

W. JOHN KRESS, LINDA M. PRINCE, AND KYLE J. WILLIAMS. 2002. The phylogeny and a new classification of the gingers (Zingiberaceae): evidence from molecular data. *American Journal of Botany* 89(10): 1682-1696.

Appendix 1. List of taxa used in the phylogenetic analyses of the Zingiberaceae. Voucher number, location, country of origin, and GenBank accession number of gene sequences of each species are provided.

| <b>Taxon Name</b>                                       | <b>Voucher information:<br/>collector, number, and<br/>herbarium location</b> | <b>Country of origin</b> | <b>GenBank<br/>accession<br/>number for ITS<br/>sequences<sup>a</sup></b> | <b>GenBank<br/>accession<br/>number for matK<br/>sequences<sup>a</sup></b> |
|---|---|--------------------------|---|--|
| <b><u>Outgroup</u></b>                                  |   |                          |   |  |
| <i>Canna flaccida</i> Salisb.                           | Prince #95-216 NCU  | U.S.A                    | ----  | GBAN-AF478906  |
| <i>Costus pulverulentus</i> C. Presl                    | #86-043 Duke<br>Greenhouse  | Costa Rica               | ----  | GBAN-AF478907  |
| <i>Heliconia irrasa</i> R. R. Sm.                       | #277200 DUKE  | Panama                   | ----  | GBAN-AF478908  |
| <i>Musella lasiocarpa</i> (Fr.) C. Y. Wu ex H. W. Li    | Kress #94-3709 US   | China                    | ----  | GBAN-AF478909  |
| <i>Orchidantha fimbriata</i> Holttum                    | Kress #87-2159 US   | Malaysia                 | ----  | GBAN-AF478910  |
| <i>Phenakospermum guyannense</i> (Rich.) Miq.           | Kress #86-2099 US   | Guyana                   | ----  | GBAN-AF478911  |
| <i>Sarchophrynium brachystachyum</i> (Benth.) K. Schum. | Kress #01-7007 US   | Ivory Coast              | ----  | GBAN-AF478912  |
| <i>Tapeinochilus</i> species                            | Kress #90-2984 US   | Papua New Guinea         | ----  | GBAN-AF478913  |
| <b><u>Ingroup</u></b>                                   |   |                          |   |  |
| <i>Aframomum angustifolium</i> (Sonn.) K. Schum.        | Kress #92-3403 US   | Madagascar               | GBAN-AF478704   | GBAN-AF478804  |
| <i>Aframomum daniellii</i> K. Schum.                    | Kress #99-6375 US   | Gabon                    | GBAN-AF478705   | GBAN-AF478805  |
| <i>Aframomum sceptrum</i> K. Schum.                     | Kress #98-6268 US   | Gabon                    | GBAN-AF478706   | GBAN-AF478806  |
| <i>Aframomum</i> species #1                             | Kress #99-6368 US   | Ex hort Hawaii           | GBAN-AF478707   | GBAN-AF478807  |
| <i>Aframomum</i> species #2                             | Kress #94-5331 US   | Gabon                    | GBAN-AF478708   | GBAN-AF478808  |

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| <i>Alpinia blepharocalyx</i> K. Schum.                     | Kress #98-6136 US   | China          | GBAN-AF478709 | GBAN-AF478809 |
| <i>Alpinia calcarata</i> Roscoe                            | Kress #94-3657 US   | China          | GBAN-AF478710 | GBAN-AF478810 |
| <i>Alpinia carolinensis</i> Koidz.                         | Kress #99-6404 US   | Micronesia     | GBAN-AF478711 | GBAN-AF478811 |
| <i>Alpinia conchigera</i> Griff.                           | Kress #00-6706 US   | China          | GBAN-AF478712 | GBAN-AF478812 |
| <i>Alpinia elegans</i> K. Schum.                           | Kress #99-6412 US   | Philippines    | GBAN-AF478713 | GBAN-AF478813 |
| <i>Alpinia foxworthyi</i> Ridl.                            | Kress #98-6293 US   | Philippines    | GBAN-AF478714 | GBAN-AF478814 |
| <i>Alpinia galanga</i> (L.) Willd.                         | Kress #94-5263 US   | Ex hort Hawaii | GBAN-AF478715 | GBAN-AF478815 |
| <i>Alpinia intermedia</i> Gagnep.                          | Kress #97-5780 US   | Japan          | GBAN-AF478716 | GBAN-AF478816 |
| <i>Alpinia luteocarpa</i> Elmer                            | Kress #99-6403 US   | Philippines    | GBAN-AF478717 | GBAN-AF478817 |
| <i>Alpinia officinarum</i> Hance                           | Kress #00-6614 US   | China          | GBAN-AF478718 | GBAN-AF478818 |
| <i>Alpinia pumila</i> Hook f.                              | Kress #97-6119 US   | China          | GBAN-AF478719 | GBAN-AF478819 |
| <i>Alpinia vittata</i> Bull.                               | Kress #99-6415 US   | Polynesia      | GBAN-AF478720 | GBAN-AF478820 |
| <i>Amomum glabrum</i> S.Q. Tong                            | Kress #00-6715 US   | China          | GBAN-AF478721 | GBAN-AF478821 |
| <i>Amomum longipetiolatum</i> Merr.                        | Kress #99-6353 US   | China          | GBAN-AF478722 | GBAN-AF478822 |
| <i>Amomum</i> species                                      | Kress #99-6373 US   | Ex hort Hawaii | GBAN-AF478723 | GBAN-AF478823 |
| <i>Amomum villosum</i> Lour.                               | Kress #01-6978 US   | China          | GBAN-AF478724 | GBAN-AF478824 |
| <i>Boesenbergia pulcherrima</i> (Wall.)<br>Kuntze          | Kress #00-6755 US   | Thailand       | GBAN-AF478725 | GBAN-AF478825 |
| <i>Boesenbergia rotunda</i> (L.) Mansf. #1                 | Kress #00-6737 US   | Ex hort Hawaii | GBAN-AF478726 | GBAN-AF478827 |
| <i>Boesenbergia rotunda</i> (L.) Mansf. #2                 | Kress #00-6776 US   | Myanmar        | GBAN-AF478727 | GBAN-AF478826 |
| <i>Burbridgea nitida</i> Hook. f.                          | Kress #97-5781 US   | Sarawak        | GBAN-AF478728 | GBAN-AF478828 |
| <i>Burbridgea schizocheila</i> Hort.                       | Kress #01-6867 US   | Sarawak        | GBAN-AF478729 | GBAN-AF478829 |
| <i>Camptandra parvula</i> (Baker) Ridl.                    | Kress #99-6328 US   | Thailand       | GBAN-AF478730 | GBAN-AF478830 |
| <i>Caulokaempferia coenobialis</i> (Hance)<br>K. Larsen    | K. Larsen s. n. AAU | Thailand       | GBAN-AF478731 | -----         |
| <i>Caulokaempferia saxicola</i> K. Larsen                  | Kress #98-6249 US   | Thailand       | GBAN-AF478732 | GBAN-AF478831 |
| <i>Caulokaempferia</i> species                             | Kress #99-6311 US   | Thailand       | GBAN-AF478733 | GBAN-AF478832 |
| <i>Cautleya gracilis</i> (Sm.) Dandy                       | RBGE 1990-2201 E    | Bhutan         | GBAN-AF478734 | GBAN-AF478833 |
| <i>Cautleya spicata</i> (Sm.) Baker                        | Kress #98-6267 US   | Bhutan         | GBAN-AF478735 | GBAN-AF478834 |
| <i>Cornukaempferia aurantiflora</i> J. Mood<br>& K. Larsen | Kress #01-6983 US   | Thailand       | GBAN-AF478736 | GBAN-AF478835 |
| <i>Curcuma aeruginosa</i> Roxb.                            | Kress #97-5825 US   | Myanmar        | -----         | GBAN-AF478840 |
| <i>Curcuma bicolor</i> J. Mood & K. Larsen,                | Kress #99-6516 US   | Thailand       | GBAN-AF478737 | GBAN-AF478837 |

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| ined.  |                       |                    |               |               |
| <i>Curcuma comosa</i> Roxb.  | Kress #96-5651 US     | Myanmar            | GBAN-AF478738 | GBAN-AF478838 |
| <i>Curcuma roscoeana</i> Wall.                                     | Kress #98-6253 US     | Thailand           | GBAN-AF478739 | GBAN-AF478839 |
| <i>Curcuma</i> species   | Kress #01-6874 US     | Thailand           | GBAN-AF478740 | GBAN-AF478836 |
| <i>Curcuma thorelii</i> Gagnep.                                    | Kress #99-6524 US     | Thailand           | GBAN-AF478741 | GBAN-AF478841 |
| <i>Curcumorpha longiflora</i> (Wall.) A. S. Rao & D. M. Verma #1   | Kress #97-5824 US     | Myanmar            | GBAN-AF478742 | GBAN-AF478842 |
| <i>Curcumorpha longiflora</i> (Wall.) A. S. Rao & D. M. Verma #2   | Kress #99-6434 US     | Myanmar            | GBAN-AF478743 | GBAN-AF478843 |
| <i>Distichochlamys citrea</i> M. F. Newman                         | Kress #01-6818 US     | Vietnam            | GBAN-AF478744 | -----         |
| <i>Distichochlamys rubrostriata</i> W. J. Kress & T. Rehse, ined.  | Kress #01-6848 US     | Vietnam            | GBAN-AF478745 | GBAN-AF478844 |
| <i>Elettariopsis kerbyi</i> R. M. Sm.                              | Kress #96-5746 US     | Borneo             | GBAN-AF478746 | GBAN-AF478845 |
| <i>Elettariopsis</i> species                                       | Kress #00-6720 US     | Myanmar            | GBAN-AF478747 | GBAN-AF478846 |
| <i>Elettariopsis stenosiphon</i> (Schum.) B.L. Burt & R. M. Sm.    | Kress #01-6847 US     | Sarawak            | GBAN-AF478748 | GBAN-AF478847 |
| <i>Etingera elatior</i> (Jack) R. M. Sm.                           | Kress #94-4251 US     | Ex hort Costa Rica | GBAN-AF478749 | GBAN-AF478848 |
| <i>Etingera littoralis</i> Giseke                                  | Kress #99-6323 US     | Thailand           | GBAN-AF478750 | GBAN-AF478849 |
| <i>Etingera yunnanensis</i> (T. L. Wu & S. J. Chen) R. M. Sm.      | Kress #95-5546 US     | China              | GBAN-AF478751 | GBAN-AF478850 |
| <i>Gagnepainia thoreliana</i> K. Schum.                            | Williams #00-199 DUKE | Thailand           | GBAN-AF478752 | GBAN-AF478851 |
| <i>Globba atosanguinea</i> Teijsm. & Binn.                         | Williams #98-01 DUKE  | Borneo             | GBAN-AF478753 | GBAN-AF478852 |
| <i>Globba curtisii</i> Holttum                                     | Kress #99-6347 US     | Malaysia           | GBAN-AF478754 | GBAN-AF478853 |
| <i>Globba macroclada</i> Gagnep.                                   | Williams #99-135 DUKE | India              | GBAN-AF478755 | GBAN-AF478854 |
| <i>Haniffia albiflora</i> K. Larsen & J. Mood                      | Kress #99-6370 US     | Thailand           | GBAN-AF478756 | GBAN-AF478855 |
| <i>Hedychium bordelonianum</i> W. J. Kress & K. J. Williams, ined. | Kress #99-6462 US     | Myanmar            | GBAN-AF478757 | GBAN-AF478856 |
| <i>Hedychium flavescens</i> Roscoe                                 | Kress #99-6590 US     | China              | GBAN-AF478758 | GBAN-AF478857 |
| <i>Hedychium greenei</i> W. W. Sm.                                 | Kress #94-3721 US     | India              | GBAN-AF478759 | GBAN-AF478858 |
| <i>Hedychium horsfieldii</i> Wall.                                 | Kress #94-3743 US     | Ex hort Costa Rica | GBAN-AF478760 | GBAN-AF478859 |
| <i>Hedychium longicornutum</i> Griff. ex Baker                     | Kress #00-6703 US     | Thailand           | GBAN-AF478761 | GBAN-AF478860 |
| <i>Hedychium villosum</i> Wall.                                    | Kress #00-6603 US     | China              | GBAN-AF478762 | GBAN-AF478861 |

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| <i>Hemiorchis pantlingii</i> King                              | Kress #99-6515 US | Thailand         | GBAN-AF478764 | GBAN-AF478862 |
| <i>Hemiorchis rhodorrhachis</i> K. Schum.                      | Newman #861 RBGE  | Thailand         | GBAN-AF478763 | GBAN-AF478863 |
| <i>Hitchenia glauca</i> Wall.                                  | Kress #00-6743 US | Myanmar          | GBAN-AF478765 | GBAN-AF478864 |
| <i>Hornstedtia hainanensis</i> T. L. Wu & S. J. Chen           | Kress #97-5769 US | China            | GBAN-AF478766 | GBAN-AF478865 |
| <i>Kaempferia parviflora</i> Wall. Ex Baker                    | Kress #97-6120 US | Myanmar          | ----          | GBAN-AF478866 |
| <i>Kaempferia pulchra</i> Ridl.                                | Kress #94-5371 US | Thailand         | ----          | GBAN-AF478867 |
| <i>Kaempferia rotunda</i> L.                                   | Kress #99-6304 US | Myanmar          | GBAN-AF478767 | GBAN-AF478868 |
| <i>Kaempferia</i> species                                      | Kress #98-6289 US | Myanmar          | GBAN-AF478768 | GBAN-AF478869 |
| <i>Mantisia spathulata</i> (Roxb.) Roem. & Schult.             | Hoque #Mant-1 US  | Bangladesh       | GBAN-AF478769 | GBAN-AF478870 |
| <i>Mantisia wengeri</i> C. E. C. Fischer                       | Kress #00-6722 US | Myanmar          | GBAN-AF478770 | GBAN-AF478871 |
| <i>Paramomum petaloideum</i> S. Q. Tong                        | Kress #95-5508 US | China            | GBAN-AF478771 | GBAN-AF478872 |
| <i>Plagiostachys</i> species #1                                | Kress #99-6330 US | Thailand         | GBAN-AF478772 | GBAN-AF478873 |
| <i>Plagiostachys</i> species #2                                | Kress #00-6745 US | Sabah            | GBAN-AF478773 | GBAN-AF478874 |
| <i>Pleuranthodium floribundum</i> (K. Schum.) R. M. Sm.        | Kress #94-5337 US | Papua New Guinea | GBAN-AF478774 | GBAN-AF478875 |
| <i>Pleuranthodium schlechteri</i> (K. Schum.) R. M. Sm.        | Kress #00-6725 US | Papua New Guinea | GBAN-AF478775 | GBAN-AF478876 |
| <i>Pommereschea lackneri</i> Wittm.                            | Kress #00-6739 US | China            | GBAN-AF478776 | GBAN-AF478877 |
| <i>Pyrgophyllum yunnanense</i> (Gagnep.) T. L. Wu & Z. Y. Chen | Kress #00-6596 US | China            | GBAN-AF478777 | GBAN-AF478878 |
| <i>Renealmia alpinia</i> (Rottboell) Maas                      | Kress #99-6407 US | Tropical America | GBAN-AF478778 | GBAN-AF478879 |
| <i>Renealmia battenbergiana</i> Baker                          | Kress #94-5277 US | Tropical Africa  | GBAN-AF478779 | GBAN-AF478880 |
| <i>Renealmia cernua</i> (Roem. & Schult.) Macbride             | Kress #99-6414 US | Ecuador          | GBAN-AF478780 | GBAN-AF478881 |
| <i>Renealmia</i> species #1                                    | Kress #96-5713 US | Ecuador          | GBAN-AF478781 | GBAN-AF478882 |
| <i>Renealmia</i> species #2                                    | D. Harris s. n. E | Tropical Africa  | GBAN-AF478782 | GBAN-AF478883 |
| <i>Renealmia thyrsoides</i> (R. & P.) Poepp. & Endl.           | Kress #99-6406 US | Tropical America | GBAN-AF478783 | GBAN-AF478884 |
| <i>Rhynchanthus beesianus</i> W. W. Sm.                        | Kress #97-5827 US | China            | GBAN-AF478784 | GBAN-AF478885 |
| <i>Riedelia</i> species  | GH #96-281 US     | Papua New Guinea | GBAN-AF478785 | GBAN-AF478886 |

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| <i>Roscoea cautleoides</i> Gagnep.   | Kress #99-6361 US | China          | GBAN-AF478786 | GBAN-AF478887 |
| <i>Roscoea purpurea</i> Royle  | Kress #01-6953 US | Himalayas      | GBAN-AF478787 | GBAN-AF478888 |
| <i>Scaphochlamys biloba</i> (Ridl.) Holttum                                | Kress #99-6576 US | Thailand       | GBAN-AF478788 | GBAN-AF478889 |
| <i>Scaphochlamys kunstleri</i> (Baker)<br>Holttum                          | Kress #99-6539 US | Malaysia       | GBAN-AF478789 | GBAN-AF478890 |
| <i>Siamanthus siliquosus</i> K. Larsen & J.<br>Mood                        | Kress #99-6349 US | Thailand       | GBAN-AF478790 | GBAN-AF478891 |
| <i>Siliquamomum tonkinense</i> Baill.                                      | Kress #00-6802 US | China          | GBAN-AF478791 | GBAN-AF478892 |
| <i>Siphonochilus aethiopicus</i> (Schweinf.)<br>B. L. Burtt                | GH #00-134 US     | East Africa    | GBAN-AF478792 | GBAN-AF478893 |
| <i>Siphonochilus decorus</i> (Druten) Lock                                 | GH #00-135 US     | East Africa    | GBAN-AF478793 | GBAN-AF478894 |
| <i>Siphonochilus kirkii</i> (Hook.) B. L. Burtt                            | Kress #94-3692 US | East Africa    | GBAN-AF478794 | GBAN-AF478895 |
| <i>Smithatris supraneeana</i> W. J. Kress &<br>K. Larsen                   | Kress #00-6750 US | Thailand       | GBAN-AF478795 | GBAN-AF478896 |
| <i>Stahlianthus involucratus</i> (Baker) Loes.                             | Kress #00-6705 US | China          | GBAN-AF478796 | GBAN-AF478897 |
| <i>Tamijia flagellaris</i> S. Sakai & Nagam.                               | Kazuyuki #S55 KYO | Sarawak        | GBAN-AF478797 | GBAN-AF478898 |
| <i>Vanoverberghia sepulchrei</i> Merr.                                     | Kress #95-5562 US | Philippines    | GBAN-AF478798 | GBAN-AF478899 |
| <i>Zingiber corallinum</i> Hance   | Kress #95-5530 US | China          | -----         | GBAN-AF478900 |
| <i>Zingiber ellipticum</i> (S. Q. Tong & Y. M.<br>Xia) Q. G. Wu & T. L. Wu | Kress #00-6801 US | China          | GBAN-AF478799 | GBAN-AF478901 |
| <i>Zingiber gramineum</i> Blume  | Kress #96-5739 US | Ex hort Hawaii | GBAN-AF478800 | GBAN-AF478902 |
| <i>Zingiber</i> species  | Kress #99-6555 US | Myanmar        | GBAN-AF478803 | GBAN-AF478903 |
| <i>Zingiber sulphureum</i> I. Theilade                                     | Kress #00-6719 US | Malaysia       | GBAN-AF478801 | GBAN-AF478904 |
| <i>Zingiber wrayi</i> Ridl.  | Kress #00-6721 US | Thailand       | GBAN-AF478802 | GBAN-AF478905 |

<sup>a</sup> The prefix GBAN- has been added to link the online version of the *American Journal of Botany* to GenBank, but is not part of the actual accession number.