
| *Laccaria pumila* | — | AF287869 | — | — |
| *Lachnella villosa* | CBS609.87 | DQ097362 | — | DQ472732 |
| *Lachnocladium* sp. | AFTOL-ID 1556 | DQ154110 | — | — |
| *Lacrymaria velutina* | AFTOL-ID 478 | AY700198 | — | DQ472733 |
| *Lactarius lignyotus* | AFTOL-ID 681 | AY631898 | — | — |
| *Langermannia gigantea* | DSH 96-032 | AF518603 | — | — |
| *Lentinula edodes* | TMI1941 | AF261557 | — | — |
| *Lentinula lateritia* | DSH92-143 | AF287872 | — | AY218492 |
| *Lepista irina* | AFTOL-ID 815 | DQ234538 | DQ447919 | DQ385885 |
| *Leptonia canescens* | TB5657 | AF261307 | — | — |
| *Lichenomphalia umbellifera* | DAOM180811 | AF261445 | — | — |
| *Limnoperdon incarnatum* | IFO30398 | AF426958 | — | — |
| *Lycoperdon pyriforme* | DSH96-054 | AF287873 | AY860523 | AY218495 |
| *Lycoperdon pyriforme* | DSH96-054 | AF287873 | AY860523 | AY218495 |
| *Lyophyllum decastes* | JM 87/16 | AF042583 | DQ825418 | DQ367433 |
| *Macrocystidia cucumis* | AFTOL-ID 1343 | DQ094787 | — | — |
| *Macrolepiota dolichaula* | AFTOL-ID 529 | DQ411537 | DQ447920 | DQ385886 |
| *Marasmius rotula* | AFTOL-ID 1505 | DQ457686 | DQ447922 | DQ474118 |
| *Megacollybia platyphylla* | AFTOL-ID 560 | AY635778 | DQ447923 | DQ385887 |
| *Melanoleuca verrucipes* | AFTOL-ID 818 | DQ457687 | DQ447924 | DQ474119 |
| *Moniliophthora perniciosa* | DIS71 | AY916738 | AY916740 | — |
| *Mycaureola dilseae* | BM17/85 | DQ097348 | — | — |
| *Mycena amabilissima* | AFTOL-ID 1686 | DQ457691 | DQ447926 | DQ474121 |
| *Mycena amicta* | AFTOL-ID 1908 | DQ457692 | — | — |
| *Mycetinis alliaceus* | AFTOL-ID 556 | AY635776 | AY860525 | AY786060 |
| *Mythicomyces corneipes* | AFTOL-ID 972 | AY745707 | DQ447929 | DQ408110 |
| *Naucoria vinicolor* | AFTOL-ID 499 | DQ536415 | DQ536419 | DQ536418 |
| *Neohygrophorus angelesianus* | AFTOL-ID 1719 | DQ470814 | — | — |
| *Nia vibrissa* | M200 | AF334750 | — | DQ408111 |
| *Nivatogastrium nubigenum* | AFTOL-ID 1500 | DQ470815 | — | — |
| *Nolanea sericea* | VHAs03/02 | DQ367423 | DQ825424 | DQ367435 |
| *Omphalotus olearius* | AFTOL-ID 1718 | DQ470816 | — | — |
| *Ossicaulis lignatilis* | DAOM188196 | AF261396 | DQ825420 | DQ825410 |
| *Oudemansiella radicata* | AFTOL-ID 561 | AY645051 | DQ447946 | AY786067 |
| *Panaeolina foenisecii* | J152 | AF041537 | — | — |
| *Panaeolus sphinctrinus* | AFTOL-ID 1499 | DQ470817 | — | — |
| *Panellus stypticus* | DSH 93-213 | AF518634 | — | — |
| *Peniophora nuda* | FPL4756 | AF287880 | — | — |
| *Phaeocollybia festiva* | PBM 2366 | AY509119 | AY509117 | AY509118 |
| *Phaeomarasmius proximans* | PBM 1936 | AY380410 | AY333307 | AY333314 |
| *Phanerochaete chrysosporium* | FPL5175 | AF287883 | — | — |
| *Phlebia radiata* | FPL6140 | AF287885 | — | — |
| *Pholiota squarrosa* | AFTOL-ID 1627 | DQ470818 | DQ447931 | — |
| *Pholiotina filaris* | AFTOL-ID 1498 | DQ470819 | DQ447932 | — |
| *Phyllotopsis nidulans* | RV96/1 | AF042578 | — | — |
| *Phyllotopsis* sp. | AFTOL-ID 773 | AY684161 | DQ447933 | AY786061 |
| *Physalacria bambusae* | AFTOL-ID 515 | DQ097349 | DQ447934 | DQ474123 |
| *Pleuroflammula flammea* | MCA339 | AF367962 | DQ447935 | DQ474124 |
| *Pleurotopsis longinqua* | RV95/473 | AF042604 | — | — |
| *Pleurotus ostreatus* | AFTOL-ID 564 | AY645052 | AY862186 | AY786062 |
| *Pluteus petasatus* | JB91/21 | AF042611 | — | — |
| *Pluteus romellii* | AFTOL-ID 625 | AY634279 | AY862187 | AY786063 |
| *Podoserpula pusio* | AFTOL-ID 1522 | DQ470821 | — | — |
| *Polyporus squamosus* | AFTOL-ID 704 | AY629320 | — | — |
| *Porodisculus pendulus* | HHB-13576-sp | AY293204 | — | — |
| *Psathyrella rhodospora* | AFTOL-ID 723 | AY645058 | — | — |
| *Pseudoarmillariella ectypoides* | AFTOL-ID 1557 | DQ154111 | DQ516076 | DQ474127 |
| *Psilocybe montana* | AFTOL-ID 820 | DQ470823 | — | — |
| *Pterula echo* | AFTOL-ID 711 | AY629315 | — | — |
| *Punctularia strigosozonata* | HHB-11897-sp. | AF518642 | — | — |
| *Pycnoporus* sp. | AFTOL-ID 772 | AY684160 | — | — |
| *Resupinatus alboniger* | RV/JMs.n. | AF042600 | — | — |
| *Rhodocollybia maculata* | AFTOL-ID 540 | AY639880 | DQ447936 | AY787220 |
| *Rhodocybe mundula* | AFTOL-ID 521 | AY700182 | DQ447937 | Q474128 |
| *Rickenella fibula* | AFTOL-ID 486 | AY700195 | — | — |
| *Sarcomyxa serotina* | AFTOL-ID 536 | AY691887 | DQ447938 | Q859892 |
| *Schizophyllum commune* | Sco1, REG | AF334751 | — | AY218515 |
| *Schizophyllum radiatum* | AFTOL-ID 516 | AY571023 | DQ447939 | Q484052 |
| *Serpula himantioides* | HB-17587-sp. | AF518648 | — | Q366283 |
| *Simocybe serrulata* | AFTOL-ID 970 | AY745706 | DQ447940 | Q484053 |
| *Stereum hirsutum* | FPL8805 | AF393078 | AY864885 | AY218520 |
| *Stropharia ambigua* | AFTOL-ID 726 | AY646102 | DQ447941 | Q484054 |
| *Tephrocybe boudieri* | BSI96/84 | DQ825430 | DQ825421 | DQ825411 |
| *Termitomyces* sp. | AFTOL-ID 1384 | DQ110875 | DQ447942 | — |
| *Tetrapyrgos subdendrophora* | ATCC 42449 | AY445115 | — | — |
| *Thelephora* sp. | DSH 96-010 | AF287890 | — | — |
| *Trametes versicolor* | AFTOL-ID 768 | AY684159 | — | — |
| *Tricholoma aestuans* | AFTOL-ID 497 | AY700197 | — | DQ484055 |
| *Tricholoma myomyces* | KMS 589 | U76459 | DQ842013 | DQ367436 |
| *Tricholomella constricta* | HC 84.75 | AF223188 | DQ825422 | DQ825412 |
| *Tricholomopsis decora* | AFTOL-ID 537 | AY691888 | DQ447943 | DQ408112 |
| *Tubaria confragosa* | AFTOL-ID 498 | AY700190 | DQ447944 | DQ408113 |
| *Tulostoma macrocephala* | Long 10111 FH | AF518663 | — | — |
| *Typhula phacorrhiza* | DSH96-059 | AF393079 | — | AY218525 |
| *Vararia* sp. | AFTOL-ID 662 | DQ470824 | — | — |
| *Verrucospora flavofusca* | AFTOL-ID 655 | DQ470825 | — | — |
| *Volvariella gloiocephala* | AFTOL-ID 890 | AY745710 | DQ447945 | — |
| *Vuilleminia comedens* | T-583 | AF518666 | — | — |
| *Waitea circinata* | AFTOL-ID 1129 | AY885164 | — | — |
| *Xeromphalina campanella* | AFTOL-ID 1524 | DQ470826 | DQ516077 | — |
| *Xerula furfuracea* | AFTOL-ID 538 | AY691890 | — | — |

－ represents missing corresponding sequences.

Table S3 Accession numbers and voucher information of species used for the phylogeny of Amanitaceae in Dataset III.

|  |  |  |  |
| --- | --- | --- | --- |
| Taxon | Herbarium ID | Locality | Accession number |
| *A. abrupta* | ASIS23702 | South Korea | KT894839 |
| *A. abrupta* | LEM960299a | Japan | AB015685 |
| *A.* aff. *caesaroides* | RET-356-10 | Yunnan, China | JX844688 |
| *A.* aff. *citrina* | HKAS 34170 | Sichuan, China | AY436449 |
| *‘A.* aff. *esculenta’* | TRTC-150406 | Thailand | JX844708 |
| *‘A.* aff. *esculenta’* | TRTC-150410 | Thailand | JX844709 |
| *‘A.* aff. *excelsa’* | HKAS 32451 | Sichuan, China | AY436452 |
| *‘A.* aff. *fulva’* | TENN60329 | USA | FJ596776 |
| *A.* aff. *hemibapha* | GMB-2014 | Australia | KP012791 |
| *‘A.* aff. *hemibapha’* | MEL2382921 | Australia | KP012790 |
| *‘A.* aff. *javanica’* | HKAS53281 | China | JX998041 |
| *‘A.* aff. *javanica’* | HKAS56863 | Yunnan, China | JX998040 |
| *‘A.* aff. *javanica’* | HKAS56957 | Yunnan, China | JX998039 |
| *A*. aff. *muscaria* | FB-30986 | Japan | AB096051 |
| *A.* aff. *princeps* | RET-357-5 | Yunan, China | JX844735 |
| *A.* aff. *princeps* | TRTC-150309 | Thailand | JX844734 |
| *‘A.* aff. *princeps’* | DMSC10883 | Thailand | KT213710 |
| *‘A.* aff. *princeps’* | DMSC10886 | Thailand | KT213715 |
| *A.* aff. *tanzanica* | RET-346-7 | Zambia | JX844743 |
| *A.* aff. *virginioides* | 1D5 | Japan | AB973731 |
| *A.* aff. *volvata* | TENN61187 | Tennessee, USA | FJ596795 |
| *A.* aff. *volvata* | TENN61188 | Tennessee, USA | FJ596796 |
| *A. alboverrucosa* | — | Australia | AY194973 |
| *A. alliodora* | DSN062 | Madagascar | KX185611 |
| *A. altipes* | HKAS36609 | Yunnan, China | AY436445 |
| *A. amerivirosa nom. prov.* | RET327-10 | Canada | KJ466396 |
| *A. amerivirosa nom. prov.* | RET368-8 | USA | KJ466397 |
| *A. amerivirosa nom. prov.* | RET397-8 | USA | KJ466398 |
| *A. amerivirosa nom. prov.* | RET480-1 | Canada | KJ466399 |
| *A. aporema* | FRIM 62674 | Malaysia | KU714575 |
| *A. arenaria* | VPI 364 | Australia | GQ925388 |
| *A. arenaria* | VPI 412 | Australia | GQ925393 |
| *A. arenicola* | BA 03.12.26 | Guadeloupe | FR682088 |
| *A. arkansana* | RET-139-10 | USA | JX844675 |
| *A. arkansana* | RET-354-9 | USA | JX844674 |
| *A. atrobrunnea* | BZ\_N09 | Thailand | KY747455 |
| *‘A. atrofusca’* | HKAS36610 | Yunnan, China | AY436446 |
| *A. augusta* | DBB49390 | California, USA | JQ937287 |
| *A. australis* | PDD 89861 | New Zealand | GU222314 |
| *A. austroviridis* | KS 899 / 96 | Australia | JX398324 |
| *A. avellaneosquamosa* | HKAS 38300 | Yunnan, China | AY436447 |
| *A. ballerina* | OR1014 | Thailand | KY747466 |
| *A. ballerina* | OR1026 | Thianland | KY747467 |
| *A. banningiana nom. prov.* | RET 063-2 | USA | KP258985 |
| *A. banningiana nom. prov.* | RET 236-8 | USA | KX348046 |
| *A. basiana* | RET 308-4 | Italy | KP258986 |
| *A. basii* | FCME-Sanchez-S-44 | Mexico | JX844680 |
| *A. basii* | RET-260-6 | Mexico | JX844682 |
| *A. basiorubra* | EMD 16-2011 | Australia | KF815731 |
| *A. basiorubra* | KS1878\_clone\_6.30 | Australia | KF803244 |
| *‘A. battarrae’* | LE<RUS>:296458 | Russia | KM658290 |
| *A. beckeri* | 7826 | Italy | JF907758 |
| *A. bisporigera* | RET 505-7 | USA | KP224347 |
| *A. bisporigera* | RET377-9 | USA | KJ466374 |
| *A. breckonii* | NY 00066695 | California, USA | KJ535439 |
| *A. brunneitoxicaria* | BZ2015\_02 | Thailand | KY747463 |
| *A. brunneolocularis* | ANDES\_F313 NVE57 | Colombia | FJ890033 |
| *A. brunneoprocera* | BZ2015-24 | Thailand | MF461573 |
| *A. brunneosquamata* | BZ2015-73 | Thailand | MF461581 |
| *A. brunneoumbonata* | BZ2015-67 | Thailand | MF461579 |
| *A. brunnescens* | RET 488-6 | USA | KC855218 |
| *A. brunnescens* | RET 554-1 | USA | KP284275 |
| *A. caesarea* | 10350 | Italy | JF907759 |
| *A. caesarea* | AH 31721 | Spain | AY486237 |
| *A. caesarea* | BL-1 | Bulgaria | LC056763 |
| *A. caesarea* | RET-036-2 | Italy | JX844687 |
| *A. caesarea* | SP-1 | Spain | LC056762 |
| *A. caesareoides* | Ajav070921 | Japan | LC056752 |
| *A. caesareoides* | ASIS07719 | South Korea | KP004949 |
| *A. caesareoides* | ASIS26932 | South Korea | KU139501 |
| *A. caesareoides* | S-125 | Japan | AB759082 |
| *A. caesareoides* | S-259 | Japan | LC056756 |
| *A. caesareoides* | S-292 | Japan | LC056757 |
| *A. caesareoides* | S-323 | Japan | LC056758 |
| *A. calyptratoides* | RET 614-6 | USA | KP258994 |
| *A. calyptroderma* | CB0847 | Mexico | KT874940 |
| *A. calyptroderma* | CB0874 | Mexico | KT874938 |
| *A. calyptroderma* | RET-092-6 | USA | JX844696 |
| *A. calyptroderma* | RET-385-3 | USA | JX844692 |
| *A. calyptroderma* | RET-385-4 | USA | JX844698 |
| *A. campinaranae* | TH8453 | Guayana | KC155383 |
| *A. carneiphylla* | LEM11-2005 | Australia | JX398325 |
| *A. castanea* | MFLU:15-01424 | Thailand | KU904823 |
| *A. ceciliae* | KA12-0758 | South Korea | KF017929 |
| *A. ceciliae* | KA12-0916 | South Korea | KF017930 |
| *A. ceciliae* | LEM950069 | Japan | AB015694 |
| *‘A. calyptroderma’* | DAK-M-08 | India | KC797155 |
| *A.* cf. *caesarea* | LM-UNAH 0056 | Honduras | HM639264 |
| *A.* cf. *flavorubescens* | JMP0098 | Western Wisconsin, USA | EU819454 |
| *‘A.* cf. *hemibapha’* | TRTC-150286 | Thailand | JX844714 |
| *‘A.* cf. *hemibapha’* | TRTC-150314 | Thailand | JX844717 |
| *A.* cf. *longistriata* | 92 | Sichuan, China | JN182879 |
| *‘A.* cf. *manginiana’* | BZ\_N11 | Thailand | KY747457 |
| *A.* cf. *sinicoflava* | NAMA235 | Western Wisconsin, USA | EU819496 |
| *A. chatamagotake* | Asim090716 | Jpan | AB750727 |
| *‘A. chepangiana’* | HKAS34218 | Sichuan, China | AY436450 |
| *A. chepangiana* | HKAS56718 | Yunnan, China | KU714569 |
| *A. cinnamomea* | BZ2015-48 | Thailand | MF461576 |
| *‘A. cinnamomescens’ nom. prov.* | RET 718-7 | India | KX810029 |
| *‘A. cinnamomescens’ nom. prov.* | RET-290-5 | Pakistan | JX844699 |
| *‘A. citrina* f. *lavendula’* | TENN61710 | North Carolina, USA | JF313666 |
| *‘A. citrina’* | TENN61704 | North Carolina, USA | FJ596864 |
| *‘A. citrina’* | TENN61704 | USA | FJ596868 |
| *A. cinereopannosa* | — | North Carolina, USA | FJ596835 |
| *A. cinereopannosa* | TENN61560 | USA | FJ596838 |
| *A. cinereopannosa* | TENN61560 | USA | FJ596837 |
| *A. cingulata* | HKAS100640 | Jiangxi, China | MF952721 |
| *A. cingulata* | HKAS75600 | Hunnan, China | KY949582 |
| *A. citrina* | CBS441.91 | South Korea | AF085489 |
| *A. citrina* | HKAS31449 | Germany | AY436481 |
| *A. citrina* | KF02-04 | Denmark | AJ889919 |
| *A. citrina* | KF02-48 | Denmark | AJ889920 |
| *A. citrina* var. *grisea* | LEM970501 | Japan | AB015680 |
| *‘A. clarisquamosa’* | — | Yunnan, China | FJ375331 |
| *A. concentrica* | CBM:FB-24901 | Japan | NR\_119387 |
| *A. conicobulbosa* | LEM25-2005 | Australia | JX398327 |
| *A. conicoverrucosa* | — | Australia | AY194972 |
| *A. constricta* | SMI197 | British Columbia, Canada | HQ650724 |
| *A. constricta* | F1430 | Canada | AY228351 |
| *A. constricta* | F15191 | Canada | DQ384583 |
| *A. constricta* | UBCOGTR0411s | Canada | EU597073 |
| *A. craseoderma* | TH 8907 | Guyana | KC155382 |
| *A. crocea* | HKAS 31489 | Germany | AY436484 |
| *‘A. crocea’* | 2192 | Canada | KJ638266 |
| *‘A. crocea’* | A3 | Yunnan, China | FJ441033 |
| *‘A. crocea’* | AT2002097 | Sweden | JQ912665 |
| *A. cruzii* | Baroni8998 | Dominican Republic | KC855223 |
| *A. cruzii* | Baroni9791 | Dominican Republic | KC855222 |
| *A. curtipes* | AH19766 | Spain | AY486235 |
| *A. curtipes* | AH31924 | Spain | EF653963 |
| *A. curtipes* | ASIS24777 | South Korea | KM052544 |
| *A. cylindrispora* | RET 8-11-96-B | USA | AY325839 |
| *A. digitosa* | DMSC20382 | Thailand | KT213722 |
| *A. djarilmari* | PERTH08776075\_1 | Australia | KY977737 |
| *A. djarilmari* | PERTH08776083\_5 | Australia | KY977746 |
| *A. eijii* | A9 | Yunnan, China | FJ441039 |
| *A. eijii* | SFC20140912-04 | South Korea | KT779087 |
| *A. esculenta* | ASIS18388 | South Korea | KP004947 |
| *A. esculenta* | ASIS23297 | South Korea | KM052528 |
| *A. esculenta* | HKAS34169 | Yunnan, China | AY436451 |
| *A. esculenta* | S-331 | Japan | LC056777 |
| *A. eucalypti* | PERTH 8809828 | Australia | KU057396 |
| *A. eucalypti* | PERTH 8809968 | Australia | KU057380 |
| *A. excelsa* | HKAS 31510 | Germany | AY436453 |
| *A. exitialis* | HKAS74673 | Yunnan, China | KJ466375 |
| *A. exitialis* | HKAS75774 | Guangdong, China | JX998027 |
| *A. exitialis* | HKAS75775 | Guangdong, China | JX998026 |
| *A. exitialis* | HKAS75776 | Guangdong, China | JX998025 |
| *A. farinosa* | A6 | Yunan, China | FJ441036 |
| *A. farinosa* | KA12-1009 | South Korea | KF017932 |
| *A. farinosa* | LE 296435 | Russia | KJ739808 |
| *A. fibrillopes* | PERTH 08353158 | Australia | JX398314 |
| *A. flavidocera* | BZ2015-60 | Thailand | MF461578 |
| *A. flavidogrisea* | BZ2015-44 | Thailand | MF461574 |
| *A. flavipes* | HKAS36582 | Yunnan, China | AY436455 |
| *‘A. flavipes’* | LEM960088a | Japan | AB015696 |
| *A. flavipes* | KA12-0685 | South Korea | KF245911 |
| *‘A. flavipes’* | KA12-1517 | South Korea | KF245912 |
| *A. flavoconia* | HKAS 34047 | USA | AY436456 |
| *‘A. flavoconia’* | JMP0097 | USA | EU819463 |
| *A. flavoconia* | LNorvelle2004-07-13-05 | USA | JF313656 |
| *‘A. flavoconia’* | MHM196 | Mexico | EU569281 |
| *‘A. flavoconia’* | MLS029 | USA | GQ452058 |
| *A. flavoconia* | NVE 242 | Colombia | KF937300 |
| *A. flavoconia* | NVE 351 | Colombia | KF937301 |
| *A. flavorubescens* | F:PRL6062 | USA | GQ166902 |
| *A. franchetii* | DBB52095 | Bulgaria | JX515562 |
| *A. franchetii* | DBBJUS01 | Spain | JX515563 |
| *‘A. fritillaria’* | ASIS23437 | South Korea | KM052533 |
| *‘A. fritillaria’* | HKAS38331 | Yunnan, China | AY436457 |
| *‘A. fritillaria’* | KA12-1231 | South Korea | KF245913 |
| *A. frostiana* | 2185 | Canada | KJ638273 |
| *A. fuliginea* | HKAS75782 | Guangdong, China | JX998022 |
| *A. fuliginea* | 87-411 | Japan | AB509747 |
| *A. fuliginea* | ASIS18723 | South Korea | KP004944 |
| *A. fuliginea* | DMSC21015 | Thailand | KT213707 |
| *A. fuliginea* | HKAS74673 | Jiangxi, China | KJ466375 |
| *A. fuliginea* | HKAS75780 | Guangdong, China | JX998023 |
| *A. fuliginea* | HKAS75781 | Guangdong, China | JX998021 |
| *A. fuliginea* | HKAS77132 | Hunan, China | KJ466376 |
| *A. fuliginea* | HKAS77342 | Guangdong, China | KF479045 |
| *A. fuliginea* | HKAS77343 | Guangdong, China | KJ466401 |
| *A. fuliginea* | HKAS77344 | Guangdong, China | KJ466402 |
| *A. fuliginea* | HKAS77351 | Taiwan, China | KJ466403 |
| *A. fuligineodisca* | ANDES\_F404 AFM1812 | Colombia | FJ890027 |
| *A. fuligineoides* | HKAS52316 | Hunan, China | FJ176721 |
| *A. fuligineoides* | HKAS52727 | Hunan, China | JX998024 |
| *A. fulva* | 2741 | Canada | KJ638270 |
| *A. fulva* | 2229 | Canada | KJ638269 |
| *A. fulva* | d14 | Finland | KM517238 |
| *A. fulva* | DG05-04 | United Kingdom | JQ888151 |
| *A. fulva* | KA12-1406 | South Korea | KF017933 |
| *A. fulva* | LE<RUS>:296456 | Russia | KM658291 |
| *A. fulva* | LEM960312b | Japan | AB015692 |
| *A. fulva* | MSC 380554 |  | AY325844 |
| *A. fulva* | TRTC156894 | Canada | JN020968 |
| *A. furfuracea* | HKAS77321 | Yunnan, China | KJ466416 |
| *A. fuscosquamosa* | — | Australia | AY194974 |
| *A. garabitoana* | RET-333-2 | Costa Rica | JX844710 |
| *A. gemmata* | 07045 | California, USA | GQ250399 |
| *‘A. gemmata’* | MHM116 | Mexico | EU569282 |
| *‘A. gemmata’* | UBC F19764 | Canada | HQ604824 |
| *A. gilbertii* | 7813 | Italy | JF907757 |
| *A. gilbertii* | RET 97016 | France | AY325838 |
| *A. glarea* | SUA712(LAH35217) | Pakistan | KY817312 |
| *‘A. gleocystidiosa’* | DMSC09613 | Thailand | KT213717 |
| *‘A. gleocystidiosa’* | DMSC09620 | Thailand | KT213720 |
| *A. griseofolia* | HKAS38159 | Yunnan, China | NR\_119498 |
| *A. griseofolia* | KA12-0818 | South Korea | KF017934 |
| *A. griseofolia* | KA12-0994 | South Korea | KF017935 |
| *A. griseofolia* | KA12-1454 | South Korea | KF017936 |
| *A. griseorosea* | HKAS77332 | Hainan, China | KJ466411 |
| *A. griseorosea* | HKAS77333 | Hainan, China | KJ466412 |
| *A. griseorosea* | HKAS77334 | Hainan, China | KJ466413 |
| *A. griseoturcosa* | FB-30253 | Japan (T) | NR\_119390 |
| *A. griseoverrucosa* | A14 | Yunnan, China | FJ441044 |
| *A. griseoverrucosa* | ASIS22875 | South Korea | KM052536 |
| *A. heishidingensis* | HKAS76122 | Guangdong, China | NR\_151651 |
| *A. heishidingensis* | HKAS81484 | Guandong, China | KJ922999 |
| *‘A. hemibapha’* | A8 | Yunnan, China | FJ441038 |
| *A. hemibapha* | Microbiology M2 | Thailand | AB458888 |
| *‘A. hemibapha’* | GB576 | Australia | KP311468 |
| *‘A. hemibapha’* | GB577 | Australia | KP311467 |
| *‘A. hemibapha’* | HKAS38416 | Yunnan, China | AY436460 |
| *‘A. hemibapha’* | LEM960013 | Japan | AB015697 |
| *‘A. hemibapha’* | MRNo316 | Thailand | LC068790 |
| *A. hemibapha* | MS-1 | Thailand | LC056764 |
| *A. hemibapha* | RET 718-2 | India | KY349225 |
| *A. hemibapha* | RET-342-8 | India | JX844716 |
| *A. hemibapha* | TBGT-Pradeep 5872 | India | KU714567 |
| *‘A. hemibapha’* | — | Yunnan, China | FJ375334 |
| *‘A. hemibapha’* | 84 | Sichua, China | JN182877 |
| *‘A. hemibapha* subsp. *javanica’* | — | Guangdong, China | KC755031 |
| *A. hyperborea* | 15159 | Italy | JF907761 |
| *A. ibotengutake* | LEM970680 | Japan | AB015701 |
| *A. imazekii* | ASIS21934 | South Korea | KM052523 |
| *A. imazekii* | FB-24747 | Japan | AB038765 |
| *A. jacksonii* | 3752 | Canada | KJ638293 |
| *A. jacksonii* | HKAS34041 | USA | AY436461 |
| *A. jacksonii* | RET-393-6 | USA | JX844725 |
| *A. japonica* | LEM960167 | Japan | AB015684 |
| *A. javanica* | DMSC25894 | Thailand | KT213709 |
| *A. javanica* | FRIM 61503 | Malaysia | KU714572 |
| *‘A. javanica’* | MHHNU 30270 | China | KU497535 |
| *A. javanica* | MRNo569 | Thailand | LC068801 |
| *‘A. javanica’* | S-170 | Japan | LC056770 |
| *‘A. javanica’* | S-170 | Japan | LC056768 |
| *‘A. javanica’* | S-170 | Japan | LC056769 |
| *‘A. javanica’* | S-353 | Japan | LC100003 |
| *A. kitamagotake* | Ajav090716 | Japan | AB759083 |
| *A. kitamagotake* | EN-4 | Japan | AB721450 |
| *A. kitamagotake* | S-72 | Japan | AB755778 |
| *A. kotohiraensis* | ASIS25144 | South Korea | KT894850 |
| *A. kotohiraensis* | MHHNU 6998 | Hunan, China | FJ176722 |
| *A. kotohiraensis* | MHHNU 7112 | Guangdong, China | FJ176723 |
| *A. lanei* | src437 | USA | DQ974693 |
| *‘A. lanei’* | src644 | USA | EF559283 |
| *‘A. lavendula’* | FCME Cifuentes 2005-311 | USA | JF313661 |
| *‘A. lavendula’* | FCME Cifuentes 2005-311 | USA | JF313660 |
| *‘A. lignitincta’* | A15 | Yunnan, China | FJ441045 |
| *‘A. longistriata’* | ASIS24976 | South Korea | KM052553 |
| *A. lavendula* | RET 554-8 | USA | KP877552 |
| *A. lesueurii* | PERTH 08351325 | Australia | JX398315 |
| *A. levistriata* | RET 005-2 | USA | KR822251 |
| *A. levistriata* | RET 085-7 | USA | KU248111 |
| *A. lippiae* | RET 418-2 | Brazil | KP258991 |
| *A. liquii* | 0809HT45 | Taiwan, China | GQ466392 |
| *A. liquii* | HKAS36611 | Yunnan, China | AY436462 |
| *A. longipes* | TENN61554 | USA | FJ596830 |
| *A. longipes* | TENN61554 | USA | FJ596834 |
| *A. longistriata* | ASIS22701 | South Korea | KM052525 |
| *A. longistriata* | LE 296420 | Russia | KJ739811 |
| *A. longistriata* | LEM950067 | Japan | AB015678 |
| *A. luteoparva* | BZ2015-46 | Thailand | MF461575 |
| *A. macrocarpa* | 31939I | Guangdong, China | KC408379 |
| *A. macrocarpa* | 32531I | Guangdong, China | KC408380 |
| *A. macrocarpa* | OR1223 | Thailand | KY747471 |
| *A. mafingensis* | H 7002971 | Tanzania | JF710834 |
| *A. mafingensis* | H 7002973 | Tanzania | JF710835 |
| *A. mafingensis* | PC 0084424 | Zambia | JQ512089 |
| *‘A. manginiana’* | HKAS 38460 | Yunnan, China | AY436463 |
| *‘A. manginiana’* | SFC20140823-10 | South Korea | KT779083 |
| *A. magniverrucata* | RET 594-5 | USA | KR919765 |
| *A. magniverrucata* | RET 686-5 | USA | KY296457 |
| *A. marmorata* | PERTH 08690596 | Australia | KU057406 |
| *A. marmorata* | RET 623-7 | Australia | KP757875 |
| *A. masasiensis* | H 7002977 | Tanzania | JF710837 |
| *A. masasiensis* | H 7002979 | Tanzania | JF710836 |
| *A. masasiensis* | PC 0084425 | Zambia | JQ512090 |
| *A. masasiensis* | RET-344-5 | Zambia | JX844730 |
| *A. melleiceps* | FB-30953 | Japan | AB015688 |
| *A. millsii* | HKAS77322 | Australia | KJ466395 |
| *A. millsii* | HO581533\_3 | Australia (T) | KY977716 |
| *A. modesta* | ASIS25166 | South Korea | KT894851 |
| *A. molliuscula* | HKAS75555 | Hubei, China | KJ466408 |
| *A. molliuscula* | HKAS77324 | Shaanxi, China | KJ466409 |
| *A. molliuscula* | HMJAU20469 | Jilin, China | KJ466410 |
| *A. morrisii* | RET 271-7 | USA | KT213441 |
| *A. morrisii* | RET 448-5 | USA | KP284300 |
| *‘A. multisquamosa’* | 15239 (NY) | USA | AB080786 |
| *A. multisquamosa* | 36442(NY) | USA | AB103329 |
| *‘A. muscaria’* | GAL15335 | Alaska, USA | EU071945 |
| *‘A. muscaria’* | GAL2810 | Alaska, USA | DQ060904 |
| *‘A. muscaria’* | GAL3169 | Alaska, USA | DQ060905 |
| *‘A. muscaria’* | NY45883 | Massachusetts, USA | AB080792 |
| *‘A. muscaria’* | RET 124-2 | Massachusetts, USA | EU071896 |
| *‘A. muscaria’* | RET 271-2 | New Jersey, USA | EU071899 |
| *‘A. muscaria’* | RET 271-3 | New Jersey, USA | EU071919 |
| *‘A. muscaria’* | RET 303-4 | New Jersey, USA | EU071917 |
| *‘A. muscaria* var. *regalis’* | 4220 (O) | Norway | AB080782 |
| *‘A. muscaria* var. *regalis’* | 506 | Norway | AB080780 |
| *A. murrilliana* | RET 076-3 | USA | KX219633 |
| *A. murrilliana* | RET 715-10 | USA | KY655758 |
| *A. muscaria* | GAL 18810-2 | Alaska, USA | EU071954 |
| *A. muscaria* | GAL 8950 | Alaska, USA | DQ060901 |
| *A. muscaria* | GAL3643 | Alaska, USA | EU071948 |
| *A. muscaria* | RET 136-2 | Washington, USA | EU071936 |
| *A. muscaria* | RET 152-6 | Germany | EU071897 |
| *A. muscaria* | RET 264-7 | Washington, USA | EU071898 |
| *A. neoovoidea* | A10 | Yunnan, China | FJ441040 |
| *A. neoovoidea* | RET 359-1 | Yunnna, China | KX270315 |
| *‘A. novinupta’* | HC-PNNT-114 | Mexico | KT874947 |
| *A. novinupta* | NY 00066710 | USA | KJ535437 |
| *‘A. novinupta’* | — | USA | GQ250403 |
| *‘A. novinupta’* | GO-2009-234 | Mexico | KC152066 |
| *‘A. novinupta’* | src669 | Mexico | KT874948 |
| *A. oberwinklerana* | MHHNU 6826 | Hunan, China | FJ176727 |
| *A. oberwinklerana* | MHHNU 7114 | Guangdong, China | FJ176726 |
| *A. oblongispora* | 15831 | USA | JF907762 |
| *A. ochrophylla* | — | Australia | AY194977 |
| *A. ochroterrea* | PERTH:08334897 | Australia | KF815732 |
| *A. ochroterrea* | PERTH:08334897 | Australia | KF815735 |
| *A. ocreata* | HKAS79686 | USA | KJ466381 |
| *A. orientifulva* | ASIS15547 | South Korea | KP004956 |
| *A. orientifulva* | HKAS 32522 | Yunnan, China | AY436464 |
| *A. orientifulva* | KA12-0642 | South Korea | KF017940 |
| *A. orientigemmata* | HKAS 38345 | Yunan, China | AY436465 |
| *‘A. orsonii’* | RET 140-6 | Pakistan | KU248133 |
| *‘A. orsonii’* | RET 390-4 | Pakistan | KU248132 |
| *‘A. orsonii’* | RET 717-8 | India | KX270327 |
| *A. ovalispora* | A11 | Yunnan, China | FJ441041 |
| *A. pachycolea* | SMI351 | Canada | HQ650725 |
| *A. pakistanica* | NY 00632703 | Pakistan | KX061524 |
| *A. pallidorosea* | HKAS 54164 | Chongqing, China | FJ176736 |
| *A. pallidorosea* | HKAS61937 | Shaanxi, China | KJ466382 |
| *A. pallidorosea* | HKAS71023 | Hokkaido, Japan | KJ466383 |
| *A. pallidorosea* | HKAS75483 | Hubei, China | KJ466384 |
| *A. pallidorosea* | HKAS75783 | Yunnan, China | JX998035 |
| *A. pallidorosea* | HKAS77328 | Henan, China | JX998036 |
| *A. pallidorosea* | HKAS75786 | Gansu, China | JX998037 |
| *A. pallidorosea* | HKAS77327 | Guizhou, China | KJ466386 |
| *A. pallidorosea* | HKAS77329 | Hunan, China | KJ466387 |
| *A. pallidorosea* | HKAS77329 | Guizhou, China | KJ466387 |
| *A. pallidorosea* | HKAS77349 | Shandong, China | KJ466389 |
| *‘A. pantherina’* | FB-30956 | Japan | AB080973 |
| *‘A. pantherina’* | LEM960235 | Japa | AB080976 |
| *A. pantherina* | M-31408 (K) | United Kingdom | AB080774 |
| *A. pantherina* | M-61495 (K) | United Kingdom | AB096046 |
| *A. pantherina* | M-66889 (K) | United Kingdom | AB080776 |
| *‘A. pantherina’* | 9013 | USA | GQ401354 |
| *‘A. pantherina’* | 45927 (NY) | USA | AB080785 |
| *‘A. pantherina’* | 45927 (NY) | USA | AB080784 |
| *A. perpasta* | — | Australia | AB509926 |
| *A. persicina* | RET 112-6 | Mississippi, USA | EU071888 |
| *A. persicina* | RET 151-6 | Alabama, USA | EU071891 |
| *A. persicina* | RET 328-2 | New Jersey, USA | EU071926 |
| *A. phalloides* | HKAS75773 | USA | JX998031 |
| *A. ponderosa* | AH 19699 | Spain | EF653962 |
| *A. ponderosa* | AH 19752 | Spain | AY486234 |
| *A. ponderosa* | AH31718 | Spain | AY486233 |
| *A. populiphila* | RET 103-3 | USA (T) | KP224318 |
| *A. populiphila* | RET 423-2 | USA | KP224322 |
| *A. populiphila* | RET 447-1 | Canada | KP224317 |
| *A. porphyria* | HKAS 31531 | Germany | AY436471 |
| *A. porphyria* | RET 077-1 | USA | KP866179 |
| *A. porphyria* | RET 311-2 | Norway | KP866177 |
| *A. porphyria* | RET 366-3 | USA | KP866180 |
| *A. porphyria* | SMI240 | Canada | HQ650726 |
| *A. porphyria* | TRTC156850 | Canada | JN020970 |
| *A. preissii* | PERTH 8690766\_1 | Australia | KY290657 |
| *A. princeps* | FRIM 62849 | Malaysia | KU714576 |
| *A. protecta* | NY00066692 | USA | KP224324 |
| *A. protecta* | RET 277-5 | USA | KP224326 |
| *A. pseudopantherina* | HKAS26746 | Yunnan, China | AY436466 |
| *‘A. pseudoporphyria’* | A16 | Yunnan, China | FJ441046 |
| *‘A. pseudoporphyria’* | A4 | Yunnan, China | FJ441034 |
| *A. pseudoporphyria* | ASIS26942 | South Korea | KU139526 |
| *‘A. pseudoporphyria’* | FB-30951(CBM) | Japan | AB015702 |
| *‘A. pseudovaginata’* | LE<RUS>:216819 | Russia | KM658285 |
| *A. pseudoporphyria* | MHHNU 30897 | China | KU497541 |
| *A. pseudovaginata* | HKAS 38323 | Yunnan, China | AY436470 |
| *A. punctata* | — | Australia | AY194978 |
| *A. punctata* | LEM960270 | Japan | AB015693 |
| *A. pyramidifera* | — | Australia | AY194979 |
| *‘A. pyriformis’* | DMSC410876 | Thailand | KT213723 |
| *A. quenda* | PERTH:08587116 | Australia | KP137063 |
| *A. rhacopus* | RET 181-8 | USA | KP224332 |
| *A. rhacopus* | RET 313-3 | USA | KP224334 |
| *A. rimosa* | HKAS49675 | Hunan, China | FJ176728 |
| *A. rimosa* | HKAS75777 | Hainan, China | JX998018 |
| *A. rimosa* | HKAS75778 | Hainan, China | JX998019 |
| *A. rimosa* | HKAS75779 | Guangdong, China | JX998020 |
| *A. rimosa* | HKAS77105 | Jiangxi, China | KJ466391 |
| *A. rimosa* | HKAS77120 | Jiangxi, China | KF479044 |
| *A. rimosa* | HKAS77279 | Guangdong, China | KJ466392 |
| *A. rimosa* | HKAS77335 | Hainan, China | KJ466393 |
| *A. rimosa* | HKAS77336 | Hainan, China | KJ466394 |
| *A. rimosa* | MFLU:15-0153 | Tailand | KU904819 |
| *A. roanokensis* | FLAS-F-60017 | USA | KY654730 |
| *A. roseitincta* | RET 032-7 | USA | KC855226 |
| *A. roseitincta* | RET 284-10 | USA | KC855224 |
| *A. roseitincta* | RET 313-5 | USA | KC855225 |
| *A. roseolamellata* | — | Australia | AY194980 |
| *A. roseolamellata* | RET 473-4 | Australia | KP866164 |
| *A. roseolamellata* | RET 497-5 | Australia | KP866166 |
| *A. rubescens* | — | Spain | KY595996 |
| *A. rubescens* | ANDES\_F415 NVE3 | Colombia | FJ890030 |
| *A. rubescens* | ANDES\_F416 NVE160 | Colombia | FJ890031 |
| *A. rubescens* | IFO-8266 | South Korea | AF085484 |
| *‘A. rubescens’* | JMP0003 | USA | EU819464 |
| *A. rubescens* | KA12-1221 | South Korea | KF245919 |
| *‘A. rubescens’* | LEM950063 | Japan | AB015682 |
| *A. rubescens* | RK01-01 | Denmark | AJ889923 |
| *‘A. rubescens’* | SOC1252 | USA | FJ235155 |
| *A. rubromarginata* | MFLU:15-01420 | Thailand | KU904822 |
| *A. rubromarginata* | RET 383-1 | Japan | KP662538 |
| *A. rubrovolvata* | BZ2015\_68 | Tailand | KY747465 |
| *A. silvicola* | 7061 | California, USA | GQ250408 |
| *A. silvicola* | 07061 | USA | GQ250408 |
| *A. silvicola* | MK2 | Canada | KP406556 |
| *A. silvicola* | RET 594-9 | USA | KR919766 |
| *‘A. similis’* | Asim090716-2 | Japan | LC056774 |
| *A. similis* | FRIM 3740 | Malaysia | KU714566 |
| *A. similis* | TFM-M P934 | Indonesia | KU714568 |
| *‘A. similis’* | S-305 | Japan | LC056775 |
| *A. sinensis* | LEM960255 | Japan | AB080979 |
| *A. sinicoflava* | 2589 | Canada | KJ638257 |
| *A. sinicoflava* | 1023 | Canada | KJ638262 |
| *A. sinicoflava* | 2738 | Canada | KJ638258 |
| *A. sinicoflava* | 3580 | Canada | KJ638260 |
| *A. solitaria* | HKAS 31459 | Germany | AY436475 |
| *‘A.* sp. 1*’* | HKAS 38419 | Yunnan, China | AY436474 |
| *A.* sp. | 157\_13 | Yunan, China | FJ378735 |
| *‘A.* sp.*’* | DMSC09996 | Thailand | KT213721 |
| *A.* sp. | EMD 11-200 | Australia | KF859748 |
| *A.* sp. | EMD 11-2002 | Australia | KF859749 |
| *A.* sp. | EMD 11-2002 | Australia | KF859751 |
| *A.* sp. | EMD 11-2002 | Australia | KF859750 |
| *A.* sp. | FCME-Sanchez-S-31 | Mexico | JX844703 |
| *A.* sp. | HKAS75150 | Bangladesh | KJ466414 |
| *A.* sp. | HKAS77323 | Fujian, China | KJ466415 |
| *A.* sp. | JMAW | USA | KF986265 |
| *A.* sp. | K11 | USA | DQ273350 |
| *A.* sp. | LE 296431 | Russia | KM658293 |
| *A.* sp. | LEM13-2005 | Australia | JX398328 |
| *A.* sp. | LEM41-2005 | Australia | JX398329 |
| *A.* sp. | LG1045 | California, USA | EU071961 |
| *A.* sp. | LG1066 | California, USA | EU071962 |
| *A.* sp. | LG862 | Califonia, USA | EU071958 |
| *A.* sp. | LG864 | Califonia, USA | EU071959 |
| *A.* sp. | MEL:2382912 | Australia | KP012781 |
| *A.* sp. | MEL2151456 | Australia | AY194971 |
| *A.* sp. | MEL2151459 | Australia | AY194967 |
| *A.* sp. | MEL2151460 | Australia | AY194968 |
| *A.* sp. | MEL2151465 | Australia | AY194965 |
| *A.* sp. | NC-2-7294/1 | Switzerland | AY456334 |
| *A.* sp. | RET 128-5 | Washington, USA | KF561972 |
| *A.* sp. | RET 390-3 | Pakistan | KX354365 |
| *A.* sp. | RET 391-7 | India | KC855219 |
| *A.* sp. | RET 426-3 | USA | KP866196 |
| *A.* sp. | RET-292-1 | Mexico | JX844689 |
| *A.* sp. | RET-373-9 | USA | JX844754 |
| *A.* sp. | RET422-8 | USA | KJ466406 |
| *A.* sp. | RET493-6 | USA | KJ466407 |
| *A.* sp. | TENN65597 | North Carolina, USA | KC841904 |
| *‘A.* sp-Thai03*’* | CMU-MC06 | Nepal | JX844763 |
| *A. spissa* | KF02-47 | Denmark | AJ889924 |
| *‘A. spissa’* | — | South Korea | AF085486 |
| *‘A. spissacea’* | LEM960187 | Japan | AB015683 |
| *A. spreta* | RET 234-6 | USA | KX365200 |
| *A. spreta* | RET 632-3 | Canada | KU248117 |
| *A. spreta* | RET-296-2 | USA | JX844742 |
| *A. spreta* | RET-315-10 | USA | JX844740 |
| *A. sturgeonii nom. prov.* | RET 725-1B | USA | KX270303 |
| *A. sturgeonii nom. prov.* | RET 725-1D | USA | KX270305 |
| *A. suballiacea* | FLAS-F-60189 | USA | MF074851 |
| *A. suballiacea* | RET478-6 | USA | KJ466419 |
| *A. suballiacea* | RET490-1 | USA | KJ466420 |
| *A. suballiacea* | RET491-7 | USA | KJ466421 |
| *A. subfrostiana* | HKAS34551 | Yunan, China | AY436476 |
| *A. subfuliginea* | HKAS77326 | Guangdong, China | KJ466404 |
| *A. subfuliginea* | HKAS77347 | Hunan, China | KJ466405 |
| *A. subjunquillea* | HKAS54509 | Yunnan, China | KJ466422 |
| *A. subjunquillea* | HKAS63418 | Jilin, China | KJ466423 |
| *A. subjunquillea* | HKAS74993 | Yunnan, China | KJ466424 |
| *A. subjunquillea* | HKAS75770 | Shaanxi, China | JX998034 |
| *A. subjunquillea* | HKAS75771 | Hubei-China | JX998032 |
| *A. subjunquillea* | HKAS75772 | Gansu, China | JX998033 |
| *A. subjunquillea* | HKAS77325 | Henan, China | KJ466425 |
| *A. subjunquillea* | HKAS77345 | Hubei, China | KJ466426 |
| *A. subjunquillea* | HMJAU20412 | Jilin, China | KJ466427 |
| *A. subjunquillea* | HMJAU23276 | Jilin, China | KJ466428 |
| *‘A. subjunquillea* var. *alba’* | YWE2-20040808 | Yunnan, Chin | EF442101 |
| *‘A. subjunquillea* var. *alba’* | YWE3-20050806 | Yunnan, China | EF442102 |
| *A. submembranacea* | A-9 | Czech Republic | FJ705275 |
| *A. submembranacea* | LE<RUS>:296460 | Russia | KM658295 |
| *A. suborientifulva* | OR1276 | Thailand | MF461584 |
| *A. subovalispora* | BZ2015-70 | Thailand | MF461580 |
| *A. subpallidorosea* | HKAS77350 | Taiwan, China | KJ466400 |
| *A. subpallidorosea* | LHJ140923-17 | Guizhou, China | KP691677 |
| *A. subpallidorosea* | LHJ140923-41 | Guizhou, China | KP691683 |
| *A. subpallidorosea* | LHJ140923-55 | Guizhou, China | KP691680 |
| *A. supravolvata* | RET 103-7 | France | KP258995 |
| *A. sychnopyramis*  f. *subannulata* | LEM960112a | Japan | AB015690 |
| *‘A. tanzanica’* | H 7002986 | Tanzania | JF710839 |
| *‘A. tanzanica’* | H 7002992 | Tanzania | JF710838 |
| *A. texasorora* | RET 575-7 | USA | KP662527 |
| *A. torrendii* | LOU-Fungi 17408 | Spain | GQ925386 |
| *A. tuza* | AR09562 | Mexico | KT874955 |
| *A. tuza* | GO-2009-224 | Mexico | KT874956 |
| *A. umbrinolutea* | HKAS 31451 | Germany | AY436478 |
| *‘A. vaginata’* | — | Thailand | AB451971 |
| *‘A. vaginata’* | 2550 | Italy | JF907756 |
| *‘A. vaginata’* | 332 | Russia | KP783429 |
| *‘A. vaginata’* | ASIS15487 | South Korea | KP004955 |
| *‘A. vaginata’* | BHS2009-05 | USA | GU220372 |
| *‘A. vaginata’* | BHS2009-05 | USA | GU220372 |
| *‘A. vaginata’* | ID PAN 628 | Poland | KM085387 |
| *‘A. vaginata’* | JMP0004 | USA | EU819489 |
| *‘A. vaginata’* | KA12-1190 | South Korea | KF017949 |
| *‘A. vaginata’* | KF02-44 | Denmark | AJ889925 |
| *‘A. vaginata’* | KULG-22 | India | KF306094 |
| *‘A. vaginata’* | LE<RUS>:217377 | Russia | KM658299 |
| *‘A. vaginata’* | LEM950304a | Japan | AB015691 |
| *A. velosa* | 07004 | USA | GQ250409 |
| *A. velosa* | APNo.1 | USA | EU909453 |
| *A. velosa* | SOC 669 | USA | AY918961 |
| *A. vernicoccora* | DBB43538 | USA | NR\_119968 |
| *A. vernicoccora* | MICH:232904 | USA | KR338835 |
| *A. vernicoccora* | RET 385-5 | USA | KY655747 |
| *A. virgineoides* | A2 | Yunnan, China | FJ441032 |
| *A. virgineoides* | LEM960205 | Japan | AB015686 |
| *A. virginiana* | RET-361-6 | USA | JX844749 |
| *A. virginiana* | RET-374-8 | USA | JX844750 |
| *A. virosa* | HKAS56694 | Finland | JX998030 |
| *A. virosa* | HKAS71040 | Hokkaido, Japan | KJ466429 |
| *A. virosa* | HMJAU20396 | Jilin, China | JX998029 |
| *A. virosa* | HMJAU23303 | Jilin, China | KJ466430 |
| *‘A. volvata’* | ASIS24970 | South Korea | KM052547 |
| *A. volvata* | LEM960165 | Japan | AB015681 |
| *A. wadjukiorum* | PERTH 08403988 | Australia | KF258721 |
| *A. wadjukiorum* | PERTH:08403988 | Australia | KF258720 |
| *A. wadjukiorum* | PERTH:08403988 | Australia | KF258722 |
| *A. walpolei* | 46-2012 | Australia | KF815739 |
| *A. xerocybe* | TH 8930 | Guyana | KC155384 |
| *A. yuaniana* | HKAS29516 | Yunnan, China | AY436479 |
| *A. yuaniana* | HKAS32491 | Japan | AB039792 |
| *A. zangii* | GDGM29241 | Fujian, China | KJ466432 |
| *A. zangii* | HKAS77331 | Hainan, China | KJ466433 |
| *A. zangii* | MFLU:15-0144 | Thiland | KU904818 |

Table S4 The best partition schemes and nucleotide substitution models selected by PartitionFinder for Dataset I.

|  |  |  |
| --- | --- | --- |
| Dataset | Partition scheme | Model (RAxML) |
| 3-gene | nrLSU | GTR+I+G |
| *rpb*1\_codon1,2; *rpb*2\_codon1,2;  *tef1-α*\_codon1,2 | GTR+I+G |
| *rpb*1\_codon3; *rpb*2\_codon3;  *tef1-α*\_codon3 | GTR+I+G |

Table S5 The best partition schemes and nucleotide substitution models selected by PartitionFinder for both single gene and 4-gene dataset applied in phylogenetic analyses based on Dataset II.

|  |  |  |
| --- | --- | --- |
| Dataset | Partition scheme | Model (RAxML) |
| nrLSU | full | GTR+I+G |
| *rpb*2 | codon1 | GTR+I+G |
| codon2 | GTR+I+G |
| codon3 | GTR+I+G |
| *tef1-α* | codon1 | GTR+I+G |
| codon2 | GTR+I+G |
| codon3 | GTR+I+G |
| *β-tubulin* | codon1, 2 | GTR+I+G |
| codon3 | GTR+I+G |
| 4-gene | nrLSU | GTR+I+G |
| *rpb*2\_codon2; *tef1*-*α*\_codon2; *β*-*tubulin*\_codon1,2 | GTR+I+G |
| *rpb2\_codon3; tef1-α\_codon3; β-tubulin\_codon3* | GTR+I+G |
| *rpb*2\_codon1 | GTR+I+G |
| *tef1*-*α*\_codon1 | GTR+I+G |

Table S6 The best partition schemes and nucleotide substitution models selected by PartitionFinder for III.

|  |  |  |
| --- | --- | --- |
| Dataset | Partition scheme | Model (RAxML) |
| ITS | ITS1; ITS2 | GTR+G |
| 5.8S | GTR+G |

Table S7 The best partition schemes and nucleotide substitution models selected by PartitionFinder for both single gene and 3-gene dataset applied in phylogenetic analyses based on Dataset IV.

|  |  |  |
| --- | --- | --- |
| Dataset | Partition scheme | Model (RAxML) |
| nrLSU | full | GTR+I+G |
| *rpb*2 | codon1 | GTR+I+G |
| codon2 | GTR+I+G |
| codon3 | GTR+I+G |
| *tef1-α* | codon1 | GTR+I+G |
| codon2 | GTR+I+G |
| codon3 | GTR+I+G |
| 3-gene | nrLSU | GTR+I+G |
| *rpb*2\_codon2; *tef1*-*α*\_codon2 | GTR+I+G |
| *rpb*2\_codon3; *tef1*-*α*\_codon3 | GTR+I+G |
| *rpb*2\_codon1 | GTR+I+G |
| *tef1*-*α*\_codon1 | GTR+I+G |