

# Ornamental Zingiberaceae<sup>1</sup>

TOM WOOD

## INTRODUCTION

The family Zingiberaceae (in which I include *Costus* and other spiral gingers) is the largest and most widespread in the Zingiberales. The forty nine genera and about 1400 species occur throughout the warm parts of the world from 32 degrees North latitude to 30 degrees South latitude and from sea level to 4200 meters altitude. As a result of this ecological diversity zingiberaceous plants are adapted to a wider range of situations in cultivation than any other tropical family. While many species are strictly tropical, the fact that plants grow from an underground stem or rhizome means that some can survive seasons of drought or freezes and regrow from the rhizome when warm or wet weather returns. Hardiness testing and breeding is extending the area where gingers can be grown outdoors as a perennial to anywhere that the ground does not freeze; as far as Vancouver, Canada, Tokyo, Japan, and Washington, DC in the Northern hemisphere. There is no reason that they could not be grown as non-hardy annuals in areas where the ground does freeze just as *Cannas*, *Amaryllis*, and *Caladiums* are today. They could either be sold as rhizomes or, preferably, started early in greenhouses and sold to gardeners when warm weather arrives. An even wider market could be tapped if they can be used as flowering potted plants sold through

florists or as houseplants for their foliage. This last use (and the other two) depends on intensive testing and breeding of species and varieties that are adapted to low light and humidity and are compact and attractive to the consumer. Our nursery has been active in collecting, testing, and breeding ginger family plants for many uses for the last fifteen years.

## ORNAMENTAL USES OF GINGERS

In addition to ornamental uses gingers are cultivated extensively as spices and for medicinal purposes which are beyond the scope of this paper. The main uses can be defined as: for cut flowers and foliage, for gardening and landscaping, and as potted plants. Each use will be discussed and few promising varieties may be mentioned but a full description of the best kinds will be left until later when I will show slides of them by genus.

Almost all of the gingers sold as cut flowers are *Alpinia purpurata* and it is varieties with a small amount of *Etlingera elatior*, torch ginger and *Zingiber spectabile*, beehive ginger. With cut flowers the most important factors in determining their marketability are vase life and stem length. There is a problem since almost all species have flowers which last for only one day. So only kinds with colourful and long last-

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ing bracts are suitable as cut flowers. Large flowers can be disadvantage if the inflorescence keeps flowering after it is cut because the dead flowers will dry out and look unsightly or have to be picked off on a daily basis. Cuts of *Zingiber* and *Curcuma* species have the advantage of deep, pocketlike bracts into which old flowers recede. Experiments with floral preservatives on *Curcuma* flowers have shown no prolongation of life. Many new species of *Costus*, *Etlingera*, *Curcuma*, and *Zingiber* have come into cultivation recently that can be used as cut flowers. Most tropical cut flower farms are located in continuously wet areas because these are the best locations for growing *Heliconias*. There is a good opportunity for developing a cut flower industry either in seasonally dry areas in the tropics or in warm temperate areas with a short, mild winter and a warm, wet summer using *Globbas*, *Zingibers*, and *Curcumas* that have a natural dormancy and in the latter genus absolutely requires a dormant period. As for cut foliage, a fair amount of variegated *Alpinia zerumbet* foliage has been marketed and several new variegated leaved *Alpinias* have been introduced recently. Also, the striped stems of several *Costus* species have been sold for some time as accent material for floral arrangements.

For outdoor growth gingers have a wide range of uses in the landscape. They range in size from giant specimen plants (*Alpinia*, *Costus*, *Etlingera*, *Tapinochilus*) to dwarf groundcovers (*Kaempferia*, *Globba*). Their light tolerance goes from full sun (some *Alpinia*, *Curcuma*) to very deep shade (*Kaempferia*, *Globba*).

They are adapted to a wide range of climates as mentioned above so that some kinds of gingers can be grown outside in any mild region of the world but deserts. The brief life of the flowers is not very important when gardening with gingers since rain will dissolve the delicate old flowers in a few days. In addition to providing colourful blooms which are often very fragrant they can be used for ornamental and sometimes variegated foliage. Breeding for compact plants, colourful flowers, and long blooming season will play an important role in expanding the use of zingiberaceous plants in the landscape, both commercial and residential.

The use of gingers as potted plants is in its infancy. Much progress has been made in breeding dwarf plants with colourful flowers that stand up to low light and humidity in interior situations. The ideal is to have plants with flowers or attractive foliage in a 10-15 cm container. We have bred a number of *Hedychium* that will flower in a 20 cm pot but are a little topheavy. Likewise several *Curcuma* can flower in 15 cm pots but are too tall. *Kaempferia* hybrids with fleshy leaves resistant to dry conditions and without a dormancy requirement have been most successful as houseplants.

The recent acquisition of number of stemless and dwarf *Costus* and *Alpinia* species raises hopes that these ornamental genera can produce dwarf cultivars. A number of Brazilian species that are not yet in cultivation may show promise in this regard such as: *Costus curcumoides*, *C. subsessilis* (*warmingii*), *C. fragilis*, *C. fusiformis*, *C. lanceolatus*, and *C. congestiflorus*.