

Ficus spp.

Introduction

Ficus, a large genus in the family Moraceae, is composed of approximately 1,000 members and is distributed in tropical and subtropical regions. Ninety-eight species, three subspecies, 43 varieties, and two forms occur in China. The phloem fibers of *Ficus* are good substitutes for hemp. Fruits of some species are edible or used medicinally. Many *Ficus* species are hosts of *Laccifer lacca* Kerr, a scale insect that secretes a resinous substance^[194].

Species of *Ficus* in China

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I. *Ficus altissima*

Lofty fig, false banyan, council tree

Taxonomy

Family: Moraceae

Genus: *Ficus* L.

Description

Ficus altissima is a large woody tree, 25-30 m tall and 40-90 cm in diameter, with smooth gray bark. Young shoots are green, puberulous, and 10 mm in diameter. Leaves are thick, leathery, and broadly ovate to broad-ovate elliptic, 10-19 cm long and 8-11 cm wide, with entire margins, obtuse apices and cuneate



Leaves of *Ficus microcarpa*. (Photo provided by USDA-PD.)

bases. Both leaf surfaces are smooth, glabrous, with five to seven pairs of long basal lateral veins. Stipules are thick, leathery, 2-5 mm long, and covered with gray silky hairs. Wrapped within the hood-like bract when young, fruits are paired axillary syconia or figs. Male florets are scattered on the inner wall of the fig, with four membranous sepals. Female florets are sessile and have four sepals. Achenes are tuberculate. Flowers occur from March to April, and fruits occur from May to July^[194].

Habitat

Ficus altissima occurs in mountains and plains at elevations of 100-2,000 m^[194].

Distribution

Ficus altissima occurs naturally in Guangdong, Guangxi, Hainan, Sichuan,

Yunnan,^{[10][194]} and is cultivated in Fujian^[84].

Economic Importance

Ficus altissima is cultivated as an ornamental and as a host for *Laccifer lacca* ^[10].

II. *Ficus microcarpa*

Laurel fig

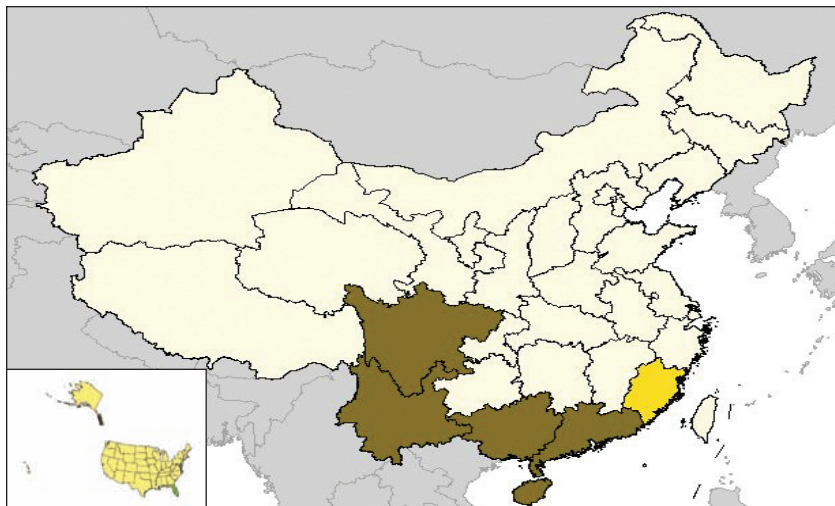
Taxonomy

Family: Moraceae

Genus: *Ficus* L.

Description

Ficus microcarpa is a woody tree that grows to 15-25 m in height and 50 cm in diameter, with a spreading crown and prop roots that are rust-brown when mature. Leaves are thin, leathery, narrowly elliptic, 4-8 cm long and 3-4 cm wide, with entire margins, obtuse apically and cuneate at bases, with three to ten pairs of long basal lateral veins. Dark green initially, leaves are dark brown and shiny when dried. Depressed globose syconia are 6-8 mm in diameter, yellow or slightly red at maturity, and occur in pairs in the leaf axils or old leafless branches. The bracts are broadly ovate and persistent. Male, female flowers, and galls, (the abnormal swollen flowers caused by insects), share the same syconium and flower May to June. Male flowers are sessile or stalked,



scattered on the inner wall of the fig. Gall and female flowers are similar. Fruits are ovate achenes^[194].

Habitat

Ficus microcarpa occurs near urban areas and in forests^[66].

Distribution

Ficus microcarpa occurs naturally in Fujian, Guangdong, Guangxi, Guizhou,

Hainan, Hunan, Taiwan, Yunnan^[194], and possibly Zhejiang provinces^{[126][144][159]}^[194] It is cultivated in Hubei and Shandong^{[7][194]}.

Economic Importance

The bark fibers of laurel fig are used for making fishing nets and artificial cotton. Prop roots are used medicinally. *Ficus microcarpa* is also grown as a windbreak and as an ornamental^{[10][66]}.

Natural Enemies of *Ficus*

Thirty-nine species of fungi have been reported to injure plants of the genus *Ficus*. Seventy-three arthropods in 28 families of five orders have been found on members of the genus.

Species of *Ficus* in China

Scientific Name	Scientific Name	Scientific Name
<i>F. abelii</i> Miq.	<i>F. maclellandi</i> King	<i>F. altissima</i> L.
<i>F. microcarpa</i> L. f.	<i>F. ampelas</i> Burm. f.	<i>F. napoensis</i> S. S. Chang
<i>F. annulata</i> L.	<i>F. neriifolia</i> J. E. Sm.	<i>F. asperiuscula</i> Kunth et Bouch.
<i>F. nervosa</i> Heyne ex Roth	<i>F. aurantiaca</i> Griff.	<i>F. oligodon</i> Miq.
<i>F. auriculata</i> Lour.	<i>F. orthoneura</i> Lévl. et Vant.	<i>F. beipeiensis</i> S. S. Chang
<i>F. ovatifolia</i> S. S. Chang	<i>F. benguetsensis</i> Merr.	<i>F. pandurata</i> Hance
<i>F. benjamina</i> L.	<i>F. pedunculosa</i> Miq.	<i>F. callosa</i> Willd.
<i>F. pisocarpa</i> L.	<i>F. cardiophylla</i> Merr.	<i>F. polynervis</i> S. S. Chang
<i>F. carica</i> L.	<i>F. prostrata</i> Wall. ex Miq.	<i>F. caulocarpa</i> (Miq) Miq.
<i>F. pubigera</i> (Wall. ex Miq.) Miq.	<i>F. chapaensis</i> Gagnep.	<i>F. pubilimba</i> Merr.
<i>F. chartacea</i> Wall. ex King	<i>F. pubinervis</i> L.	<i>F. chrysocarpa</i> Reinw.
<i>F. pumila</i> L.	<i>F. ciliata</i> S. S. Chang	<i>F. pyriformis</i> Hook. et Arn.
<i>F. concinna</i> (Miq.) Miq.	<i>F. racemosa</i> L.	<i>F. cumingii</i> Miq.
<i>F. religiosa</i> L.	<i>F. curtipes</i> Corner	<i>F. ruficaulis</i> Merr.
<i>F. cyrtophylla</i> Wall. ex Miq.	<i>F. rumphii</i> L.	<i>F. daimingshanensis</i> S. S. Chang
<i>F. ruyuanensis</i> S. S. Chang	<i>F. dinganensis</i> S. S. Chang	<i>F. sagittata</i> Vahl
<i>F. drupacea</i> Thunb.	<i>F. sarmentosa</i> Buch.-Ham. ex J. E. Sm.	<i>F. elastica</i> Roxb. ex Hornem.
<i>F. semicordata</i> Buch.-Ham. ex J. E. Sm.	<i>F. erecta</i> Thunb.	<i>F. septica</i> Burm. f.
<i>F. esquiroliana</i> Lévl.	<i>F. simplicissima</i> Lour.	<i>F. filicauda</i> Hand.-Mazz.
<i>F. squamosa</i> Roxb.	<i>F. fistulosa</i> Reinw. ex L.	<i>F. stenophylla</i> Hemsl.
<i>F. formosana</i> Maxim.	<i>F. stricta</i> Miq.	<i>F. fusuiensis</i> S. S. Chang
<i>F. subincisa</i> J. E. Sm.	<i>F. gasparriniana</i> Miq.	<i>F. subulata</i> L.
<i>F. geniculata</i> Kurz	<i>F. superba</i> Miq.	<i>F. glaberrima</i> L.
<i>F. tannoensis</i> Hayata	<i>F. guangxiensis</i> S. S. Chang	<i>F. tikoua</i> Bur.
<i>F. guizhouensis</i> S. S. Chang	<i>F. tinctoria</i> Forst. f.	<i>F. hederacea</i> Roxb.
<i>F. trichocarpa</i> L.	<i>F. henryi</i> Warb. ex Diels	<i>F. trivia</i> Corner
<i>F. heteromorpha</i> Hemsl.	<i>F. tsiangii</i> Merr. ex Corner	<i>F. heterophylla</i> L. f.
<i>F. tuphapensis</i> Drake	<i>F. heteropleura</i> L.	<i>F. undulata</i> S. S. Chang
<i>F. hirta</i> Vahl	<i>F. vaccinioides</i> Hemsl. ex King	<i>F. hispida</i> L.
<i>F. variegata</i> L.	<i>F. hookeriana</i> Corner	<i>F. variolosa</i> Lindl. ex Benth.
<i>F. irisana</i> Elmer	<i>F. vasculosa</i> Wall. ex Miq.	<i>F. ischnopoda</i> Miq.
<i>F. virens</i> Ait.	<i>F. laevis</i> L.	<i>F. virgata</i> Reinw. ex L.
<i>F. langkokensis</i> Drake	<i>F. yunnanensis</i> S. S. Chang	

Fungi

Phylum	Family	Species	H. R.	Ref.
Ascomycota	Capnodiaceae	<i>Aithaloderma clavatisporum</i> Syd. & P. Syd.	po	23 ^I
		<i>Chaetoscorias vulgare</i> W. Yamam.	po	23
		<i>Neocapnodium tanakae</i> (Shirai et Hara) Yamam.	po	23
		<i>Scorias communis</i> W. Yamam.	po	23
		<i>Triposporiopsis spinigera</i> (Höhn.) W. Yamam.	po	23
	Chaetothyriaceae	<i>Chaetothyrium dictyosporum</i> Petr.	mo	23
		<i>Chaetothyrium javanicum</i> (Zimm.) Boedijn	po	23 ^{II}
	Erysiphaceae	<i>Phyllactinia broussonetiae-kaempferi</i> Sawada	po	22
	Glomerellaceae	<i>Glomerella cingulata</i> (Stoneman) Spauld. & H. Schrenk	po	23
	Hyponectriaceae	<i>Physalospora fici-formosanae</i> Sawada	mo	23
	Meliolaceae	<i>Irenina cheoi</i> Hansf.	oo	23
		<i>Irenopsis benguetensis</i> F. Stevens & Roldan ex Hansf.	oo	23
			oo	62
		<i>Meliola bangalorensis</i> Hansf. & Thirum.	po	62
		<i>Meliola microtricha</i> Syd. & P. Syd.	oo	23
			oo	62
	<i>Meliola sakahensis</i> W. Yamam.	mo	23	
	Phyllachoraceae	<i>Phyllachora aspidea</i> (Berk.) Sacc.	mo	23
		<i>Phyllachora fici-beecheyanae</i> Sawada	mo	23
		<i>Phyllachora fici-septicae</i> Sawada	mo	23
		<i>Phyllachora fici-variolosae</i> Petr.	mo	23
		<i>Phyllachora ficuum</i> Niessl	oo	23
		<i>Phyllachora yatesii</i> E. Castell. & Cif.	oo	23 ^{III}
<i>Phyllachora banahaensis</i> Petr.		oo	23 ^{IV}	
Basidiomycota	Atheliaceae	<i>Athelia rolfsii</i> (Curzi) C.C. Tu & Kimbr.	po	23 ^V
	Corticaceae	<i>Corticium salmonicolor</i> Berk. & Broome	po	23
	Incertae sedis	<i>Uredo sawadae</i> S. Ito	oo	23
	Phakopsoraceae	<i>Phakopsora fici-erectae</i> S. Ito & Y. Otani ex S. Ito & Muray.	po	23
		<i>Cerotelium fici</i> (Castagne) Arthur	oo	23 ^{VI}
Oomycota	Pythiaceae	<i>Phytophthora carica</i> (Hara) Hori	mo	23
Anamorphic Ascomycetes		<i>Plenophysa mirabilis</i> Syd. & P. Syd.	mo	23
Anamorphic <i>Botryotinia</i>		<i>Botrytis depraedans</i> (Cooke) Sacc.	po	23
Anamorphic <i>Glomerella</i>	<i>Colletotrichum caricae</i> F. Stevens & J.G. Hall		mo	23
	<i>Colletotrichum elasticae</i> Tassi		mo	23

Anamorphic <i>Mycosphaerella</i>	<i>Pseudocercospora angulo-maculae</i> (Karr & M. Mandal) W.H. Hsieh & Goh	mo	110
	<i>Pseudocercospora cladophora</i> Sawada ex Goh & W.H. Hsieh	oo	110
	<i>Pseudocercospora fici</i> (Heald & F.A. Wolf) X.J. Liu & Y.L. Guo	mo	23 ^{vii}
		oo	110
	<i>Pseudocercospora fici-septicae</i> Sawada ex Goh & W.H. Hsieh	mo	110
	<i>Pseudocercospora kallarensis</i> (T.S. Ramakr. & K. Ramakr.) Y.L. Guo & X.J. Liu	mo	110
	<i>Septoria pirottae</i> Tassi	mo	23
Anamorphic <i>Nectria</i>	<i>Tubercularia fici</i> Edgerton	mo	23

ⁱ Recorded as *Aithaloderma clavatispora* Syd.

ⁱⁱ Recorded as *Phaeosaccardinula javanica* (Zimm.) Yamam.

ⁱⁱⁱ Recorded as *Trabutia chinense* Yates

^{iv} Recorded as *Trabutia elmeri* Theiss. et Syd.

^v Recorded as *Corticium centrifugum* (Lév.) Bres.

^{vi} Recorded as *Phakopsora nishidana* Ito.

^{vii} Recorded as *Cercospora fici* Heald & F.A. Wolf

Arthropods

Order	Family	Species	H. R.	Ref.	
Acariformes	Eriophyidae	<i>Cecidophyes thailandica</i> Keifer	o	83	
	Tetranychidae	<i>Brevipalpus californicus</i> (Banks)	po	143	
		<i>Eotetranychus sexmaculatus</i> (Riley)	po	143	
		<i>Tetranychus piercei</i> McGregor	po	143	
Coleoptera	Cerambycidae	<i>Aeolesthes holosericea</i> (Fabricius)	po	9	
		<i>Anoplophora chinensis</i> (Förster)	po	9	
		<i>Anoplophora chinensis macularia</i> (Thomson)	po	9	
		<i>Apriona germari</i> (Hope)	po	9	
		<i>Batocera horsfieldi</i> (Hope)	po	9	
		<i>Batocera rubus</i> (Linnaeus)	po	9	
		<i>Epepeotes uncinatus</i> Gahan	po	124	
		<i>Macrochenus guerini</i> White	po	124	
		<i>Monochamus bimaculatus</i> Gahan	po	9	
		<i>Olenecamptus bilobus</i> (Fabricius)	po	9	
	<i>Psacotheta hilaris</i> (Pascoe)	po	9		
			po	158	
		Chrysomelidae	<i>Morphosphaera cavaleriei</i> Laboissiere	o	185
		Scolytidae	<i>Coccotrypes apicalis</i> Beeson	p	140
	<i>Hadrodemius artemcomans</i> (Schedl)		p	65	
	<i>Terminalinus eggersi</i> (Besson)		po	65	

Homoptera	Cerococcidae	<i>Cerococcus ficoides</i> Green	po	151		
	Cicadellidae	<i>Tartessus ferrugineus</i> (Walker)	po	48		
	Coccidae		<i>Ceroplastes ceriferus</i> (Anderson)	po	151	
			<i>Ceroplastes floridensis</i> Comstock	po	65	
			<i>Ceroplastodes chiton</i> Green	po	151	
			<i>Chloropulvinaria floccifera</i> (Westwood)	po	65	
			<i>Coccus elongatus</i> (Signoret)	po	151	
			<i>Coccus hesperidum</i> (Linnaeus)	po	65	
			<i>Dicyphococcus ficicola</i> Borchsenius	mo	151	
			<i>Paralecanium expansum</i> (Green)	po	151	
			<i>Parasaissetia nigra</i> (Nietner)	po	151	
			<i>Protopulvinaria mangiferae</i> (Green)	po	151	
			<i>Saissetia formicarii</i> (Green)	po	151	
			<i>Saissetia oleae</i> (Bernard)	po	151	
			Diaspididae		<i>Chrysomphalus aonidum</i> (Linnaeus)	po
	<i>Pseudaonidia duplex</i> (Cockerell)	po			65	
	Flatidae		<i>Geisha distinctissima</i> (Walker)	po	158	
				po	204	
	Greenideidae		<i>Greenidea guangzhouensis</i> Zhang	o	189	
	Margarodidae		<i>Drosicha corpulenta</i> (Kuwana)	po	65	
			<i>Laccifer lacca</i> (Kerr)	p	65	
	Pseudococcidae		<i>Anaparaputo liui</i> Borchsenius	oo	150	
			<i>Gossypariella siamensis</i> (Takahashi)	oo	150	
			<i>Planococcus sinensis</i> Borchsenius	po	150	
			<i>Ripersia sera</i> Borchsenius	oo	150	
	Tropiduchidae		<i>Mesepora onukii</i> (Matsumura)	po	204	
	Lepidoptera	Arctiidae		<i>Asota egens</i> (Walker)	oo	41
<i>Lacides ficus</i> (Fabricius)				o	41	
<i>Nyctemera adversata</i> (Schaller)				po	40 [†]	
<i>Nyctemera adversata</i> (Schaller)				po	41	
<i>Nyctemera adversata</i> (Schaller)				po	65	
Bombycidae			<i>Ocinara varians</i> Walker	<i>Ocinara brunnea</i> Wileman	po	65
				<i>Ocinara brunnea</i> Wileman	p	65
				<i>Ocinara varians</i> Walker	po	65
				<i>Ocinara varians</i> Walker	po	65
				<i>Ocinara varians</i> Walker	po	65
Danaiidae				<i>Euploea core</i> (Cramer)	p	203
				<i>Euploea mulciber</i> (Cramer)	po	203
				<i>Euploea mulciber barsine</i> Fruhstorfer	p	203
				<i>Euploea sylvester</i> (Fabricius)	p	203
Hesperiidae			<i>Badamia exclamationis</i> (Fabricius)	po	203	

	Lycaenidae	<i>Iraota timoleon</i> (Stoll)	po	203
	Lymantriidae	<i>Euproctis bipunctapex</i> (Hampson)	p	141
		<i>Lymantria serva iris</i> Strand	mo	65
			p	141
			oo	199
	<i>Orgyia truncata</i> Chao	oo	199	
	Noctuidae	<i>Chrysodeixis eriosoma</i> (Doubleday)	po	65
		<i>Plusia chryson</i> (Esper)	po	65
	Nymphalidae	<i>Cyrestis cocles</i> (Fabricius)	po	203
		<i>Cyrestis thyodamas</i> Boisduval	p	203
			oo	158
		<i>Cyrestis thyodamas formosana</i> Fruhstorfer	p	203
	<i>Hypolimnas bolina kezia</i> (Butler)	p	203	
	Psychidae	<i>Chalia larminati</i> Heylaerts	p	141
	Pyralidae	<i>Cirrhochrista brizoalis</i> Walker	mo	65
mo			158	
<i>Diaphania bivitralis</i> (Guenée)		oo	145	
Sphingidae	<i>Marumba jankowskii</i> (Oberthür)	po	208	
Uraniidae	<i>Nyctalemon menoetius</i> Hopffer	po	65	
Thysanoptera	Phlaeothripidae	<i>Haplothrips leucanthemi</i> (Schrank)	po	56
		<i>Mesothrips jordani</i> Zimmermann	mo	56
	Thripidae	<i>Anisopilothrips venustulus</i> (Priesner)	po	56
		<i>Astrothrips aucubae</i> Kurosawa	p	65

† Recorded as *Nyctemera plagifera* Walker