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Viny weeds of the Eastern Caribbean

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There are at least forty-two viny weed species found in the Eastern Caribbean, belonging to twelve botanical families. The *Convolvulaceae* has fifteen species from five genera, and the *Fabaceae* has twelve species from ten genera. These viny weeds are known by a variety of vernacular names, though two, including a very striking common weed, appear to have no recognized and accepted names. A simple key is presented, but it does not claim to be inclusive of all viny species. Simple brief descriptions are given.

Keywords: Weeds; Vines; *Convolvulaceae; Fabaceae;* Identification

Introduction

A weed is "a plant in the wrong place": "a plant that needs to be controlled". A vine is "a plant that climbs or trails. So a viny weed is "a climbing or trailing plant in the wrong place". All weeds compete with crop plants for water, light, and mineral nutrients. Viny weeds are no exception, but are particularly effective in competing for light, not infrequently overwhelming crop plants, especially shrubs and trees, cutting off most of the light to the crop plant. Those wavelengths needed for photosynthesis are filtered out by the leaves of the viny weeds. The vine foliage can comprise several layers of leaves, so that the filtering and light attenuation effect can be considerable. This "smothering" can be so effective as to result in severe or total defoliation of the crop plants, leading unless some control measures are taken, to eventual death.

The Viny Weeds

The literature on the plants and flora of the Eastern Caribbean which for the purposes of this paper comprises Grenada, St. Vincent, Barbados, St. Lucia, Martinique, Dominica, Guadeloupe, Antigua, Montserrat, and St. Kitts and Nevis, (Adams et al., 1970; Fournet, 1978; Gooding, Loveless & Proctor, 1965; Honychurch, 1986), and other sources (primarily the author's trip reports), indicates that there are at least forty-two viny species that are weeds of agricultural land (Table 1). These species belong to twelve families. Of these, the Convolvulaceae accounts for 15 viny weed species, and the Fabaceae for 12 viny weed species. A few species not listed may occur occasionally as weeds. *Macfadyena uncata* ("cat's claw creeper", yellow shower", "griffe a chatte"), of the Bignonaceae family, an attractive ornamental vine, may sometimes run amok over fruit trees for example, and *Stigmaphyllon cordifolium* ("liane a ravet", "mariebouya"), a member of the Malpighiaceae, often found on fences and hedges, can invade crop land and become a weed.

Several of the viny weed species of the Fabaceae are used as forage legumes, but can be found as weeds of cropped land. The status of "weediness" is a variable one: a weed in one island or crop may be almost unknown as a weed in another island or crop.

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Seven of the viny weeds listed in Table 1, are "tendril climbers". These include the *Cucurbitaceae*, and *Passiflora foetida*, *Antigonon leptopus*, *Cissus sicyoides*, *Cardiospermum microcarpum*, and *Paullinia*, *cururu*. Tendrilled plants normally climb, but if there are no tall plants to climb, they will attach to any and every thing - other weeds, crop plants and debris - making it very difficult to weed, and causing much uprooting and damage to the crop.

Vernacular Names

These are listed in Table 1, though the list may be incomplete, and there are no doubt many local unpublished names in common use. Spellings are sometimes phonetic, and variations in spelling are common. In some cases, the same name is used for two or more different species, even within the same island. As far as possible, the vernacular names given in the Table, which includes French, Patois, and English names, are those most commonly used and published. Many of these names are very descriptive and poetic: "black-eyed Susan", "Liane sans fin", "concombre diable", for instance. Two species only *Prestonia quinquangularis* and *Coccinea grandis* apparently have no recognized vernacular names.

Descriptions

The descriptions of the species listed in Table 1 given below are not precise botanical descriptions, but outline a few significant features of each species. Table 2 comprises a simple dichotomous key to the species listed in Table 1. This uses a few simple features to aid identification, but does not necessarily go to species level. Nor is it, of course, inclusive of all viny plant species found in the Eastern Caribbean only of those most commonly found as weeds.

The **Acanthaceae** family includes several vines grown as ornamentals, and several non viny weedy species. The two viny weeds listed, *Thunbergia alata* and *T. fragans*, have opposite leaves, cordate in shape. *T. alata* has orange yellow flowers with a purple brown centre, while the latter has attractive white flowers. Both species occur on fences and hedges, sometimes invading cropland, especially orchards. They are more common in wetter areas.

The **Apocynaceae** family includes some well known ornamentals, such as periwinkle and oleander. Leaves are usually opposite. *Echites umbellata* has tubular greenish white flowers in clusters. In spite of its vernacular name, there are no reports of its being poisonous but it does have poisonous relatives. *Prestonia quangularis* has red veined leaves and greenish flowers, and may not occur in all the islands. *Urechites lutea* has pale yellow flowers 3 to 5 cm long. All three species contain sap.

Only one viny species of the **Asteraceae** family is common as a weed in the Eastern Caribbean. *Mikania micrantha* and possibly other *Mikania* species, are found mainly in bananas, but may occur in other crops. *M. micrantha* has opposite leaves, and small whitish flower heads.

The **Convolvulaceae** family includes three parasitic Cuscuta species which are not easy to separate. They share the same vernacular names. They occur very widely on a wide range of host plants both useful plants and weeds. They are leafless and the stems are typically orange or yellow. A piece of the vine thrown on to a plant allegedly establishes very rapidly. *C. indecora* has smaller flowers and capsules.

The Ipomoea genus has several weedy species that differ in leaf shape and flower colour. The flowers are bell-shaped, and usually 3 to 4 cm across. These species have a white latex and are often trailing, but can twine up trees to a height of several metres, where they can smother the tree, unless controlled. They root easily from stem fragments, which makes control by chopping with a machete, or by hoeing, of doubtful effectiveness, especially in wet weather. *I. nil* has blue or white flowers, while *I. triloba* and *I. tiliacea* have mauve or purple flower sometimes white in the latter species. *I. pres-caprae* spp. *brasiliensis* is more robust than the above, with larger, purple, flowers,. It is typically found on sandy seaside soils above beaches, but sometimes invades agricultural land near a beach. The *Merremia* species are also common as weeds. *M. umbellata* has clusters of yellow flowers, and simple cordate leaves. The dried clusters of seed capsules are conspicuous, and are sometimes used in dry floral arrangements. The other three *Merremia* species listed, have larger flowers which usually open singly. These flowers are white, but may have a coloured centre. *M. aegyptia* and *M. quinquifolia* have compound leaves, but *M. dissecta* has deeply dissected simple leaves. M. umbellata in particular is a serious problem of tree crops, often growing over them, and smothering them unless controlled. *Quamoclit hederifolia* has beautiful tubular scarlet flowers, about 3 cm long, and 3 lobed leaves, though leaf shape is variable. *Q. pinnata* is a charming viny weed, with finely dissected leaves, and smallish scarlet flowers about 4 cm long. *Turbina corymbosa* has cordate leaves and clusters of white bell-shaped flowers. It is commoner in wet areas.

Weeds of the **Cucurbitaceae** family are tendrilled climbers and trailers. *Coccinea grandis* is recorded only from Barbados. It has cucumber like leaves, white flowers, and elongated oval fruits about 5 cm long. These turn red on ripening. Monkeys are apparently fond of the fruits, and probably birds also. *Cucumis anguria* looks even more like a cucumber plant, but the edible fruits are only about 6 cm long and are spiny. *Melothria guadelupensis* also has cucumber like leaves, with yellow flowers and small, purple black fruits. *Momordica charantia* is the best known, and most common, of the Cucurbitaceae weeds. The palmate leaves are lobes, the flowers are yellow, and the fruits, at first green, turn orange and split open to reveal the seeds, which are covered with a red pulp. The vine is used for medicinal teas, and children suck the red pulp off the seeds. This is an extremely common and well-known viny weed.

Only one member of the **Euphorbiaceae** family is a climbing weed. *Tragia volubilis* is armed with stiff stinging hairs. The male and female flowers are small and inconspicuous, occurring in slender racemes. The capsules are covered with stiff white hairs. This viny weed is not common and occurs mainly in hedgerows and fences, occasionally invading cropped land, orchards, or pastures.

Only two of the viny weeds of the **Fabaceae** family have pinnate leaves: *Abrus precatorius*, and *Clitoria ternatea*. The former has 10 to 20 pairs of small oblong leaflets, and racemes of pinkish flowers, while the latter has 5 to 7 elliptical leaflets, and single flowers, usually blue, and occasionally white. *A. precatorius* has very conspicuous seeds red with a black "eye" as the pods open and twist back, but the seeds remain attached. The seeds are used in jewellery, but are poisonous. *A. Precatorius* is mainly found as a weed of neglected orchards. *C. ternatea* has large flowers about 4 cm 'across and pods about 10 cm long. This species is used as a forage plant, and is a weed of only minor importance. The other viny weed species in the Fabaceae family all have trifoliolate leaves. *Centrosema pubescens* and *C. virginianum* have elliptical leaflets, those of the latter being narrower. Flowers occur in clusters of 2 or 3: the standard petal is about 3 cm across, and whitish with purple stripes

in *C. pubescens*, and blue or white in *C. virginianum*. The pods are up to 10 cm long with small seeds. Both these species occur as weeds in cultivated land and in orchards. *Macroptilium atropurpureum* is a twining forage legume but sometimes becomes a weed, mainly in drier areas. The leaflets are narrowly ovate or elliptical, and the flowers are usually a deep red, but sometimes pink. *Mucuna pruriens* is well-known as "cowitch". The pods are densely covered with stinging hairs. Leaflets are rhombic or broadly ovate in shape, with silky hairs on the under-surface: the flowers are purple and occur two or three together. Pods are up to 7 cm long. This species is widely distributed and is common in sugar-cane in Barbados, and in tree crops occasionally. *Phaseolus adenanthus* is a perennial twiner, somewhat woody, found in sugar-cane and other crops. The leaflets are narrowly elliptical, and the flowers are variable in colour, from mauve to white or yellow. *Pueraria phaseoloides*, kudzu, is well known as an aggressive cover crop that easily gets out of hand and becomes a weed. It is extremely effective at smothering tree crops. Leaflets are ovate-triangular, up to 12 cm long. The mauve or purple flowers are in racemes 10 to 20 cm long, and the pods are up to 8 cm long. *Rhyncosia minima* and *R. phaseoloides* are both woody twiners. Leaflets are broadly ovate or rhombic in shape. The former has leaflets up to 10 cm long and nearly as wide: the latter has leaflets only 2 to 3 cm long and wide. *R. minima* leaves are often blotched yellow due to viral or mycoplasmal infection. Flowers are yellowish or brownish yellow in many flowered racemes. *R. minima* is perhaps more common as a weed of crops, but both are found in hedgerows and fences. *Teramnus labialis* has ovate or elliptical leaflets and small white flowers in racemes and clusters. The pods are slightly curved. *T. labialis* is a forage legume, but sometimes occurs as a weed of cultivated land and of tree crops.

Two species of *Jasminum*, of the **Oleaceae** family, are not uncommon in the Eastern Caribbean. *J. fluminense* is more common than *J. multiflorum*, and has trifoliolate leaves, whereas *J. multiflorum* has simple leaves, small white flowers and blue black berries . It is a climbing (perennial) shrub, which tolerates shade, and is sometimes found in orchards as a weed. More than one *Jasminum* species is cultivated as an ornamental in the Caribbean.

The **Passifloraceae** family comprises mainly tendrilled climbers. Only one species is common as a weed - *Passiflora foetida*. This has three lobed leaves, softly hairy stems, and filamentous flowers, white and purple in colour and very striking. The fruit is an oval berry. This species can be found growing over shrubs and trees, and trailing on the ground, mainly in perennial crops. *Passiflora edulis* is the passion fruit.

The **Polygonaceae** family has one of the most attractive of the viny weeds. *Antigonon leptopus* has light green cordate leaves, with crenated margins, and tendrils. The flowers grow in clusters on trailing racemes. The bracts are bright pink, or occasionally white. There are small tubers on the roots, which are not easy to extract, making the plant difficult to eradicate. This species rapidly grows over large trees, or trails over the ground. An extremely beautiful vine.

The **Sapindaceae** family includes a number of tendrilled climbers. Two of these are fairly common in the Eastern Caribbean -*Cardiospermum microcarpum* and *Paullinia cururu*. The former has deeply lobed bipinnate leaves, resembling those of parsley, and giving rise to some of the vernacular names. The flowers are small, but the capsule is inflated, 3 angled and heart shaped. It occurs in cultivated lands, usually in low growing crops, but sometimes in tree crops. *P. cururu* has trifoliolate glossy leaves, with winged petioles. The flowers are

small, in pendulous racemes, and the fruit is a red flask shaped capsule, about 2 cm long. *Cissus sicyoides*, of the **Vitaceae** family, can grown to a height of many metres or may trail over the ground. The leaves are ovate or cordate, and up to 10 cm long. The flowers are small, varying in colour from red to pink to greenish yellow, but occur in spreading cymes up to 10 cm across. These are very striking and attractive. This vine can smother large trees.

It is hoped that this account will enable readers to identify, with some confidence, some of the many viny weeds that occur in the Eastern Caribbean. Some of them are very beautiful, and easy to identify from a distance.

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Table 1 The major viny weeds of agricultural crops of the Eastern Caribbean with botanical and vernacular names

FAMILY	SPECIES	VERNACULAR NAMES		
ACANTHACEAE	Thunbergia alata	black-eyed Susan	fleur jaune savane	
	Thunbergia fragrans	wild white Thunbergia	white nightshade	
APOCYNACEAE	Echites umbelata	deadly nightshade		
	Prestonia quinquangularis	?		
	Urechites lutea	nightsage	nightshade	yellow nightshade
ASTERACEAE	Mikinia micrantha	guaco locafaire	herbe a vache wappe	liane serpent
CONVOLVULACEAE	Cuscuta americana	cordon du violon	herbe z'amitie	love vine
	Cuscuta indecora	dodder	liane sans fin	sans pied
	Cuscuta umbellata	dodder vine vermicelli	liane cordon	vermicelle
	Ipomoea nil	liseron blanc	liseron bleu	monkey vine
	Ipomoea pres-caprae ssp. brasiliensis	batate del mer beach morning glory	goat's foot ipomoea patate bord de mer	seaside yam
	Ipomoea tiliaceae	caapi caapi doux liane douce wild slip	manger lapin morning glory patate batard	patate sauvage patate marron wild potato
	Ipomoea triloba	petite patate marron		
	Merremia aegyptia	liane poilue		
	Merremia dissecta	know you	liane a moyau	mene-vini
	Merremia quinquifolia	rock rosemary		
	Merremia umbellata	hog vine liane berreau	liane a malingres	liane douce jaune
	Quamoclit hederifolia	ivy leaf morning glory liseron rouge	liseron hallier scarlet ipomoea	wild slip
	Quamoclit pinnata	cheveux de Venus	goutte de sang	herbe a eternuer
	Turbina corymbosa	christmas pops	christmas wreath	
CURCURBITACEAE	Coccinea grandis	?		
	Cucumis anguria	small wild cucumber wild cucumber	ti concombre	west indian gherkin
	Melothria guadalupensis	concombre diable ti concombre hallier	concombre poison	small wild cucumber
	Momordica charantia	cerasee mexicaine pomme coclie	miraculous vine paroka	pomme merveille pomme z'Indiens
EUPHORBIACEAE	Tragia volubilis	creeping cowitch liane brulante vine nettle	liane z'ortie ortie brulante	stinging nettle twining cowitch
FABACEAE	Abrus precatorius	crab's eye vine graines d'eglise jumbie beads	graines reglisse gwenn legliz reglisse	liane reglisse red bead vine wild liquorice
	Calopogonium mucunoides	pois blue	pois bleu savane	pois pelu
	Centrosema pubescens	pois batard pois razier	pois sauvage pois hallier	pois-pois marron
	Centrosema virginianum	bluebell pois sauvage wild pea	pois marron savane pois-pois vrai	ti pois wild blue vine
	Clitoria ternatea	blue vine lentille sauvage pois savane	pois marron pois sauvage	pois tonnelle pois-pois

Table 1 (ctd.)

FAMILY	SPECIES	VERNACULAR NAMES		
FABACEAE (ctd)				
	Macroptilium atropurpureum	siratro		
	Mucuna pruriens	cowitch	cowitch vine	pois gratter
	Phaseolus adenanthus	corde a violon	pois marron	
	Pueraria phaseoloides	kudzu		
	Rhyncosia minima	burn-mouth vine	pois sucrier	pois z'oiseaux
		pois hallier	pois razier	ti pois
	Rhyncosia phaseoloides	pois hallier	wild liquorice	
	Teramnus labialis	horse vine	pois envirant	rabbit vine
		pois colibri	pois z'oiseaux	
OLEACEAE	Jasminum fluminense	jasmin a bouquet	jasmin blanc	wild jasmin
PASSIFLORACEAE	Passiflora foetida	maribouya	marie gougeat	pomme liane coolant
POLYGONACEAE	Antignon leptopus	Bride's tears	coralita	la belle mexicaine
		coral vine	coralilla	
SAPINDACEAE	Cardiospermum microparpum	balloon vine	heart seed	persil-batard petit
		calthrops	liane persil	wild parsley
		bastard supple jack	liane a scie	persil noir
		bread and cheese	liane mangle	sucking bottle
VITACEAE	Cissus sicyoides	liane a eau	liane douce	poison wyth
		liane a chasseurs	liane moile	scratch wyth
		liane brulante	liane-corde	

Table 2 A simple dichotomous key to the major viny weed species of the Eastern Caribbean (Note that this key does not necessarily go to species level)

1 Leaves absent or reduced to scales; stems yellowy orange, often in tangled skeins; parasitic plants: **Cuscuta sp.**
1 Leaves present:
  2 Leaves simple, lobed or dissected, but not compound:
    3 Leaves alternate:
      4 Plants climbing by means of tendrils, or sprawling but attached to other plants by tendrils:
        5 Leaves angular:
          6 Flowers white **Coccinea grandis**
          6 Flowers yellow: **Melothria guadelupensis**

        5 Leaves lobed or rounded, not angular:
          7 Leaves lobed:
            8 Flowers yellow: **Cucumis anguria**
            Momordica charantia
            8 Flowers white, filamentous: **Passiflora foetida**

          7 Leaves ovate, rounded, or cordate ovate:
            9 Inflorescence a raceme, flowers usually pink, sometimes white: **Antigonon leptopus**
            9 Inflorescence umbel-like, flowers purplish red to yellow **Cissus sicyoides**

      4 Tendrils absent, plant climbing by twining, or prostrate and trailing:
        10 Leaves lobed or dissected:
          11 Leaves lobed: **Quamoclit hederifolia**
            Ipomoea triloba
          11 Leaves palmately dissected: **Merremia dissecta**

        10 Leaves rounded, ovate or cordate:
          12 Leaf base cordate:
            13 Flowers showy, tubular and bell shaped: **Ipomoea nil**
            Ipomoea tiliacea
            Merremia umbellatum
            Turbina corymbosa
            13 Flowers small, plant with stinging hairs; **Tragia volubilis**

          12 Leaf base not cordate, leaf apex notched, leaves thick: **Ipomoea pres-caprae**

    3 Leaves opposite:
      14 Leaves ovate or oblong:
        15 Flowers green, greenish-white, or white:
          16 Flowers small, in composite heads: **Mikania spp.**
          16 Flowers not in composite heads: **Echites umbellata**
          Prestonia quinquangularis

        15 Flowers yellow: **Urechites lutea**

      14 Leaves cordate:
        17 Flowers white: **Thunbergia fragrans**
        17 Flowers yellowy orange **Thunbergia alata**

Table 2 ctd.

2 Leaves compound (pinnate, bipinnate, digitate or trifoliolate):
18 Leaves pinnate, bipinnate, or digitate:
19 Leaves pinnate or bipinnate:
20 Leaves pinnate:
21 Flowers pea like:
22 Leaflets oblong, in 10-20 pairs: **Abrus precatorius**
22 Leaflets elliptical, 5-7 prs: **Clitoria ternatea**

21 Flowers tubular, red: **Quamoclit pinnata**

20 Leaves bipinnate: **Cardiospermum microcarpum**
Merremia aegyptia
19 Leaves digitate: **Merremia quinquefolia**

18 Leaves trifoliolate:
23 Leaves opposite, flowers white, 5-9 lobed:
Jasminum fluminense
23 Leaves alternate:
24 Leaves palmately trifoliolate, with winged petioles:
Paullinia cururu
24 Leaves not palmately trifoliolate, flowers pea-like:
25 Leaflets narrowly ovate or elliptical:
26 Flowers blue or white:
27 Flowers blue: **Calapogonium mucunoides**
Centrosema virginianum
27 Flowers white: **Centrosema pubescens**

26 Flowers pink, red, or mauve:
28 Flowers pink or red: **Macroptilium atropurpureum**
Teramnus pubescens
28 Flowers mauve, but may fade or change colour on drying: **Phaseolus adenanthus**

25 Leaflets broadly ovate, triangular, or rhombic:
29 Flowers generally purple or mauve: **Mucuna pruriens**
Pueraria phaseoloides
29 Flowers yellow, or brownish yellow:
Rhyncosia minima
Rhyncosia phaseoloides