

Duke's Handbook of MEDICINAL PLANTS OF LATIN AMERICA



James A. Duke

with

Mary Jo Bogenschutz-Godwin

Andrea R. Ottesen



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RHATANY (<i>Krameria lappacea</i> (Dombey) Burdet & B. B. Simpson) ++	398
LANTANA (<i>Lantana camara</i> L.) +	401
WEST INDIAN-NETTLE (<i>Laportea aestuans</i> (L.) Chew) +	404
CHAPARRAL (<i>Larrea tridentata</i> (DC.) Coville) +	405
ARQUITECTA (<i>Lasiocephalus ovatus</i> Schltdl.) +	407
LATUA (<i>Latua pubiflora</i> (Griseb.) Baill.) X	407
MACA (<i>Lepidium meyenii</i> Walp.) ++	408
JUMBIE BEAN (<i>Leucaena leucocephala</i> (Lam.) de Wit) ++	409
GUAYCURÚ (<i>Limonium brasiliense</i> (Boiss.) Kuntze) +	411

BUSHY MATGRASS (<i>Lippia alba</i> (Mill.) N. E. Br. ex Britton & P. Wilson) ++.....	412
MEXICAN OREGANO (<i>Lippia graveolens</i> Kunth) ++.....	414
PEYOTE (<i>Lophophora williamsii</i> (Lem. ex Salm-Dyck) J. M. Coult.) +	415
SPONGE GOURD (<i>Luffa operculata</i> (L.) Cogn.) ++	416
CHEKEN (<i>Luma chequen</i> (Molina) A. Gray.) ++.....	417
TARHUI (<i>Lupinus mutabilis</i> Sweet) +.....	418
TOMATO (<i>Lycopersicon esculentum</i> Mill.) +++.....	418
BOTONERA (<i>Lycoseris latifolia</i> (D. Don) Benth.) +	421
WIRE VINE (<i>Lygodium venustum</i> Sw.) +.....	421
MACFADYENA (<i>Macfadyena unguis-cati</i> (L.) A. H. Gentry) ++	423
FUSTIC (<i>Maclura tinctoria</i> (L.) D. Don ex Steud.) ++.....	424
MALACHRA (<i>Malachra alceifolia</i> Jacq.) ++	425
ELEMUY (<i>Malmea depressa</i> (Baill.) R. E. Fr.) +.....	426
CHICLE CASPI (<i>Malouetia tamaquarina</i> (Aubl.) A. DC.) ++.....	427
SLEEPING HIBISCUS (<i>Malvaviscus arboreus</i> Cav.) +	428
ABRICÓ (<i>Mammea americana</i> L.) +++	429
CASSAVA (<i>Manihot esculenta</i> Crantz) +.....	431
SAPODILLA (<i>Manilkara zapota</i> (L.) P. Royen) ++.....	433
GARLIC-VINE (<i>Mansoa alliacea</i> (Lam.) A. H. Gentry) ++	435
ARROWROOT (<i>Maranta arundinacea</i> L.) +++	437
CONDURANGO (<i>Marsdenia cundurango</i> Rchb. f.) +.....	439
GAPUI (<i>Martinella obovata</i> (Kunth) Bureau & K. Schum.) +	440
MORICHE PALM (<i>Mauritia flexuosa</i> L. f.) +++	441
MAYTEN (<i>Maytenus boaria</i> Molina) +.....	443
HOLY THORN (<i>Maytenus ilicifolia</i> Mart. ex Reissek) +	444
GENIP (<i>Melicoccus bijugatus</i> Jacq.) ++	445
LEMONBALM (<i>Melissa officinalis</i> L.) +++	446
CIPO CABELUDO (<i>Mikania banisteriae</i> DC.) +.....	448
SANQUILLO (<i>Mikania congesta</i> DC.) ++	449
GUACO (<i>Mikania guaco</i> Bonpl.) ++.....	449
CLIMBING HEMPWEED (<i>Mikania micrantha</i> Kunth) ++	451
AMOR DORMIDO (<i>Mimosa polydactyla</i> Humb. & Bonpl. ex Willd.) ++.....	452
SENSITIVE PLANT (<i>Mimosa pudica</i> L.) ++.....	452
IRONWOOD (<i>Minquartia guianensis</i> Aubl.) ++.....	456

TIPO (<i>Minthostachys mollis</i> Griseb.) +.....	457
FOUR O'CLOCK (<i>Mirabilis jalapa</i> L.) +.....	457
BAYBERRY (<i>Morella cerifera</i> (L.) Small) +.....	460
NONI (<i>Morinda citrifolia</i> L.) +++.....	462
VELVETBEAN (<i>Mucuna pruriens</i> (L.) DC.) ++.....	465
COW'S EYE (<i>Mucuna rostrata</i> Benth.) ++	468
CALABUR TREE (<i>Muntingia calabura</i> L.) ++	469
PEDRA HUME (<i>Myrcia multiflora</i> (Lam.) DC.) ++	470
CAMU-CAMU (<i>Myrciaria dubia</i> (Kunth) McVaugh) +++	471
TOLU BALSAM TREE (<i>Myroxylon balsamum</i> (L.) Harms var. <i>balsamum</i>) ++	474
BALSAM OF PERU (<i>Myroxylon balsamum</i> (L.) Harms var. <i>pereirae</i> (Royle) Harms) ++.....	475
JACKASS BITTERS (<i>Neurolaena lobata</i> (L.) Cass.) ++	479
TREE TOBACCO (<i>Nicotiana glauca</i> Graham) +.....	481
TOBACCO (<i>Nicotiana tabacum</i> L.) X.....	482
BALSA (<i>Ochroma pyramidale</i> (Cav. ex Lam.) Urb) ++.....	487
PERUVIAN BASIL (<i>Ocimum campechianum</i> Mill.) ++	488
PRICKLY PEAR (<i>Opuntia ficus-indica</i> (L.) Mill.) ++	490
PERUVIAN MISTLETOE (<i>Oryctanthus alveolatus</i> (Kunth) Kuijt) +.....	492
PROVISION TREE (<i>Pachira aquatica</i> Aubl) +++	493
YAM-BEAN (<i>Pachyrhizus erosus</i> (L.) Urb.) ++	494
AMAZON YAM-BEAN (<i>Pachyrhizus tuberosus</i> (Lam.) Spreng.) ++	495
JERUSALEM THORN (<i>Parkinsonia aculeata</i> L.) +	496
GUAYULE (<i>Parthenium argentatum</i> A. Gray) +	497
BLUE PASSIONFLOWER (<i>Passiflora caerulea</i> L.) ++.....	498
BAT-LEAF PASSIONFLOWER (<i>Passiflora coriacea</i> Juss.) ++	499
PURPLE GRANADILLA (<i>Passiflora edulis</i> Sims) ++	499
STINKING PASSIONFLOWER (<i>Passiflora foetida</i> L.) ++.....	501
PASSIONFLOWER (<i>Passiflora incarnata</i> L.) ++	503
YELLOW GRANADILLA (<i>Passiflora laurifolia</i> L.) ++	505
SWEET GRANADILLA (<i>Passiflora ligularis</i> Juss.) ++	506
GIANT GRANADILLA (<i>Passiflora quadrangularis</i> L.) ++	506
DEVIL'S PUMPKIN (<i>Passiflora suberosa</i> L.) ++	508
GUARANA (<i>Paullinia cupana</i> Kunth) ++.....	509
FIVE FINGERS (<i>Paullinia pinnata</i> L.) +	511

SLIPPERPLANT (<i>Pedilanthus tithymaloides</i> (L.) Poit.) X	512
AVOCADO (<i>Persea americana</i> Mill.) +++.....	513
GARLIC WEED (<i>Petiveria alliacea</i> L.) +	517
BOLDO (<i>Peumus boldus</i> Molina) +	519
LIMA BEAN (<i>Phaseolus lunatus</i> L.) ++	522
COMMON BEAN (<i>Phaseolus vulgaris</i> L.) +++.....	523
GOLDEN POLYPODY (<i>Phlebodium aureum</i> (L.) J. Sm.) ++	526
SUELDA CON SUELDA (<i>Phoradendron crassifolium</i> (Pohl ex DC.) Eichler) +	528
MEXICAN LIPPIA (<i>Phyla dulcis</i> (Trevir.) Moldenke) ++	530
PHYLLANTHUS (<i>Phyllanthus niruri</i> L.) +	531
BALLOON CHERRY (<i>Physalis angulata</i> L.) ++	535
CAPE GOOSEBERRY (<i>Physalis peruviana</i> L.) ++	537
PERUVIAN POKE (<i>Phytolacca rivinoides</i> Kunth & C. D. Bouché) +	539
BITTERBUSH (<i>Picramnia pentandra</i> Sw.) +	539
JAMAICA QUASSIA (<i>Picrasma excelsa</i> (Sw.) Planch.) +	540
JABORANDI (<i>Pilocarpus</i> spp.) +	542
ALLSPICE (<i>Pimenta dioica</i> (L.) Merr.) ++.....	543
BAYRUM TREE (<i>Pimenta racemosa</i> (Mill.) J. W. Moore.) +++	546
CARIBBEAN PINE (<i>Pinus caribaea</i> Morelet) ++	547
MATICO (<i>Piper aduncum</i> L.) +	548
SPANISH ELDER (<i>Piper amalago</i> L.) +	552
HIERBA SANTA (<i>Piper auritum</i> Kunth) +	553
PAREGORIC PIPER (<i>Piper callosum</i> Ruiz & Pav.) ++	555
LIZARD'S TAIL PEPPER (<i>Piper peltatum</i> L.) ++	555
CORDONCILLO (<i>Piper umbellatum</i> L.) +	557
JAMAICA DOGWOOD (<i>Piscidia piscipula</i> (L.) Sarg.) +	558
SALADE D'EAU (<i>Pistia stratiotes</i> L.) +	560
PLANTAIN (<i>Plantago major</i> L.) ++.....	561
SWEET SCENT (<i>Pluchea carolinensis</i> (Jacq.) G. Don.) +	565
LUCERA (<i>Pluchea sagittalis</i> (Lam.) Cabrera) +	567
WHITE FRANGIPANI (<i>Plumeria alba</i> L.) +	568
FRANGIPANI (<i>Plumeria rubra</i> L.) X	569
PURSLANE (<i>Portulaca oleracea</i> L.) +++.....	571
CURARINA (<i>Potalia amara</i> Aubl.) ++	575

GRAPE TREE (<i>Pourouma cecropiifolia</i> Mart.) ++	576
CAT'S-TONGUE (<i>Priva lappulacea</i> (L.) Pers.) ++	577
ALGARROBO (<i>Prosopis chilensis</i> (Molina) Stuntz) ++	578
COPAL (<i>Protium copal</i> (Schltdl. & Cham.) Engl.) ++	579
YSY (<i>Protium heptaphyllum</i> (Aubl.) Marchand) +	579
BLACK CHERRY (<i>Prunus serotina</i> Ehrh.) ++	580
VIRAVIRA (<i>Pseudognaphalium viravira</i> (Mol.) Anderb.) +	582
GUAVA (<i>Psidium guajava</i> L.) ++	583
MUIRA PUAMA (<i>Ptychopetalum olacoides</i> Benth.) ++	587
BITTERWOOD (<i>Quassia amara</i> L.) ++	589
SOAPTREE (<i>Quillaja saponaria</i> Molina) +	591
INKBERRY (<i>Randia aculeata</i> L.) ++	593
DEVIL-PEPPER (<i>Rauwolfia tetraphylla</i> L.) +	594
RED MANGROVE (<i>Rhizophora mangle</i> L.) +	596
VIRILITY VINE (<i>Rhynchosia pyramidalis</i> (Lam.) Urb.) ++	598
WILD SWEETSOP (<i>Rollinia mucosa</i> (Jacq.) Baill.) ++	598
MANY ROOTS (<i>Ruellia tuberosa</i> L.) +	600
WEeping WILLOW (<i>Salix babylonica</i> L.) +	603
DIVINING SAGE (<i>Salvia divinorum</i> Epling & Játiva) +	604
RAINTREE (<i>Samanea saman</i> (Jacq.) Merr.) ++	605
PERUVIAN ELDERBERRY (<i>Sambucus peruviana</i> Kunth) ++	606
PERUVIAN PEPPER TREE (<i>Schinus molle</i> L.) +	607
BRAZILIAN PEPPERTREE (<i>Schinus terebinthifolius</i> Raddi) +	610
CANCHALAGUA (<i>Schkuhria pinnata</i> (Lam.) Kuntze ex Thell.) +	612
SABADILLA (<i>Schoenocaulon officinale</i> (Schltdl. & Cham.) A. Gray ex Benth.) +	614
SWEET BROOM (<i>Scoparia dulcis</i> L.) ++	614
CHAYOTE (<i>Sechium edule</i> (Jacq.) Sw.) ++	617
NIGHT-BLOOMING CEREUS (<i>Selenicereus grandiflorus</i> (L.) Britton & Rose) +	619
FALSE ARNICA (<i>Senecio formosus</i> Kunth) X	620
RINGWORM SENNA (<i>Senna alata</i> (L.) Roxb.) +	621
COFFEE SENNA (<i>Senna occidentalis</i> (L.) Link) +	623
LAUREÑO (<i>Senna reticulata</i> (Willd.) H. S. Irwin & Barneby) ++	627
SICKLE-POD SENNA (<i>Senna tora</i> (L.) Roxb.) +	628
SEA PURSLANE (<i>Sesuvium portulacastrum</i> (L.) L.) ++	631

BROOMWEED (<i>Sida acuta</i> Burm. f.) +	631
HEART-LEAF-SIDA (<i>Sida cordifolia</i> L.) ++	633
TEAWEED (<i>Sida rhombifolia</i> L.) ++	636
PARADISE TREE (<i>Simarouba glauca</i> DC.) +	638
JOJOBA (<i>Simmondsia chinensis</i> (Link) C. K. Schneid.) ++	639
FEVERTREE (<i>Siparuna guianensis</i> Aubl.) ++	640
YACÓN (<i>Smallanthus sonchifolius</i> (Poepp. & Endl.) H. Rob.) ++	642
SARSAPARILLA (<i>Smilax aristolochiifolia</i> Mill) +++	643
NIPPLE PLANT (<i>Solanum mammosum</i> L.) ++	645
CUPA SACHA (<i>Solanum obliquum</i> Ruiz & Pav.) ++	646
COCONA (<i>Solanum sessiliflorum</i> Dunal) ++	647
WILD EGGPLANT (<i>Solanum torvum</i> Sw.) ++	648
POTATO (<i>Solanum tuberosum</i> L.) +	650
SOW THISTLE (<i>Sonchus oleraceus</i> L.) ++	652
SINGAPORE DAISY (<i>Sphagneticola trilobata</i> (L.) Pruski) ++	654
WORMGRASS (<i>Spigelia anthelmia</i> L.) X	655
HOGPLUM (<i>Spondias mombin</i> L.) ++	656
RED HOGPLUM (<i>Spondias purpurea</i> L.) ++	661
RATTAIL (<i>Stachytarpheta cayennensis</i> (Rich.) Vahl) ++	663
BRAZILIAN TEA (<i>Stachytarpheta jamaicensis</i> (L.) Vahl.) ++	665
PANAMA (<i>Sterculia apetala</i> (Jacq.) H. Karst.) ++	668
STEVIA (<i>Stevia rebaudiana</i> (Bertoni) Bertoni) ++	669
CUMASEBA (<i>Swartzia polyphylla</i> DC.) +	670
HONDURAS MAHOGANY (<i>Swietenia macrophylla</i> King) +	671
WEST INDIAN MAHOGANY (<i>Swietenia mahagoni</i> (L.) Jacq.) +	672
NODE WEED (<i>Synedrella nodiflora</i> (L.) Gaertn.) ++	674
JAMBOLAN (<i>Syzygium cumini</i> (L.) Skeels) ++	675
VENEZUELAN PAU D'ARCO (<i>Tabebuia barbata</i> (E. Mey.) Sandwith) +	678
PINK TRUMPET (<i>Tabebuia rosea</i> (Bertol.) DC.) ++	679
PAU D'ARCO (<i>Tabebuia</i> spp.) +	680
MILKWOOD (<i>Tabernaemontana citrifolia</i> L.) +	683
LOBO SANANGO (<i>Tabernaemontana sananho</i> Ruiz & Pav.) ++	684
AZTEC MARIGOLD (<i>Tagetes erecta</i> L.) ++	685
SWEET-SCENTED MARIGOLD (<i>Tagetes lucida</i> Cav.) ++	688

KHAKI BUSH (<i>Tagetes minuta</i> L.) +	689
FRENCH MARIGOLD (<i>Tagetes patula</i> L.) +	691
DWARF MARIGOLD (<i>Tagetes pusilla</i> Kunth) ++.....	692
MAHOE (<i>Talipariti tiliaceum</i> (L.) Fryxell) ++.....	693
TAMARIND (<i>Tamarindus indica</i> L.) +++	694
YELLOW TRUMPET BUSH (<i>Tecoma stans</i> (L.) Juss. ex Kunth) ++	699
TOE NEGRO (<i>Teliostachya lanceolata</i> Nees.) X	701
CUBE SINAPOU (<i>Tephrosia sinapou</i> (Buc'hoz) A. Chev.) +	701
BOBO (<i>Tessaria integrifolia</i> Ruiz & Pav.) ++.....	702
NEW ZEALAND SPINACH (<i>Tetragonia tetragonoides</i> (Pall.) Kuntze) ++	703
WHITE CATNIP (<i>Teucrium cubense</i> Jacq.) +	703
CACAO (<i>Theobroma cacao</i> L.) ++	704
PORTIA TREE (<i>Thespesia populnea</i> (L.) Sol. ex CorrLa) ++	707
LUCKY NUT (<i>Thevetia peruviana</i> (Pers.) K. Schum.) X.....	709
SPANISH MOSS (<i>Tillandsia usneoides</i> (L.) L.) ++.....	712
BOAT LILY (<i>Tradescantia spathacea</i> Sw.) ++	714
COAT-BUTTONS (<i>Tridax procumbens</i> L.) +	715
NASTURTIUM (<i>Tropaeolum majus</i> L.) +	716
TUBEROUS NASTURTIUM (<i>Tropaeolum tuberosum</i> Ruiz & Pav.) ++.....	718
CHRISTMAS VINE (<i>Turbina corymbosa</i> (L.) Raf.) +.....	720
DAMIANA (<i>Turnera diffusa</i> Willd. ex Schult.) ++	721
WILD DAMIANA (<i>Turnera ulmifolia</i> L.) ++.....	723
CLAVO HUASCA (<i>Tynanthus panurensis</i> (Bureau) Sandwith) ++.....	725
CAT'S CLAW (<i>Uncaria tomentosa</i> (Willd. ex Schult.) DC.) ++	727
NETTLE TREE (<i>Urera baccifera</i> (L.) Gaudich. ex Wedd.) +	730
ISHANGA (<i>Urera caracasana</i> (Jacq.) Griseb.) +	731
VANILLA (<i>Vanilla planifolia</i> Andrews) +++.....	733
ARARоба (<i>Vataireopsis araroba</i> (Aguiar) Ducke) +	735
PARICA (<i>Virola calophylla</i> (Spruce) Warb.) +	735
SACRED VIROLA (<i>Virola elongata</i> Warb.) +	736
PICHIRINA (<i>Vismia</i> spp) +.....	737
FLAG TREE (<i>Warszewiczia coccinea</i> (Vahl) Klotzsch) ++	739
GOLD BUTTON (<i>Wulffia baccata</i> (L.) Kuntze) +	740
SPINY COCKLEBUR (<i>Xanthium spinosum</i> L.) +	741

COCKLEBUR (<i>Xanthium strumarium</i> L.) +	742
NEW COCOYAM (<i>Xanthosoma sagittifolium</i> (L.) Schott) ++	745
BLUE TARO (<i>Xanthosoma violaceum</i> Schott) ++	746
TALLOWWOOD (<i>Ximenia americana</i> L.) ++	747
YUCCA (<i>Yucca</i> spp) ++	751
PRICKLY ASH (<i>Zanthoxylum rhoifolium</i> Lam.) +	753
CORN (<i>Zea mays</i> L.) +++	754
JUA (<i>Ziziphus joazeiro</i> Mart.) +	758

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Senior Author's Introduction

Little did I know when my graduate professor, Dr. C. Ritchie Bell, took me to Mexico, Guatemala, and Costa Rica in 1959, that this would be the first of dozens of trips to Latin America. I was a straight taxonomist then (someone who assigns plants their correct names and classification), and we were collecting voucher specimens for Dr. Bell's cytological studies. We'd flatten out and dry several of the plants after Bell had pickled their chromosomes in pickling fluid. Once home he'd count their chromosomes. That's cytology or cytotaxonomy. I never got into that.

I had taken all three degrees, A.B., M.A., and Ph.D. (course work, at least), inbred as they now call it, at the same University of North Carolina (UNC). Here I was, on the threshold of a postdoctorate program, to compensate for my inbreeding at good old Chapel Hill. (Some 50 years later they elected me a distinguished alumnus.) Before I knew the word postdoc, I was one! After this 2- to 3-month tour of Mexico and Central America, Dr. Bell dropped me off at the Missouri Botanical Garden (MBG), to begin my postdoc under the tutelage of Dr. R. E. Woodson. Dr. Woodson, in addition to giving me a more cosmopolitan look at classical taxonomy, had me working on his *Flora of Panama*, which was pretty much straight taxonomy, but as I worked through the marvelous collections at the MBG, I was intrigued by comments about the medicinal uses of the specimens as written on the labels. (That was Strike 1.) Dr. Woodson, supported by a pharmaceutical grant, was actively looking for medicinal plants of Peru, focusing his interest on the Apocynaceae. One of many other interesting assignments he gave me was to identify herbarium specimens collected by Felix Woytkowski in Peru. (That was Strike 2.) Early in the 1960s, while still on the MBG staff, I was invited to join an expedition called the Swamp Fox Expedition in Panama. (That was the overwhelming Strike 3, in my conversion to ethnobotany.) Here Jim Duke was striking out as a pure taxonomist and beginning a tendency, irreversibly forwarded, by subsequent trips to Panama, to become an "impure" botanist, before I knew the word ethnobotanist. I loved what I saw in the forests of Panama on my first trip to the so-called Darien Gap, the gap or void, in the Inter-American highway. Later, when I was a resident in Panama, my conversion to ethnobotanist was complete.

How well I remember those first trips to Panama, enchanted, enthralled, entrapped, coining myself a "Panamaniac." After studying the two-dimensional pressed herbarium flora at MBG, I at first needed to flatten those beautiful three-dimensional plants before I could recognize a few of them. I ended up collecting about 18,000 such flattened herbarium specimens, many of which still reside at MBG. Like many temperate-zone taxonomists, I was overwhelmed by my first real look at the tropical flora, nearly 50 years ago, and even today, in 2008, after two pleasant trips to Costa Rica and another to Peru, I am still overwhelmed. Down there I look for the things I know, maybe 1% of the flora, and I can still talk my students to death with that 1%. Back home I look for the things I don't know.

I was fortunate indeed to work with a team in Darien, Panama, headed by great American forester Dr. Les Holdridge, who helped me learn some of the trees, the towering giants of the tropical forests. Gradually the Americans thinned out, leaving me the solitary gringo, charged to climb and collect on Cerro Pirre, a mountain in Darien, Panama. I had a good guide, Afro-American Narciso Bristan, very experienced in the forest. He and his associates hired some Choco Indians as bearers and we went up Cerro Pirre (which I now call Magic Mountain because of the enchanting Elfin Forest at ca. 5,000 feet). I climbed the mountain with the African Americans and the Native Americans and a soggy pocket dictionary in my pocket, forced to communicate only in Spanish. I came down the mountain, an entrenched "Panamaniac," speaking bush Spanish with a black accent. Then there were several Choco Indian confidants, e.g., Loro, who taught me Indian ethnobotanicals by

their Choco names, “almirajó,” “borojó,” “cangrejó,” “mamejé,” etc. In an 8-year period, including an aggregate of 3 years’ residence in Panama, by sending herbarium specimens to specialists all over the world, I constructed my *Isthmian Ethnobotanical Dictionary*, equating the local names of Panama plants with their scientific names, and some of the ethnobotanical lore recorded about these species.

It was much quicker constructing my *Amazon Ethnobotanical Dictionary* because Rodolfo Vazquez, an able student of the late Al Gentry, had been doing for years there in Loreto, Peru, what I had been doing in Darien, Panama. He, too, had been collecting the local plants, writing down the local names and uses. Then he would match the specimens up with named material at MBG and collate the information. Whether in forests or gardens of Panama or Peru, newcomers will find ethnobotanical dictionaries useful when they have reliable guides. As ethnobotanist Mark Plotkin reminds us, when a shaman dies, it’s like a library burning down. The shamans, with their knowledge and their medicinal species, are disappearing. I for one encourage publishing this shamanic input, this intellectual property, believing that medicinal plants, like blueberries, cassava, chocolate, coffee, corn, sunflowers, and home-grown tomatoes, are evolutionary products of the world, not of any particular ethnic groups. I do, however, think that locals and shamans are more entitled to patent and sell their local products than foreigners.

As in North America, some new generation Native South Americans are getting back to their roots. This old gringo, Jim Duke, has taught young Micmac Indians about Micmac medicinal plants, at least as published. And, occasionally, I see the Native American children appreciating the admiration their parents are receiving from the ecotourists as they share local tradition and “intellectual property.” Perhaps they realize that by learning and carrying on the traditions, they can supplement their hard-earned money better than by planting corn and beans or by joining other youth in the ghettos of the asphalt jungles.

While Panama was my first major calling, Peru has dominated my Latino perambulations of late. In 1991, as an ethnobotanical instructor, I participated in my first ecotour. At Explorama Lodge, 3 hours downstream by fast boat from Iquitos, Peru, I taught forest product workshops, ably assisted by several good Native American guides, e.g., Don Segundo Inuma. At the workshop, several interested people got a close look at many of the plants upon which Amazonians depend so heavily, first in the thatched classroom, then out in the field. (During one workshop, one participant was even nipped by a tapir, which also threatened the instructor.) Explorama Lodge is an amazingly comfortable facility nestled in a 250,000-acre rainforest preserve, in an area with 300 woody species per hectare. Good forest guides know the Amazonian names and uses of many plants. Generally, they are pleased to share this information with interested visitors. They don’t often know the universal Latin scientific names of the plants but you can find those, via the common names, in the various ethnobotanical dictionaries and compilations (DAV; EGG; IED; JFM; RAR). More than 50 ecotouristic weeks later in Peru, I finally had my whole gene pool cruising on or swimming in the Amazon. Mrs. Duke and I took all our children and grandchildren for a week, turning the Old Year of 2005 into 2006. And yes, there are Native American genes in my gene pool.

After the Amerindians discovered America, perhaps 12, maybe 50, millennia before Columbus, all their clothing, food, medicine, and shelter — those essential things we call “minor” forest products today — were derived from the forests. Those millennia gave the Indians time to discover and learn empirically the virtues and vices of the thousands of edible and medicinal species in the neotropical forests (DAV).

Quinine is one of the more amazing stories in Latin America’s pharmacopoeia. The quinine tree, like the coca bush, each with more than a dozen alkaloids, was here with the Indians, long before Columbus, and then smallpox and malaria. The history of the continent might have been different had quinine cured smallpox. Instead, smallpox decimated the Indians, killing millions, before malaria arrived, perhaps from Africa. The malaria organism was all but controlled by early efforts with quinine. Gradually, the malaria organism developed a tolerance for quinine, and we switched to chloroquine and other synthetics and semisynthetics. Gradually the plasmodium developed a

tolerance for these as well. WHO-sponsored studies on “qing hao” (*Artemisia annua*) and its derivatives, provided the answer, albeit perhaps equally temporary, to chloroquine-resistant malaria. I predicted that, if natural artemisinin or its semisynthetic derivatives proved out for chloroquine-resistant malaria, the malaria organism would evolve resistance to the pure “qing hao” compounds. We would then be faced with artemisinin-resistant malaria, and go back to Father Nature’s “Pharmacy,” hat in hand, seeking a drug for artemisinin-resistant malaria. This semicircular fable should impress upon us the importance of the forest and biodiversity. If we lose half our species, we halve our odds for finding the new drug. Worse! The species most likely to be lost are those least likely to have been studied. New strains of many of our older diseases, such as measles and tuberculosis, keep cropping up, requiring new medicines.

Bill Gates has major initiatives trying to help Africa with four major killers: HIV, *Leishmania*, malaria, and tuberculosis. There’s a better chance he’ll find answers in Latin America, for two reasons. There are more plant species in Latin America, and the flora has been less intensively investigated for medicinal potential.

Some estimate that less than 1% of the forest species of Latin America have been chemically investigated. Speaking of the world at large, Fabricant and Farnsworth (2001) note that the number of higher plant species (angiosperms and gymnosperms) is estimated at 250,000 (lower estimate ca. 215,000, upper level as high as 500,000). Of these only about 6% have been screened for biologic activity, and a reported 15% have been evaluated phytochemically. I don’t think these high figures would apply in Latin America. They identified 122 compounds of defined structure, obtained from only 94 species of plants, that are used globally as drugs and demonstrated that 80% of these have had an ethnomedical use identical or related to the current use of the active elements of the plant. I translate this to mean that 80% of these folk medicines now have a scientific rationale. Does that mean that all folklore will have as good a batting average? Not necessarily! But it seems the more we dig, the more phytochemical rationales we find behind the folklore. “It was estimated that in 1991 in the United States, for every 10,000 pure compounds (most likely those based on synthesis) that are biologically evaluated (primarily *in vitro*), 20 would be tested in animal models, and 10 of these would be clinically evaluated, and only one would reach U.S. Food and Drug Administration approval for marketing. The time required for this process was estimated at 10 years at a cost of \$231 million (U.S.)... ”

Now that cost has soared to ~\$3.4 billion.

We didn’t even know AIDS four decades ago, but there are many promising anti-HIV leads in our Latin American forests. *Abrus* contains glycyrrhizin, *Acacia* contains gallic-acid and quercetin, *Alexa* contains castanospermine, *Annona* contains procyanidins, *Artocarpus* contains betulinic-acid, *Capsicum* contains caffeic-acid, *Chenopodium* contains ascaridole and oleanolic acid; even *Cinchona* contains epicatechin, *Curcuma* contains curcumin, *Drimys* contains lignin, *Erythroxylum* contains geraniin, *Euphorbia* contains betulin and tannic-acid, *Gossypium* contains gossypol, *Haematoxylum* contains myricetin, *Ilex* contains ursolic-acid, *Lycopersicon* contains naringenin, *Momordica* contains momordicin, *Opuntia* contains luteolin, *Phytolacca* contains phytolaccin, *Plumeria* contains fulvoplumierin, *Psidium* contains ellagic-acid, *Pteridium* contains chicoric-acid and tilirioside, *Punica* contains ellagitannin, *Ricinus* contains ricin, and *Tagetes* contains quercetagenin, to name a few anti-HIV phytochemicals occurring in native or introduced Latin American species. Some of these may help treat HIV. Among the thousands of species that have not been analyzed are thousands of unknown chemicals, many evolved to protect the plants from their own enemies, the plant pathogens. These chemicals may help us in our constant struggle with our constantly evolving pathogens. The lower the phytodiversity, the lower our chances of finding new remedies for the newly evolving scourges of mankind. Preservation of biodiversity is self-preservation.

This book covers roughly 500 of the more important native American medicinal plants in a rather rigid format. But remember these 500 are the better known of some 90,000 species in Latin America. My rigid format means that one can ask a computer which species have the soundest evidence for the Gates’ targets. With a stripped version of this book (giving only indications, activities,

and scores), one can instantaneously search for the best scoring of the 500 herbs for hundreds of ailments and indications. Many of our 500 species scored favorably for the Gates' targets.

HIV

Some 30–35 of the 500 are already reported to contain compounds that can slow the HIV virus *in vitro*, or *in vivo*. None yet has clinical proof. Peruvians are said to be clinically studying a combo of local herbs, “jergon sachá” (*Dracontium* sp.), “uña de gato” (*Uncaria* sp.) and introduced turmeric (*Curcuma longa*). While not convinced that this will work, I suspect it works as well as the \$18,000-a-year chemical “cocktail” in the U.S.

LEISHMANIA

About 20 of the 500 were shown to have *in vitro* activity or chemicals with activity against *Leishmania*, and about 20 others had folkloric reputations for *Leishmania*. None has been subjected to rigorous clinical trials. I can't guarantee that I don't have *Leishmania* myself. I've been in some *Leishmania* hot spots in Peru.

MALARIA

Malaria has been much longer known in Latin America so there is a much wider herbal or pharmacopeial repertoire for malaria. Nearly 60 of our 500 have some evidence in test tubes or in animals. None, to my knowledge, except *Cinchona*, has clinical trials behind it. Some 60 more have only folklore supporting them for malaria. Possibly some of these deserve serious clinical trials. It will usually be cheaper to do such trials in the host countries, rather than exporting the raw materials to the corporate giants.

Following is a Multiple Activities Menu (MAM) routine that anyone could run on my USDA MAM query. Though one can run it for some hundred diseases and thousands of herbs, the following is the bare-boned MAM for *Cinchona* and malaria. In our first battles with malaria, we would have been wiser to have used the whole bark of *Cinchona* with its dozens of bioactive chemicals. That would probably have prevented the drug resistance that evolved so quickly in reaction to the mono-chemically isolated quinine. Note that there are three AntiMDR (MDR = Multiple Drug Resistance; the major enemy of mono-chemical synthetics) phytochemicals that might have, in synergic concert, prevented the resistance that soon developed to quinine alone. Happily the drug companies are resorting to synergies with their synthetic bi-chemical and tri-chemical “cocktails.” I think they'd do better using the whole multi-chemical cocktails like *Cinchona*, which Mother Nature had already provided. But the chemists went on to disprove their “better living through mono-chemistry,” working with just one of the better alkaloids instead of the whole synergic suite.

MAM. ANTIMALARIAL COMPONENTS OF *CINCHONA OFFICINALIS*

AN EVIDENCE-BASED COCKTAIL OF PHYTOCHEMICALS

<http://www.ars-grin.gov/duke/dev/all.html>

Amebicide: 3- α ,17- β -cinchophylline; 3- β ,17- β -cinchophylline; quinidine;
quinine

Analgesic: quinidine; quinine

Anesthetic: quinine

Antibacterial: quinine

Antibiotic: avicularin

Antidysenteric: quinine

Antiflu: cinchonidine

Antimalarial: cinchonidine; cinchonine; hydroquinidine; quinidine; quinine
 Antineuralgic: quinine
 Antipyretic: cinchonidine; cinchonine; quinidine; quinine
 Antitrypanosomic: quinine
 Antiviral: cinchonidine
 Antiyeast: quinine
 MDR-Inhibitor: cinchonine; quinidine; quinine
 Protisticide: quinine

[Source: Phytochemical Database, USDA (<http://www.ars-grin.gov/duke>)]

TUBERCULOSIS

So far, there are some 25 species with *in vitro* or phytochemical activity against tuberculosis, and about as many folkloric species with no substantiating data. None has been cleared clinically for tuberculosis.

How many cures are there for HIV, *Leishmania*, malaria, and/or tuberculosis in the unstudied tens of thousands of species in Latin America? Based on years of compilation, I'll predict that many species in Latin America will have some phytochemicals with some efficacy against all four of Gates' targets.

Sharing folk reputations a/o activities against **HIV** and *Leishmania* is the lizard's tail pepper.

Sharing folk reputations a/o activities against **HIV** and **malaria** are fustic, knobweed, lucky nut, soursop, sweetsop, and tallowwood.

Sharing folk reputations a/o activities against **HIV** and **tuberculosis** are Brazilian peppertree, chaparral, frangipani, and maca.

Sharing folk reputations a/o activities against *Leishmania* and **malaria** are bacopa, calderona amarilla, cashew, cocillana, Colombian barberry, contrahierba, diphysa, garlic weed, gualanday, Honduras mahogany, jackass bitters, matico, nipple plant, soul vine, yellow granadilla.

Sharing folk reputations a/o activities against *Leishmania* and **tuberculosis** are bellaco caspi, copaiba, dragon's blood croton, and goldenspoon.

Sharing folk reputations a/o activities against **malaria** and **tuberculosis** are bitterbush, black cherry, Brazilian copal, cacao, capsicum, century plant, coffee senna, cumaseba, heart-leaf-sida, jimson weed, lemon verbena, Mexican white sage, Peruvian basil, Spanish needles, sweet acacia, tamarind, teaweed, tobacco, velvetleaf, West Indian snowberry, and yarrow.

(3) Sharing folk reputations a/o activities against **HIV**, *Leishmania*, and **malaria** are garlic weed, guava, pau d'arco, and purging nut.

Sharing folk reputations a/o activities against **HIV**, **malaria**, and **tuberculosis** are balloon cherry, eclipta, Indian laburnum, papaya, phyllanthus, pond apple, and pride-of-Barbados.

Sharing folk reputations a/o activities against **HIV**, *Leishmania*, and **tuberculosis** is maria.

Sharing folk reputations a/o activities against *Leishmania*, **malaria**, and **tuberculosis** are epazote, hogplum, ironwood, plantain, and Spanish cedar.

AND Viva Mexico!!! Sharing phytochemical activities against all four of Gates' targets, **HIV**, *Leishmania*, **malaria**, and **tuberculosis**, is the Mexican prickly poppy!!!

Each species of plant shares many phytochemicals with all or most other higher plants, and they share with us all the chemicals necessary to sustain life. But probably all green plant species have some phytochemicals unique to themselves. Each species is a chemical factory full of useful com-

pounds. I've heard it would take all the chemists of the world working thousands of years to come close to creating as many phytochemicals as have already been created evolutionarily by our green friends, the plants we sacrifice so haplessly.

Three quarters of our medicine's made
By synthetic chemists' escapades,
But the better quarter still derives
From Father Nature's quaint archives.

I feel that Father Nature's best
With his nat'ral treasure chest.
This feat, by no means, was his dimmest!!!
He also made synthetic chemists!!!

anonpoet (Herbalgram, 1988)

How many unknown phytochemicals await discovery in Latin America, some with the answers to diseases we don't even know yet? As we destroy the forest to feed the overpopulated world on corporational junk food, we lessen our chances for finding these new natural medicines, in general better and safer than the corporational pharmaceuticals, which kill more than 100,000 North Americans in the U.S. each year, even when taken as prescribed in a hospital. To my knowledge, despite concerted efforts to do so, no one has ever documented more than 50 deaths a year in America for our green medicines (unless they were pharmaceutical silver-bullet drugs of abuse, like alcohol, cocaine, and heroin, originally isolated or chemically altered from our good green plants).

Strangely, some 75% of the world's population, too often envy us our modern pharmaceuticals when they can't afford them. Little do they know that for many of the maladies of mankind, the natural green pharmacy is healthier, cheaper, and sometimes as efficacious. Until the more promising of these Latin American medicinals are compared clinically with competing pharmaceuticals, no one knows which is better, the natural or the pharmaceutical. I'll usually bet on the natural, with a fairly sound evidence base behind my wagers. In this volume, I hope to have faithfully estimated the safety and efficacy and food pharmacy (FNFF = Father Nature's Food Pharmacy) potential, so that readers have an idea of the relative efficacy and safety of these important medicinal plants.

Author

James A. “Jim” Duke, Ph.D., economic botanist and ethnobotanist, retired after a full career with the United States Department of Agriculture (USDA, Beltsville, Maryland) in 1995. After “retiring,” he served 5 years as senior science adviser with Nature’s Herbs. Although he has been retired more than a decade, the USDA still maintains his Phytochemical Data Base online at <http://www.ars-grin.gov/duke>. He has written more than 30 books dealing with herbs, economic botany, and ethnobotany. For the last 5 years, he has taught Medical Botany as an adjunct professor with the Master of Sciences Program in Herbal Medicine at the Tai Sophia Institute, Laurel, Maryland.

With an aggregate of 6 years in Latin America, Dr. Duke still leads ethnobotanical trips. In 2007 he took one group to the Amazonian rainforest, accompanied by his *Amazonian Ethnobotanical Dictionary*. He led a group to Costa Rica in 2007, accompanied by his *Tico Ethnobotanical Dictionary* (online at the USDA Phytochemical Database an updated version of his *Isthmian Ethnobotanical Dictionary*, first published in 1971). In 2008, for the 16th year, he will lead a week-long field course in ethnobotany in coastal Maine. He often hosts 1-hour to 4-day tours of his own Green Pharmacy Garden, in suburban Maryland, with some 300 medicinal herbs.

A Phi Beta Kappa graduate of the University of North Carolina at Chapel Hill, where he also attained his Ph.D., Dr. Duke was elected a Distinguished Alumnus there 50 years later. He was appointed honorary president of the Herb Society of America for 2007.

Bibliographic Abbreviations (books and journals frequently consulted)

AAB: Arvigo and Balick (1993)
AAH: Allen and Hatfield (2004)
AAS: *Acta Agriculturae Scandinavica Supplement*
ABS: McDermott (2002)
ACM: Chang et al. (1985)
ACT: *Alternative & Complementary Therapies*
ADK: Kinghorn (2002)
ADP: Dhiman (2006)
AEH: De Smet et al. (1997)
AEL: *Albert Leung's (Chinese) Herb News*, followed by number and page, e.g., AEL31:3.
AH2: McGuffin et al. (2000)
AHL: Liogier (1974)
AHP: McGuffin et al. (1997)
AIR: Airy Shaw (1973)
AJC: *American Journal of Chinese Medicine*
AKT: Tillotson et al. (2001)
AMA: *Alternative Medicine Alert*
APA: Peirce (1999)
ARC: Aloe Research Council — Duke write-up of non-peer reviewed book by Coats and draft by Henry
ARG: Dimitri and Parodi (1980).
AT: *Alternative Therapies in Health and Medicine*
ATM: *Australian Traditional Medicine Society. ATOMS Journal Publ.*
AUS: Austin (2004)
AVP: Arsene (1971)
BAZ: Brako and Zarucchi (1993)
BEJ: Bejar (2001)
BGB: Blumenthal et al. (2000)
BIS: Bisset (1994)
BNA: Balick et al (2000)
BO2: Boik (2001)
BOU: Boulos (1983)
BOW: Bown (2001)
BPP: *Biochemie und Physiologie der Pflanzen*
BRU: Bruneton (1999)
BUR: Jacobs and Burlage (1958)
CAN: Newall et al. (1996)
CEB: Erichsen-Brown (1989)
CJE: Earle (<http://www.botanik.uni-bonn.de/conifers/>)
CMR: *Chemical Marketing Reporter*, a weekly tabloid
COX: Newmark and Schulick (2000)

CPB: *Chemical & Pharmaceutical Bulletin*

CR2: Duke et al. (2002)

CRC: Duke (1985)

CTD: Castner et al. (1998)

DAA: Duke and Ayensu (1985)

DAD: Duke and duCellier (1993)

DAG: Dodson and Gentry (1978)

DAS: Davies and Stewart (1990)

DAV: Duke and Vasquez (1994)

DAW: Duke and Wain (1991)

DEM: Moerman (1998)

DEP: Watt (1889–1892)

DIA: Soumyanath (2006)

DLZ: De Lucca and Zalles (1992)

EAS: Eastman (1992, 1995, 2003)

EB: *Economic Botany*

EFS: Steinmetz (Cerca 1957)

EGG: Egg (1999)

EMP: *Economic and Medicinal Plant Research*

FAC: Facciola (1998)

FAD: Foster and Duke (1990)

FAH: Foster and Hobbs (2002)

FAY: Foster and Yue (1992)

FEL: Felter and Lloyd (1998)

FNF: *Father's Nature's Farmacy* on-line database: <http://www.ars-grin.gov/duke/>

FP3: Feinbrun-Dothan (1978)

FT: *Fitoterapia*

GAZ: Skenderi (2003)

GHA: Ghazanfar (1994)

GMH: Grieve (1931)

GMJ: Grenand et al. (1987)

HAD: *An Herb a Day* by Jim Duke, many published in *Business of Herbs*, some in *Wild Food Forum*

HAM: Hoshizaki and Moran (2001); Hoshizaki, BJ and Moran, RC. 2001. *Fern Grower's Manual*. Timber Press, Portland Ore. 604 pp.

HC: Herb Clips (American Botanical Council)

HDN: Neuwinger (1996)

HG: *HerbalGram*

HHB: List and Hohammer (1969–1979)

HH2: Hansel et al. (1992, 1993, 1994)

HH3: Blaschek et al. (1998, 1998)

HNI: Duke (1986)

HOC: Tyler (1994)

HOE: Duke (1983)

HOS: Duke et al. (2002)

HSM: Craker & Simon (1986)

IED: Duke (1986)

IHB: Burkill (1966)

IJP: *Indian Journal of Pharmaceutical Sciences*

JAC: *The Journal of Alternative and Complementary Medicine*

JAD: James A. Duke, personal communication

JAF: *Journal of Agricultural and Food Chemistry*

JAH: *Journal of the American Herbalists Guild*

JAR: *The International Journal of Aromatherapy*

JBH: Harborne and Baxter (1983)

JE: *Journal of Ethnopharmacology*

JEB: *Journal of Ethnobotany*

JET: *Journal of Economic and Taxonomic Botany*

JFM: Morton (1977, 1981)

JLH: Hartwell (1982)

JMF: *Journal of Medicinal Food*

JN: *Journal of Nutrition*

JNP: *Journal of Natural Products*

JNU: Joseph et al. (2001)

JPP: *Journal of Pharmacy & Pharmacology*

JRM: *Journal of Reproductive Medicine*

JTR: Roig y Mesa (1945)

JUD: Judd et al. (2002)

KAB: Kirtikar and Basu (Reprint 1975)

KAP: Kapoor (1990)

KC2: Huang (1999)

KEB: Bone (1996)

KOM: Blumenthal et al. (1998)

KWD: Krochmal et al. (1971)

L&W: Little and Wadsworth (1964)

LAF: Leung and Foster (1995)

LE2: Lewis and Elvin-Lewis (2003)

LEG: Duke (1981)

LEL: Lewis and Elvin-Lewis (1977)

LIB: Libster (2002)

LMP: Perry (1980)

LOR: ACEER and Explorama Employees Working Lists of Names in Loreto, Peru, many provided by DAV and RVM, others provided as personal communications by guides in Loreto in Madre de Dios

LRN: *Lawrence Review of Natural Products*, looseleaf; periodically updated.

LWW: Little et al. (1974)

LYM: Buhner (2005)

M11: *Merck Index* 11th Edition

M29: Martindale: *The Extra Pharmacopoeia* (29th edition), The Pharmaceutical Press, London (1989), 1930 pages.

M&R: Mitchell and Rook (1979)

MAD: Madaus (1976)

MAR: Martindale's 28th

MAX: Martinez (1969)

MBB: Vaidya Mana Bajra Bajracharya (Alan Keith Tillotson's Nepalese mentor, as quoted in AKT)

MBC: Martinez et al. (2000)

MCK: McKenna et al. (2002)

MD2: Lacaze and Alexiades (1995)

MDD: ACEER Employees Working Lists of Names in Madre de Dios Common Names, provided to me mostly as personal communications by ACEER employees in Madre de Dios

MEZ: Meza and Pariona (1999)

MIK: Castleman (1991)
MKK: Kaul (1997)
MPB: Mors et al. (2000)
MPG: Gupta (1995)
MPI: ICMR (Indian Council of Medical Research) (1976, 1987)
MZN: Martin et al. (1961)
NAD: Nadkarni (1976)
NH: Barbara Grant or Grace Lyn Rich, Nature's Herbs, personal communication
NIG: Nigg and Seigler (1992)
NJB: *Nigerian Journal of Botany*
NMH: Humphrey (2003)
NP: *Natural Pharmacy*
NPM: Manandhar (2002)
NR: *Nutrition Reviews*
NWO: Nwosu (2002)
OFF: Official Sanskrit Names. The Ayurvedic Formulary of India, Part I
PAM: Pizzorno and Murray (1985)
PB: *Pharmaceutical Biology*
PC: *Phytochemistry*
PCS: Standley (1920–1926)
PDR: *Physicians' Desk Reference*
PED: Pedersen (1998)
PHM: *Phytomedicine*
PHR: Fleming et al. (1998)
PH2: Gruenwald et al. (2000)
PIO: Pio Correa (1984)
PIP: Schilcher (1997)
PJB: *Protocol Journal of Botanical Medicine*
PM: *Planta Medica*
PMC: Cardenas (1989)
PNC: Williamson and Evans (1989)
POP: Hostettmann et al. (1995)
POR: Porcher's Australian Nomenclature Database <http://www.plantnames.unimelb.edu.au>
PR: *Phytotherapy Research*
PUB: PMID Pub Med Abstracts <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>
PUM: Puerto Madryn, tourism website http://www.madryn.gov.ar/turismo/en/general_information/
RA2: Taylor (2006) Raintree Nutrition Database <http://www.rain-tree.com/>
RAI: Taylor (2005)
RAR: Rutter (1990)
RCP: *Revista Cubana de Plantas Medicinales*
RDF: *Revista de Fitoterapia*
RIN: Rinzler (1990)
ROE: Roersch (1994)
RVM: Vazquez (1990)
RyM: Roig y Mesa (1928)
SAR: Schultes and Raffauf (1990)
SF: Foster (1996)
SHM: Shaman Pharmaceuticals and handouts pertinent to sangregrado
SHT: Schulz et al. (1998)
SKJ: Jain and deFilipps (1991)
SKY: Lininger et al. (1998)

SNE137:292: Jim Duke's personal files

SOU: Soukup (1970)

SPI: Charalambous (1994)

SUW: Suwal (1976)

SYN: Challem et al. (2000)

TAD: Tucker and Debaggio (2000)

TAN: Tanaka (1976)

TBC: Croat (1978)

TGP: Duke (1997)

TIB: Kletter and Kriechbaum (2001)

TJE: Elpel (2004)

TMA: *Time-Life*, Editors (1996)

TOM: Tommy Bass, in Crellin and Philpott (1990)

TRA: Germosén-Robineau (Tramil) (1997)

TTS: Vozzo (2002)

ULW: Coe and Anderson (1999)

UPH: Uphof (1968)

UPW: Burkill (1985-1995)

USA: USDA's Ag Handbook 8 and sequelae

USN: USDA Nomenclature Database. <http://www.ars-grin.gov/npgs/tax/taxgenform.html>

VAD: Vadmecum García et al. (1998)

VAG: Van Wyk and Gericke (2000)

VOD: Beauvoir et al. (2001)

VVG: Van Wyk et al. (1997)

WAF: White et al. (2000)

WAM: White and Mavor (1998)

WBB: Watt and Breyer-Brandwijk (1962)

WER: Werbach (1993)

WIA: Wiart (2006)

WIN: Kindscher and Hurlburt (1998)

WOI: CSIR (1948-1976)

WO2: CSIR (1985)

WO3: CSIR (2000)

X as prefix followed by number: PubMed reference citation (e.g., X123456) searchable at <http://www.ncbi.nlm.nih.gov/sites/entrez?db=PMC>

YAB: Yaniv and Bachrach (2005)

YAR: Yarnell et al. (2003)

ZIM: Gelfand et al. (1985)

ZOH: Zohary (1982)

ZUL: Hutchings et al. (1996)

60P: Desmarchelier and Witting Schaus (2000)

Chemical/Medical Abbreviations

Most of the abbreviations relate to chemistry and medicines and dosages, but there are some other miscellaneous abbreviations also used in a similar table in Duke et al., 2002 (CR2).

ACE: Angiotensin Converting Enzyme

AChE: Antiacetylcholinesterase

ADD: Attention Deficit Disorder

AHPA: American Herbal Products Association

AIDs: Acquired Immunodeficiency Syndrome

ALA: Alpha-Linolenic Acid

AME: Aqueous Methanol Extract

APA: American Pharmaceutical Association

a/o: and/or

ATP: Adenosine Triphosphate

BMK: Baby Mouse Kidney

BO: Body Odor

BPC: British Pharmacopoeia

BPH: Benign Prostatic Hypertrophy

cAMP: cyclic Adenosine MonoPhosphate

Cd: Cadmium

CDC: Centers for Disease Control and Prevention

cf.: compare with

CFS: Chronic Fatigue Syndrome

chd: child

ckn: chicken

cm: centimeter

CNS: Central Nervous System

COMT: Catechol-O-Methyl-Transferase

COPD: Chronic Obsessive Pulmonary Disorder

COX: Cyclooxygenase (sometimes COX-1 or COX-2-Inhibitor)

Cu: Copper

cv: cultivar

CVI: Chronic Venous Insufficiency

DLA: Dalton's Lymphoma Ascites

DPPH: 1,1-Diphenyl-2-PicrylHydrazyl (assay)

EAC: Ehrlich Ascites Carcinoma

EBV: Epstein-Barr Virus

EC50: half maximal Effective Concentration; refers to the concentration of a drug which induces a response halfway between the baseline and maximum

ED: Effective Dose

ED50: Effective Dose at which 50% of subjects are "Cured," "Effected," "Affected," or "Altered"

e.g.: for example

EO: Essential Oil

EPA: Eicosapentaenoic Acid

ERT: Estrogen Replacement Therapy

etc.: et cetera

f: Folklore, not yet substantiated (following parentheses in Activities and Indications paragraphs)

FDA: Food and Drug Administration

fr: fruit

frg: frog

fig: figure

FRAP: Ferric-Reducing Antioxidant Power

g: gram

GABA: Gamma-Aminobutyric Acid A

gal: gallon

GERD: Gastro-Esophageal Reflux Disease

GFG: Green Farmacy Garden

GI: Gastro-Intestinal

GLA: Gamma-Linolenic Acid

GMO: Genetically Modified Organism

gpg: guinea pig

gr: grain

GRAS: Generally Recognized As Safe

H₂O₂: hydrogen peroxide

HBP: High Blood Pressure

HCA: Hydroxycitric Acid

HCN: Hydrocyanic Acid

HIV: Human Immunodeficiency Virus

HL: Human Leukaemia

hmn: human

HP: *Helicobacter pylori*

HPS: HepatoPulmonary Syndrome

HSV: Herpes Simplex Virus

IBD: Inflammatory Bowel Disease

IBS: Irritable Bowel Syndrome

IC: Inhibitory Concentration

igs: intragastric

ihl: inhalation

IKKbeta: IkappaB-kinase-beta

IL: Interleukin

ims: intramuscular

inf: infusion

iNOS: inducible Nitric Oxide Synthase

ipr: intraperitoneal

ith: intrathecal

ITP: Immune (Idiopathic) Thrombocytopenia Purpura

ivn: intravenous

l: liter

LC: Lethal Concentration

LC50: Lethal Concentration at which 50% of experimental population is killed

LD50: Lethal Dose at which 50% of experimental population is killed

LDlo: Lowest reported lethal dose

lf: leaf

MAOI: Monoamine Oxidase Inhibitor

MBC: Minimum Bactericidal Concentration

MDR: Multi Drug Resistant

mg: milligram

MIC: Depending on source can mean Minimum Inhibiting Concentration or Mean Inhibiting Concentration

mky: monkey

ml: milliliter

MLD: has been used by different sources differently; Merck = Minimum Lethal Dose; some other sources = Mean Lethal Dose, and some don't define it (with apologies to the reader from the compiler)

mM: millimole

MMP: Matrix Metalloproteinase

MRSA: Methicillin-Resistant *Staphylococcus aureus*

MS: Multiple Sclerosis

MUFA: Monounsaturated Fatty Acid

mus: mouse

NADH: Nicotine Adenine Dinucleotide

NCI: National Cancer Institute

NF-Kappa-B: Nuclear Factor Kappa-B

NF-AT: Nuclear Factor of Activated T cells

NH3: Ammonia

NIDDM: Non Insulin Dependent Diabetes Melitus

NKC: Natural Killer Cell

NO: Nitric Oxide

Nscn: No standardized common name

Ocn: Other common name often in use in the U.S., but not standardized; after AH2

ODC: Ornithine-DeCarboxylase

OPC: Oligomeric Procyanidin

ORAC: Oxygen Radical Absorbance Capacity

orl: oral

OTC: Over The Counter

oz: ounce

p: page

PAF: Platelet Aggregating Factor

par: parenteral

PDR: *Physicians' Desk Reference*

pers. comm: personal communication

PGE: Prostaglandin E synthase

PGE2: ProstaGlandin E2

pgn: pigeon

PKA: Protein Kinase A

PKC: Protein Kinase C

pl: plate

PMS: Premenstrual Syndrome

pp.: pages

ppm: parts per million

PSA: Prostate Specific Antigen

pt: pint

PTK: Protein Tyrosine Kinase

PTD: Potentially Toxic Dose

PUFA: Polyunsaturated Fatty Acid

qt: quart

rbt: rabbit

RDA: Recommended Dietary Allowances

RSV: Respiratory Syncytial Virus

RT: Reverse Transcriptase

RTI: Reverse Transcriptase Inhibitor

Scn.: Standardized common name in the United States herbal trade, after AH2

scu: subcutaneous

SI: Selectivity Index

SL: Sesquiterpene Lactones

SLE: Systemic Lupus Erythematosus

SOD: Superoxide Dismutase

SSRI: Selective Serotonin Reuptake Inhibitor

sup: suppository

StX: Standardized Extract

Syn: Synonym

tbsp: tablespoon

TEAC: Trolox Equivalent Antioxidant Capacity

TI: Therapeutic Index

TNF: Tumor Necrosis Factor

TPA: 12-O-tetradecanoylphorbol-13-acetate

tsp: teaspoon

µg: microgram

µl: microliter

µM: micromol

unk: unknown

uns: unspecified

USDA: United States Department of Agriculture

UTIs: Urinary Tract Infection

UV: Ultra Violet

VD: Venereal Disease

VEGF: Vascular Endothelial Growth Factor

viz.: videlicet

Vol.: Volume

wmn: woman

X: solitary X in the title line of the herb following the scientific name means don't take it without advice from an expert; think of it as a skull and crossbones

X followed by serial number: PMID (PubMed ID number); searchable at <http://www.ncbi.nlm.nih.gov/sites/entreiz?db=PMC>

ZMB: Zero Moisture Basis

Zn: Zinc

Geographic/Linguistic Abbreviations

To avoid confusion, I use the mix of upper- and lowercase letters to designate geographic localities or ethnicities or languages (almost exclusively in the Common Names section of this book), reserving words or abbreviations in ALL CAPS to designate the bibliographic source of the common name.

Afg.: Afghanistan
Ai.: Amerindian
Alg.: Algeria
Ap.: Andhra Pradesh
Arab.: Arabian; Arabic
Arg.: Argentina
Arm.: Armenia
Aym.: Aymara
Ayu.: Ayurvedic
Bah.: Bahama(s)
Bal.: Baluchistan
Bali: Bali
Bar.: Barbados
Bas.: Basque
Bel.: Belize
Ben.: Bengal or Bengali
Ber.: Berber
Bf.: Burkina Faso (formerly Upper Volta)
Bib.: Biblical
Bol.: Bolivia
Bom.: Bombay
Br. Guy.: British Guyana
Bul.: Bulgaria
Ca.: Central America
Cam.: Cambodia
Car.: Caribbean
Cat.: Catalan
Che.: Chechenya; Chechnya; Tschechnya
Col.: Colombia
Cr.: Costa Rica
Cze.: Czech Republic (former Czechoslovakia)
Dec.: Deccan
Dei.: Dutch East Indies
Den.: Denmark; Danish
Dho.: Dhofar; Dhofari
Dom.: Dominica
Dr.: Dominican Republic
Dwi.: Dutch West Indies
Ecu.: Ecuador

Eng.: English
Eth.: Ethiopia
Fin.: Finland
Fla.: Florida
Fr.: French
Fr. Guy.: French Guyana
Fwi.: French West Indies
Ger.: German
Gond.: Gondhi; Gondi
Gren.: Grenada
Guad.: Guadelupe
Guat.: Guatemala
Gui.: Guinea
Gui. Bissau: Guinea Bissau
Guj.: Gujarati; Gujerati
Guy.: Guyana
Haw.: Hawaii
Heb.: Hebrew
Him.: Himalaya
His.: Hispaniola
Hon.: Honduras
Hun.: Hungary
Ic.: Indochina
Ilo.: Ilocano
Ire.: Ireland
Isr.: Israel
It.: Italian
Ivo.: Ivory Coast
Jam.: Jamaica
Kan.: Kannada [aka Kannarese (India), Cannarese, and Kanarese, Kanarito]
Kar.: Karnataka
Kas.: Kashmir
Ker.: Kerala
Kol.: Kolami
Kon.: Konkani
Kum.: Kumaon
Lad.: Ladakh
Lan.: Languedoc
Leb.: Lebanon
Lor.: Loreto
Ma.: Middle America
Mad.: Madeira
Mah.: Maharashtra
Mal.: Malayalam (India)
Mar.: Marathi
Mart.: Martinique
Mdd.: Madre de Dios (Peru)
Mex.: Mexico
Mp.: Madhya Pradesh
Mun.: Mundari (India)
Na.: North America

New Cal.: New Caledonia
Nic.: Nicaragua
Nig.: Nigeria
Nor.: Norway
Nscn.: No standardized common name (AH2)
Nwp.: Northwest Provinces (Afghan/Pakistan Border)
Nz.: New Zealand
Ocn.: Other common name often in use in the U.S., but not standardized; after AH2
Pak.: Pakistan
Pam.: Pampangan
Pan.: Panama
Par.: Paraguay
Pi.: Philippines; Philippine Islands
Pin.: Pinyin
Pol.: Poland
Por.: Portugal
Pr.: Puerto Rico
Pun.: Punjab (India)
Que.: Quechua
Raj.: Rajasthan
Rom.: Romania
Rus.: Russia
Sa.: South America; Latin America
S. Afr.: South Africa
Sal.: El Salvador
San.: Santal or Santali
Scn.: Standardized common name in the United States herbal trade, after AH2
Sen.: Senegal
Sin.: Sindhi, Sinhalese
Slav.: Slavic
Sp.: Spanish
Sri.: Sri Lanka
St. Bart.: St. Barthelemy
Sur.: Surinam
Swe.: Sweden
Tag.: Tagalog
Tam.: Tamil; Tamil Nadu (India)
Tel.: Telugu; Telegu; Telgu
Tex.: Texas
Trin.: Trinidad
Tur.: Turkey
Uk.: United Kingdom
Up.: Uttar Pradesh
Uru.: Uruguay
Usa.: United States
Ven.: Venezuela
Vi.: Virgin Islands
Vis.: Visayan
Vn.: Vietnam
Wi.: West Indies

Format of This Book

It is only natural that a believer in evolution would have an evolving format. The current format has evolved from my *CRC Handbook of Medicinal Herbs*, Second Edition, which had evolved from my public domain Father Nature's Pharmacy, online at the USDA. There are some new features here.

LEAD LINE: My lead line for each species is still pretty much the same. Common name (*Scientific name* Author) followed by an X, a +, ++, or +++ representing the rather subjective safety scores, as in the past:

X: don't take it

+: OK, but probably not as safe as coffee

++: OK, and probably as safe as coffee

+++: OK, and probably safer than coffee

Next is the taxonomic family to which the species belongs. Family names are always in capital letters and end in "ACEAE."

Like allopaths, health announcers, and reporters, I reserve the right to change my mind as new information comes in, positive or negative. I assembled this information, based on the published literature, no prescription implied or intended.

ILLUSTRATIONS:

Here I list illustrations from other sources, p (page), pl (plate), or fig (figure), along with the three-letter abbreviated reference.

SYNONYMS:

The next line may list some outdated synonyms, scientific names which at some time in the past have been applied also to this species.

NOTES:

Comments on points of interest or information relating to the species and information gathered thereon. Some natural history may be included here also.

COMMON NAMES:

Here I have compiled many, by no means all, common names, often flagged as to language or country of origin. First comes a name in alphabetical order with a parenthetical citation of the country and or language name or abbreviation. The country/language names/abbreviations always have the initial letter capitalized, with subsequent letters in lowercase. These are followed by three-letter reference abbreviation(s) (all capital letters) of the source(s), sometimes supplemented by journal citations or PubMed abstracts preceded by an X (searchable at <http://www.ncbi.nlm.nih.gov/sites/entrez?db=PMC>), to tell readers where I found these names. Sometimes one of my references, most frequently KAB, will list more than a hundred common names, from various parts of India and elsewhere, including dozens of Sanskrit names. In some such cases I took at least one name from

that source from each country or language. Few users will want to study all of these common names, unless it is a country they plan to visit. With an electronic version of the database, they could generate the names pertinent to the country to be visited. Often the name itself will tell something about the plant or its medicinal uses. I have elected to use the standardized common names (Scn.) endorsed by the American Herbal Products Association (AH2) as the pivotal common name in the lead line for the entry. Occasionally, AH2 would offer an optional alternative common name, which I have abbreviated Ocn. (= other common name). Where there was no standardized common name, I often use the abbreviation Nscn. (= No standardized common name). In such cases I have consulted the USDA nomenclaturists and their database, trying to assure that they and I will agree, and this might later influence the American Herbal Products Association should it decide to add some of these to a revised edition of its standardized common name book. With these common names flagged with geographic and linguistic handles, skillful database managers can readily print out mini-medicinal floras for many countries.

ACTIVITIES:

Following the common name paragraph are the activities reported for the plant, followed by a parenthetical scoring of the level of the efficacy of that activity. I have a subjective four-score evaluation of the efficacy of the activities:

f: strictly folklore

1: some animal, epidemiological, *in vitro*, or phytochemical studies support the efficacy (I actually feel that in many cases f may be better than 1)

2: extracts of plant approved by Commission E, by the TRAMIL Commission, or demonstrated by human clinical trials

and a very rare 3: herb itself clinically proven in human trials

If there is folkloric data (f), and animal or phytochemical support (1), and clinical proof for extracts or the rare clinical proof for the herb itself (3), as occasionally happens, e.g., with garlic, the efficacy score would read f123. Our computer programs can then print out the best scoring herbs for a given activity or indication. These efficacy scores are referenced like the common name, by three-letter abbreviations of my major sources in capital letters, and/or PubMed citation numbers preceded by X (searchable at <http://www.ncbi.nlm.nih.gov/sites/entrez?db=PMC>), and/or occasional short-hand journal citations.

INDICATIONS:

Following the ACTIVITIES are the INDICATIONS reported for the herb, followed by a parenthetical scoring of the level of the efficacy of that indication. I have the same subjective efficacy scores f: folklore, 1: some supporting animal, epidemiological, *in vitro*, or phytochemical studies; 2: approved by Commission E, or the TRAMIL Commission or proved in human clinical trials for simple herbal extracts, and a very rare 3: herb itself clinically proven in human trials. Combinations of these four scores may appear, especially when many sources have been consulted. Not all sources consulted are cited but I attempt to cite my new source succinctly when the score goes up or down. These scores are referenced by three-letter abbreviations of my major sources, and/or PubMed serial citation numbers preceded by X (searchable at <http://www.ncbi.nlm.nih.gov/sites/entrez?db=PMC>), and/or an occasional short-hand journal citation. Occasionally, trying to reference every activity and indication, I have to resort to bibliographic shorthand, hence, there will be a cryptic journal citation (especially of journals not covered by PubMed), with an abbreviation for the journal, followed by the volume number and the page number, as in my *CRC Handbook of Medicinal Herbs*. Some examples are:

EB12:368: *Economic Botany*, Vol. 12, p. 368.

FT67:215: *Fitoterapia*. Vol. 67, p. 215.

ACT9:251: *Journal Alternative & Complementary Medicine*, Vol. 9, p. 251

DOSAGES:

This entry has evolved significantly since CR2, the *CRC Handbook of Medicinal Herbs* (Second Edition), 2002. First off, I have added a third scoring element for the food pharmacy potential of the plant. FNFF stands for Father Nature's Food Pharmacy. Here's the FNFF scoring pattern:

FNFF: X. I found nothing credible suggesting the plant as food.

FNFF: ?. Very questionable survival food.

FNFF: !. Survival food or little known but locally important; not in U.S. supermarkets.

FNFF: !!. Important food in some parts of world; not in major supermarkets.

FNFF: !!! . Important enough in the world to be in many U.S. supermarkets.

Following the food pharmacy score, there will be dosages from various sources using the same reference citations. Then there will be folkloric bullets suggesting how various countries or ethnic groups report using the plant. With this new FNFF scoring, my computer can rank the herbs for safety, efficacy, and food pharmacy potential. In these litigious days, I feel safer recommending food pharmacy to friends and family. I think food pharmacy should be the first line of attack when a simple new medical problem arises.

DOWNSIDES:

Under this heading I often report contraindications, interactions, and side effects, just as in the *CRC Handbook of Medicinal Herbs* (Second Edition), 2002.

EXTRACTS:

Here I try to include news on chemicals or extracts of the plant that have proven effects.

**MOTELO SANANGO (*Abuta grandifolia* (Mart.) Sandwith) +
MENISPERMACEAE**



Illustrations:

fig 6 (DAV)

Common Names:

Abuta (Peru; Sp.; DAV); Caimitillo (Peru; RAR); Motelo Sanango (Peru; Sp.; DAV); Qaymitu (Que.; DLZ); Sanango (Peru; RAR); Soga (Peru; SOU); Trompetero Sacha (Peru; Sp.; DAV). (Nscn).

Activities:

Analgesic (f; DAV); Antianemic (f; DAV); Antimalarial (1; X10418326; X16713157); Anti-microbial (1; X17178202; X8850132); Aphrodisiac (f; DAV); Bactericide (1; X8850132); Cardiotonic (f; DAV); Febrifuge (f; DAV); Insecticide (1; X10967471); Larvicide (1; X10967471); Mosquitocide (1; X10967471); Plasmodicide (1; X10418326); Tonic (f; RAR).

Indications:

Anemia (f; DAV; DLZ; SOU); Bacteria (1; X17178202; X8850132); Cardiopathy (f; DAV); Childbirth (f; DAV); Colic (f; DAV); Conjunctivitis (f; DAV); Debility (f; DAV); Fever (f; DAV); Impotence (f; DAV); Infection (1; X17178202; X8850132); Infertility (f; DAV); Malaria (1; X10418326; X16713157); Metrorrhagia (f; DAV); *Mycobacterium* (1; X8850132); Nervousness (f; DAV); Pain (f; DAV); *Pseudomonas* (1; X8850132); Rheumatism (f; DAV); Snake Bites (f; DAV); Toothache (f; DAV).

Dosages:

FNFF = ?

Downsides:

As of July 2007, the FDA Poisonous Plant Database listed one title alluding to toxicity of this species.

Extracts:

Methanol extracts larvicidal to *Aedes aegypti* (LC50 = 2.6 µg/ml) (X10967471). Krukovine antiparasmodial to chloroquine-resistant and chloroquine-sensitive *Plasmodium falciparum* (IC50 = 0.022–0.44 µg/ml) (X10418326). Crude alkaloid extract inhibits 66% of parasite growth for *Plasmodium falciparum* (250 mg/kg/day) (X16713157).

BULLHORN ACACIA (*Acacia cornigera* (L.) Willd.) ++**MIMOSACEAE****Illustrations:**

p 46 (AAB)

Synonyms:

Acacia spadicigera Schldtl. & Cham.; *Mimosa cornigera* L. (basionym); *Vachellia cornigera* (L.) Seigler & Ebinger; fide (USN).

Common Names:

Bullhorn Acacia (Eng.; USN); Cock Spur (Bel.; Eng.; BNA); Cuerno de Vaca (Bel.; Sp.; BNA); Swollen-Thorn Acacia (Eng.; USN); Zubin (Bel.; Maya; BNA). (Nscn).

Activities:

Antidote (f; AAB); Aphrodisiac (f; AAB).

Indications:

Asthma (f; AAB); Bites (f; PCS); Catarrh (f; AAB); Congestion (f; AAB); Coughs (f; AAB); Headache (f; AAB); Impotence (f; AAB); Pulmonosis (f; AAB); Snake Bites (f; AAB).

Dosages:

FNFF = ?

- Belizeans boil 1" × 6" bark strip in 3 cups water for 10 min, taking a cup before meals for 7 days for impotence (AAB).
- Belizeans boil 9 thorns in 3 cups water for 10 min for asthma, congestion, cough, headache, and poisoning (AAB).
- Belizeans decoct 9 black ants from the plant into a half cup boiled water, strain, and take by teaspoonful for infantile catarrh (AAB).
- Belizean snake doctors suggest chewing on a strip of bark after snake bite, swallowing the juices, then applying the remaining fiber as poultice to the bite (AAB).

SWEET ACACIA (*Acacia farnesiana* (L.) Willd.) ++**FABACEAE****Illustrations:**

fig 4 (IED); pl 374 (KAB)

Synonyms:

Acacia acicularis Humb. & Bonpl. ex Willd.; *A. densiflora* (Alexander ex Small) Cory; *A. minuta* (M. E. Jones) R. M. Beauch.; *A. pedunculata* Willd.; *A. smallii* Isely; *Mimosa farnesiana* L. (basionym); *Pithecellobium minutum* M. E. Jones; *Poponax farnesiana* (L.) Raf.; *Vachellia densiflora* Alexander ex Small; *V. farnesiana* (L.) Wight & Arn.; fide (EGG; USN).

Common Names:

Acacia de Farnése (Fr.; EFS); Acacia Vraie (Fr.; EFS); Akazie (Ger.; KAP); Antillenakazie (Ger.; USN); Arimaedah (Sanskrit; EFS; KAP); Arimdamu (Tel.; KAB); Arimeda (Sanskrit); Aroma (Col.; Cr.; Cuba; Nic.; Peru; Pr.; Sp.; JTR; KAB); Aroma Amarillo (Cuba; JTR); Aromo (Sp.; USN); Bangurdaru (Naguri; KAB); Barangudara (Hasada; KAB); Bayer (Shah Bilawul; KAB); Bayahonda (Sp.; USN); Bichi (Mex.; JTR); Bihi (Mex.; Zapotec; AUS); Bimorama (Mex.; JTR); Binorama (Mex.; Tarahumara; Yaqui; AUS); Bois Caca (Fr.; KAB); Bunga Siam (Malaya; EFS); Cachito de Aroma (Nic.; JTR); Casha (Bel.; Eng.; Fla.; Pr.; AUS; JTR); Cassie (Eng.; Ocn.; AH2; CR2; USN); Cassie Ancienne (Fr.; USN); Cassie Jaune (Réunion; KAB); Cënshi (Cashibo; Peru; RAR); Cimarron (Col.; JTR); Coromo (Sp.; USN); Cuji (Ven.; JTR); Cuji Deobabul (Mar.; SKJ); Cuntich (Bel.; Maya; AUS); Cu'uca (Maya; Mex.; AUS); Deobabul (Bom.; Mar.; KAB; SKJ); Echte Acacia (Dutch; EFS); Echte Akazie (Ger.; EFS); Espinillo (Arg.; Bol.; Uru.; DLZ; JTR); Espino (Bol.; Mex.; DLZ; JTR); Espino Blanco (Guat.; Sal.; Sp.; USN); Esponjeiro (Por.; EFS); Finsachi (Mex.; JTR); Flor de Aroma (Bol.; Sp.; DLZ; EGG); Gabia (Mex.; JTR); Gabur (San.; DEP; KAB); Gaggia (It.; KAB; USN); Gand Babul (Hindi; KAP; SKJ); Guacamaya Francesa (Cuba; AUS); Gubabal (Mar.; KAB); Gudoya Boburo (Oriya; KAB); Guibabhul (Mah.; NAD); Guisache (Mex.; JTR); Guisanche Yondiro (Mex.; JTR); Gu Kikar (Dec.; NAD); Guyababula (Ben.; DEP; KAB; NAD); Guyabebula (Ben.; KAP); Huaranga (Peru; Sp.; EGG); Huatango (Peru; Sp.; EGG); Huisache (Eng.; Mex.; Nahuatl; AUS; NPM; USN); Huisache de la Semilla (Mex.; JTR); Jabbaval (Guj.; NAD); Jait (Nepal; NPM); Jali (Kan.; DEP); Jheribaval (Guj.; KAB); Karijali (Kan.; NAD); Kariveclum (Mal.; NAD); Kasturivel (Tam.; SKJ); Kembang Bandara (Malaya; EFS); Keota (China; KAP); Kikar (Hindi; Yunani; KAP; NAD); Kinko (Japan; KAP); Kirijali (Kan.; KAB); Knebawal (Sin.; KAB); Kou Kong (Ic.; KAB); Kuebaval (Sin.; DEP; NAD); Kusri Jhad (Kon.; NAD); Laksana (Malaya; EFS); Lasana (Malaya; KAB); Mutuy (Peru; Sp.; EGG); Nan Lon Kyiang (Burma; KAB); Nan Loon Gyaing (Burma; DEP); Nugatumba (Tel.; NAD); Opopanax (Eng.; JTR; USN); Pashaco (Peru; Sp.; EGG); Pelá (Col.; JTR); Pikkaruvil (Tam.; NAD); Piktumi (Tel.; DEP); Pissibabul (Dec.; KAB); Pivel (Tam.; KAB); Pivelam (Mal.; KAB); Popinac (Eng.; USN); Priki Aruvel (Tam.; KAP); Real Acacia (Eng.; EFS); Roma (Tag.; KAB); Santiago (Vis.; KAB); Seenidda (Sin.; KAP); Sponge Tree (Eng.; EFS); Subin (Hon.; AVP); Sweet Acacia (Eng.; Scn.; AH2; USN); Sweet Wattle (Eng.; Ocn.; AH2); Talbaval (Guj.; DEP); Tusca (Sp.; EFS); Ummughilan (Arab.; KAP); Uñz de Cabra (Col.; JTR); Vedda Vala (Tam.; DEP); Vignorama (Mex.; Tarahumara; Yaqui; AUS); Vilayati Babul (Dec.; Hindi; DEP); Vilayati Kikar (Dec.; Hindi; India; DEP; EFS); Vinorama (Mex.; Tarahumara; Yaqui; AUS; JTR); Vita (Sanskrit [1 of 12]; KAB); Ya Zo Shu Pi (Pin.; DAA); Zuhin-Che (Maya; Mex.; AUS).

Activities:

Alexiteric (f; KAB); Alterative (f; CRC; KAP); Anthelmintic (f; KAB); Antidote (f; DLZ; EGG); Antiexudative (1; HDN); Antifertility (f1; X8241931); Antiimplantation (f1; X8241931); Anti-inflammatory (1; X3557615; ZUL); Antimalarial (1; X16713157); Antiproliferant (1; HDN); Antiseptic (f; JTR); Antispasmodic (f; CRC); Aphrodisiac (f; CRC; EFS; HDN); Astringent (f; CRC; KAP; WO2); Bactericide (1; X8591768); Bronchodilator (1; X3557615); Candicide (f; JFM); Curare (f; CRC; HDN); Demulcent (f; CRC; MPI); Dentifrice (f; CRC); Emollient (f; JTR); Hypoglycemic (1; ZUL); Hypotensive (1; HDN); Insecticide (f; HDN); Molluscicide (f; HDN); Negative-Inotropic (1; HDN); Pectoral (f; JTR); Plasmodicide (1; X16713157); Stimulant (f; CRC); Stomachic (f; JFM).

Indications:

Bacteria (1; X8591768); Bleeding (f; JFM; NAD); Blood (f; KAB); Bronchosis (f; KAB); Cancer (f; HDN; JLH); Cancer, stomach (f; JLH); *Candida* (f; JFM); Carbuncles (f; SKJ);

Cardiopathy (f; JTR); Caries (f; KAB); Cholera (f; SKJ); Conjunctivitis (f1; JFM; JTR); Convulsions (f; SKJ); Dermatitis (f; HDN; JFM); Diabetes (1; ZUL); Diarrhea (f1; CRC; HDN; JFM; JTR); Dysentery (f; JFM); Dyspepsia (f; EGG; JFM); Epilepsy (f; SKJ); Erysipelas (f; KAB); Fever (f; CRC; JFM); Furuncles (1; HDN); Gangrene (f; JTR); Gastrositis (f; EGG; JLH); Gingivitis (f; NAD); Gonorrhea (f; DEP; WO2); Headache (f; CRC; JFM); Hemorrhoids (f1; JTR); High Blood Pressure (1; HDN); Hyperglycemia (1; ZUL); Impotence (f; KAP); Infection (1; JTR; X8591768); Inflammation (f1; JFM; KAB; ZUL); Itch (f; KAB); Leukoderma (f; KAB); Leukorrhea (f; CRC; JFM); Lumbago (f; CRC); Malaria (1; X16713157); Mucositis (f; JFM; JTR); Myositis (f; NPM); Neurosis (f; JFM; JTR); Ophthalmia (f; JFM; SKJ); Pain (f; CRC; JFM); Parasites (f; CRC); Proctitis (f; CRC; KAB); Prolapse (f; CRC; KAB); Puerperium (f; CRC); Rabies (f; SKJ); Rheumatism (f; CRC; JFM); Snake Bites (f; KAB); Sores (f; CRC; SKJ); Sore Throat (f; CRC; JFM); Spermatorrhea (f; DEP; KAP); Stomatitis (f; KAB); Swelling (f; NPM); Tuberculosis (f; JFM; JTR); Typhoid (f; JFM); Ulcers (f; CRC); Uterine Hemorrhage (f; JFM); VD (f; KAP; WO2); Worms (f; KAB); Wounds (f; HDN; JFM).

Dosages:

FNFF = ! Leaves used in chutneys; pods roasted and eaten; germinated seeds said to be eaten (FAC; TAN).

- Asian Indians use 1:20 bark decoction with ginger as an astringent tooth-wash for gingivitis (NAD).
- Ayurvedics consider the bark alexiteric and anthelmintic, and use for blood disorders, bronchitis, caries, dermatitis, dysentery, erysipelas, inflammation, itch, and leukoderma (KAB).
- Bolivians suggest the root as antidote to the poisonous seed (DLZ).
- Bolivians use floral tea for dyspepsia, bark decoction for diarrhea (DLZ).
- Cubans use astringent fruit decoction for conjunctivitis, dermatitis, and sore throat (JTR).
- Filipinos use bark decoction for anal prolapse and leukorrhea (KAB).
- Mexicans in Yucatan use the flowers for nervous disorders (JTR).
- Mexicans use root decoction for tuberculosis (JTR).
- Mexicans use flowers in unguents for headache and tea for indigestion (PCS).
- Nepalese use bark juices for muscular swelling (NPM).
- Peruvians suggest floral infusion for dyspepsia (EGG).
- Peruvians suggest floral and leaf infusion for fever (EGG).

Downsides:

Not covered (AHP; KOM; PHR). As of July 2007, the FDA Poisonous Plant Database listed 11 titles alluding to toxicity of this species.

CANCER HERB (*Acalypha arvensis* Poepp. & Endl.) +

EUPHORBIACEAE

Illustrations:

p 34 (AAB)

Synonyms:

Acalypha capitellata T. S. Brandeg.; *A. pavoniana* Muell. Arg.; fide (JFM).

Common Names:

Cancer Herb (Eng.; CR2); Cordiemento (Bel.; Sp.; BNA; USN); Hierba del Cancer (Sp.; CR2); Kiskita (Ulwa; ULW); Yerba de Cancer (Bel.; Sp.; BNA; USN).

Activities:

Antiemetic (f; MPG); Antiinflammatory (f; AAB; MPG); Antiseptic (1; MPG); Antispasmodic (f; MPG); Bactericide (1; TRA); Diuretic (f; MPG); Tonic (f; MPG).

Indications:

Allergies (f; MPG); Amebiasis (f; MPG); Athlete's Foot (f; MPG); Bacteria (1; MPG; TRA); Bites (f; JFM; ULW); Blisters (f; AAB); Boils (f; AAB); Cancer (f; AAB; MPG); Constipation (f; MPG); Dermatitis (f; AAB; TRA; ULW); Diarrhea (f; MPG); Dysentery (f; MPG); Dysuria (f; TRA); Emesis (f; MPG); Enterosis (f; MPG); Fungus (f; AAB); Gastrosis (f; AAB); Headache (f; MPG); Infection (f1; AAB; MPG; TRA); Inflammation (f; AAB; MPG; TRA); Itch (f; AAB); Rashes (f; AAB); Ringworm (f; AAB); Snake Bite (f; MPG); Sores (f; AAB; JFM); Spasms (f; MPG); *Staphylococcus* (1; AAB; TRA); Stomachache (f; MPG); Ulcers (f; MPG); UTIs (f; AAB); Vaginitis (f; AAB); VD (f; JFM; MPG).

Dosages:

FNFF = ?

- Belizeans apply dry powdered leaves to boils, dermatitis, infections, and sores (AAB).
- Belizeans boil 1 whole plant in 1 qt water 10 min, strain, and use as a wash for blister, infection, inflammation, ringworm, sores, and wounds (AAB).
- Belizeans boil 1 whole plant in 3 cups water 5 min and take 1 cup before each meal for stomach and urinary disorders (AAB).
- Guatemalans use decoction on dermatoses, bugbites, snake bites, and venereal sores (JFM).

PARAGUAY STARBUR (*Acanthospermum australe* (Loefl.) Kuntze) ++

ASTERACEAE

Synonyms:

Acanthospermum brasiliense Schrank; *A. xanthioides* (Kunth) DC.; *Centrospermum xanthioides* Kunth; *Melampodium australe* Loefl. (basynonym); fide (USN).

Common Names:

Amor de Negro (Brazil; MPB); Carrapicho Rasteiro (Brazil; MPB); Erva Mijona (Brazil; MPB); Erva Mineira (Brazil; MPB); Espinho de Agulha (Brazil; MPB); Espinho de Carneiro (Brazil; MPB); Mata Pasto (Brazil; MPB); Paraguay-Bur (Eng.; USN); Paraguay Starbur (Eng.; Scn.; AH2; USN); Picao da Praia (Brazil; MPB); Poejo da Praia (Brazil; MPB); Sheepbur (Eng.; USN); Tapeque (Par.; MPG).

Activities:

Abortifacient (f1; MPG); Aldose-Reductase-Inhibitor (1; MPG); Antifertility (f1; EB31:299; MPG; ZUL); Antimalarial (f1; JE86:143; MPG; X1823001); Antiplasmodial (1; MPG); Bitter (f; MPB); Contraceptive (1; ZUL); Depurative (f; MPG); Diaphoretic (f; MPB); Diuretic (f; MPG); Febrifuge (f1; X18419970); Fungicide (1; X11378288); Stomachic (f; MPG).

Indications:

Anemia (f; MPB); Arthrosis (f; MPG); Blennorrhea (f; MPB); Cancer (f; MPG); Dermatitis (f; MPB); Diarrhea (f; MPB); Dysuria (f; MPB); Erysipelas (f; MPB); Fever (f1; X18419970); Foot (f; DAW); Fungus (1; X11378288); Gonorrhea (f; MPG); Leucorrhea (f; MPG); Malaria (f1; JE86:143; MPG; X1823001); Mycosis (1; X11378288); Rheumatism (f; MPG); Sores (f; DAW); VD (f; MPG); Wounds (f; MPG).

Dosages:

FNFF = ?

- Brazilians use the bitter mucilaginous leaves as antiblennorrhagic, antidiarrheal, anti-malarial, diaphoretic, and tonic, for anemia, dysuria, erysipelas, and widely for malaria (MPB; MPG).
- Colombians use plant decoction for cancers and malignant tumors (MPG).
- Paraguayans use decoction orally for arthritis and rheumatism, vaginally for gonorrhea and leucorrhea (MPG).
- Paraguayans use decoction or tea to wash sores, wounds, and cancers (MPG).

Downsides:

As of July 2007, the FDA Poisonous Plant Database listed three titles alluding to toxicity of this species.

Extracts:

Extracts inhibited 40–50% multiplication of *P. berghei*; antimalarial *in vitro* to *P. falciparum* (X1823001).

STARBUR (*Acanthospermum hispidum* DC.) ++**ASTERACEAE****Illustrations:**

p 198 (WBB)

Synonyms:

Acanthospermum humile var. *hispidum* (DC.) Kuntze

Notes:

There seems to be confusion over three species recognized by USN: *A. australe*, *A. hispidum* and *A. humile*. Data in Liogier (1974) suggest that the latter two might be keyed:

Leaves 2–12 cm long, dentate; not scabrous; ray flowers 5–8 *A. hispidum*

Leaves 2–3 cm long, dentate, serrate, or lobulate; scabrous; ray flowers 5–7. . . *A. humile*

Common Names:

Abrojo (Cuba; AVP); Amor de Negro (Brazil; MPB); Awusagbe (Ghana; UPW); Bristly Starbur (Eng.; Scn.; AH2; USN); Cabeça de Boi (Brazil; Por.; USN); Cacharo (Col.; IED); Cachito (Ma.; JFM); Carrapicho (Brazil; Ma.; JFM; MPB); Carrapicho Chifre de Veadó (Brazil; Por.; USN); Carrapicho de Carneiro (Brazil; Ma.; Por.; JFM; USN); Corona de la Reina (Sp.; USN); Cram Cram (Ivo.; UPW); Cuagrilla (Sp.; USN); Cuajrilla (Ma.; JFM); Deguru Kúú (Mali; UPW); Dessalines (Haiti; AVP); Donkieklits (Dutch; ZUL); El Trejo (Col.; IED); Ericito Playero (Col.; IED); Espinho de Agulha (Brazil; Por.; USN); Espinho de Cigano (Brazil; Ma.; Por.; JFM; USN); Espuela de Caballo (Col.; IED); Feuilles Hareng (Haiti; AVP); Goat's-Head (Eng.; USN); Herbe Savane (Ma.; JFM); Hierba Federacion (Ma.; JFM); Hierba Meona (Ma.; JFM); Inkuzana (ZUL); Kleinkankeroos (Dutch; ZUL); Mala Mujer (Dor.; AHL); Maroto (Brazil; MPB); Misquito (Gui. Bissau; UPW); Nabati Kalimo (Sen.; UPW); Pacado Mortal (Col.; IED); Rebenta Carneiro (Ma.; JFM); Retirante (Brazil; MPB); Sahiligbin (Sierra Leone; UPW); Starbur (Eng.; Haw.; Scn.; AH2; USN); Star Burr (Ma.; JFM); Sterklits (Dutch; ZUL); Thé Métique (Haiti; AVP); Verdelago (Ma.; JFM); Yaawol (Nig.; UPW); Zamora (Ma.; JFM).

Activities:

Abortifacient (f; ZUL); Antidote (f; UPW); Antiherpetic (1; X9330761); Antimalarial (1; X12684889); Antiplasmodial (1; JE86:143; X12684889; X12738078); Antiseptic (1; WO2; ZUL); Antiviral (1; X9330761); Aphrodisiac (f; MPB); Bactericide (1; WO2; X12628407; ZUL); Cyanogenic (1; ZUL); Diuretic (f; DAW; JFM); Febrifuge (f1; JFM; X18419970); Fungicide (1; JE76:93; WO2); Immunostimulant (1; X9717084); Pectoral (f; MPB); Purgative (f; UPW); Sudorific (f; DAW; MPB); Sweetener (1; X2314108); Tonic (f; MPB).

Indications:

Arthritis (f; UPW); *Bacillus* (1; ZUL); Bacteria (1; WO2; X12628407; ZUL); Bronchosis (f; MPB); Constipation (f; UPW); *Corynebacterium* (1; ZUL); Coughs (f; MPB); Dermatitis (f1; JE76:93; WO2); Diarrhea (f; MPB); Fever (f1; JFM; X18419970); Fungus (1; JE76:93; WO2); Gastrosis (f; UPW); Gonorrhea (f; JFM); Hepatosis (f; MPB); Herpes (1; X9330761); Impotence (f; MPB); Infection (1; JE76:93; WO2; X12628407; ZUL); Leprosy (f; UPW); Malaria (f1; JE86:143; X12684889; X12738078); Migraine (f; UPW); Mycosis (1; WO2); Rheumatism (f; UPW); *Salmonella* (1; ZUL); *Shigella* (1; ZUL); VD (f; JFM); Viruses (1; X9330761).

Dosages:

FNFF = ?

- Brazilians mix leaves with *Boerhaavia hirsuta* as an aphrodisiac (MPB).
- Brazilians take the root for bronchosis, cough, diarrhea, and hepatosis, the leaves as febrifuge, pectoral, sudorific, and tonic (MPB).
- Burkina Fasoans use the plant for malaria (UPW).
- Congolese use sap, uncut or diluted, as nose drops, for gastrosis and migraine, applying powdered leaves to wounds (UPW).
- Dominicans suggest *A. humile* tea orally or topically for arthritis (AHL).
- French West Indians take leaf decoction as antigonorrheal, febrifuge, and diuretic (JFM).
- Ghanaians use leaves to treat leprosy (UPW).
- Ivory Coastals take decoction as antidote and purgative for arthritis and rheumatism (UPW).

Downsides:

As of July 2007, the FDA Poisonous Plant Database listed 11 titles alluding to toxicity of this species.

Extracts:

Antiplasmodial for *Plasmodium falciparum* chloroquine-resistant W2 strain and D6 chloroquine-sensitive strains (IC₅₀ = 5.02 µg/ml) (X12684889; X12738078).

YARROW (*Achillea millefolium* L.) ++**ASTERACEAE****Illustrations:**

pl 536A (KAB)

Synonyms:

Achillea borealis Bong.; *A. lanulosa* Nutt.; *A. magna* auct.; *A. millefolium* subsp. *borealis* (Bong.) Breitung; *A. millefolium* subsp. *lanulosa* (Nutt.) Piper; *A. millefolium* L. subsp. *millefolium* Hayek; *A. millefolium* var. *occidentale* DC.; *A. subhirsuta* Gilib.; *Millefolium officinale* Gueldenst.; fide (POR; USN).

Notes:

Updating this write-up on the first day of a very confining 90-day Lyme disease protocol. I was intrigued to see that antibabesial activity is reported for yarrow tea, which also has many other activities that would support my protocol, e.g., analgesic, antiaging, antidepressant, anti-inflammatory, antiseptic, anxiolytic, bactericide, candidicide, expectorant, hepatoprotective, hypotensive, and ixodifugal.

Common Names:

Achillée Mille-Feuille (Fr.; USN); A'djidamo'wano (Ojibwa; AUS); Aivastusjuuri (Fin.; POR); Ajducica (Serbia; POR); Alcanfor (Mex.; AUS; POR); Alhucema (Ca.; AUS); Angerblume (Ger.; KAB); Aquilea Amarillo (Peru; EGG); Aquiléia (Por.; POR); Arkarkhara (Kas.; WO2); Arman (Slovenia; POR); Astaweskotawan (Cree; AUS); Athair Thalmhainn (Gaelic; AUS); Athar Thalmhna (Ire.; KAB); Biranjasif (Cutch; Guj.; KAB; WO2); Biranjasifa (Urdu; KAB); Bloodwort (Eng.; KAB); Božja Haluga (Croatia; POR); Buimaderan (Afg.; Iran; KAB); Carpenter's Grass (Eng.; AAH); Carpenter's Weed (Eng.; POR); Chopandiga (Kas.; WO2); Ciento en Rama (Mex.; POR); Coadá Soarecelului (Rom.; KAB); Cola de Ardilla (Ca.; AUS); Colchon de Pobre (Ma.; JFM); Duizenblaad (Dutch; EFS; KAB); Egérfarkfû (Hun.; POR); Erva dos Carpinteiros (Brazil; JFM); Ezer-Levelu-Fu (Hun.; KAB); Fani Hashambish Holba (Choctaw; AUS); Flora de la Pluma (Sp.; AUS); Gandana (Hindi; WO2); Hank-Sintsh (Winnebago; AUS); Haxixa Tal Morliti (Malta; KAB); Herbe à Dindes (Fr.; AUS; POR); Herbe Militaire (Fr.; KAB); Ihiseeyo (Cheyenne; AUS); Kishkatoa'soanûk (Potawatomi; AUS); Krwawnik Pospolity (Pol.; POR); Manzanilla de los Montes (Ma.; JFM); Marfull (Cat.; KAB); Milefolia (Sp.; KAB); Milefólio (Por.; USN); Mil em Rama (Por.; KAB); Milenrama (Peru; Sp.; EGG; USN); Milfoil (Eng.; TAN; USN); Mil Folhas (Brazil; AUS); Mil Hojas (Arg.; POR); Mille-Feuille (Fr.; EFS; USN); Millefogli (It.; KAB); Miskigonimaskigiah (Cree; AUS); Momadru (Kas.; WO2); Momadruchopandiga (Kas.; DEP; KAB; NAD); Myriophyllon (Greek; KAB); Old Man (Eng.; KAB); Om Alf Waraka (Arab.; POR); Pahale Kutch (Him.; MKK); Perla (Ma.; JFM); Plumajillo (Mex.; AUS); Roelleke (Swe.; KAB); Roellike (Den.; KAB); Rojmari (Bom.; KAB; WO2); Roojamari (Kan.; WO2); Ryllik (Nor.; POR); Saigun (Lad.; MKK); Saijuni (Lad.; MKK); Schafgarbe (Ger.; EFS; USN); Seiyô Nokogiriso (Japan; TAN); Sereno de Invierno (Dor.; AUS); Soldaterurt (Den.; POR); Suila (Arab.; KAB); Taopi Pexuta (Lakota; AUS); Tausendblatt (Ger.; POR); Tesyachelistnik (Rus.; KAB); Tlanquequetzal (Mex.; Nahuatl; AUS); Tysiacznik Ziele (Pol.; KAB); Tysjacetlistnik Obyknovenyj (Rus.; POR); Vanlig Rölleka (Swe.; POR); White Yarrow (Eng.; FAC); Wr' T'sa Çin Dse Egon (Osage; AUS); Xante Canxlogan (Lakota; AUS); Yä Zò Shú Pí (Pin.; DAA); Yaroo (Japan; POR); Yarrow (Eng.; Scn.; AH2; CR2; USN).

Activities:

Abortifacient (f; CRC); Analgesic (f1; APA; CRC; WO2); Anthelmintic (f; CRC); Antiaging (f; DAA; WO2); Antibabesial (1; X15978758; X16141673); Anticonvulsant (1; WO2); Antidepressant (f; AAH); Antiedemic (1; APA; CAN; PH2); Antihistaminic (1; WO2); Antiinflammatory (1; APA; PH2; PNC; WAM); Antiirritant (1; WO2); Antileukemic (1; X8069962); Antimalarial (1; X16141673); Antioxidant (1; X12860311); Antiperspirant (f; PHR); Antiseptic (12; APA; BGB; KOM); Antispasmodic (f12; BGB; KOM; SHT; WO2; X17009839); Antispermagenic (1; X9883387); Antitumor (1; X16387422; X8069962); Antiulcer (1; X16647233); Antiviral (f; CRC); Anxiolytic (f1; X15597307); Apoptotic (1; X16387422); Astringent (f12; KOM; SHT); Bactericide (12; APA; KOM; PIP; X16317658); Candidicide (1; X12860311); Carminative (f; PED); Cerebrotonic (f; KAB); Cholagogue (1; BGB; PH2); Choloretic (12; APA; KOM; PIP; X16303291); CNS-Depressant (1; APA; CAN); Culicide (1; CRC); Cytotoxic (1; X16387422); Depurative (f; KAB); Dermatitic (1; X1815484); Diaphoretic (1; APA; BGB; WAM); Diuretic (1; APA; CAN; PNC); Emmenagogue (f; CRC);

WO2); Estrogenic (1; X16860978); Expectorant (1; FAD; PED); Febrifuge (f1; BGB; CRC; PNC); Gastroprotective (1; X16255542); Genotoxic (1; WO3); Gram(−)-icide (1; X16317658); Hemostat (f12; APA; CAN; WAM); Hepatoprotective (f1; WO3; X16619341); Hypoglycemic (f; PED); Hypotensive (1; BGB; CRC; PNC); Insecticide (1; CRC; MKK); Insectifuge (1; WO2; X16506457); Ixodifuge (1; X16360943); Laxative (f; CRC); Mosquitofuge (f1; AUS; X16506457); Orexigenic (f12; APA; KOM); Sedative (1; APA; CRC); Sternutatory (1; WO2); Stimulant (f; CRC; PED); Trypanosomic (1; X17349626); Urinary Antiseptic (1; CAN); Vulnerary (f; KAB).

Indications:

Acne (f; JFM); Aging (f; DAA; WO2); Allergies (1; WO2); Alopecia (f; CRC); Amenorrhea (f; JFM; KAB; PNC); Anorexia (f12; APA; KOM; PIP; PH2); Anxiety (f1; X15597307); Appetite (f12; APA; KOM); Arthrosis (1; APA); Asthma (f; AAH); Babesia (1; X16141673); Backache (1; APA); Bacteria (12; APA; CRC; KOM; PIP; X15978758; X16317658); Biliousness (f; MKK); Bleeding (f12; FNF; PHR); Bruises (f; KAB); Burns (1; APA); Cancer (f1; CRC; JLH; X16387422; X8069962); Cancer, breast (f; JLH); Cancer, foot (f; JLH); Cancer, liver (f; JLH); Cancer, penis (f; JLH); Cancer, spleen (f; JLH); Cancer, uterus (f; JLH); *Candida* (1; WO3; X12860311); Catarrh (f1; AAH; BGB; PNC); Chicken Pox (f; WAM); Cholecystitis (12; APA; PH2; PNC); *Clostridium* (1; X12860311); Colds (1; BGB; FAD; WAM); Colic (f; KAB; PIP); *Condylomata* (f; CRC); Congestion (1; APA); Constipation (f; CRC); Convulsions (f1; PH2; WO2); Coughs (1; APA); Cramps (f12; APA; BGB; KOM; SHT; WO2; X17009839); Cystitis (f; AAH); Delirium (f; KAB); Depression (f; AAH); Dermatitis (f1; BGB; DAA; WAM); Diabetes (f; PED); Diarrhea (1; CRC; JAD); Dysmenorrhea (f12; AAH; APA; KOM; SHT); Dyspepsia (f12; APA; KOM; PH2; PIP); Dysuria (f; CRC; KAB); Earache (f; CRC; KAB); Edema (1; APA; CAN; PH2); Enterorrhagia (12; FAD); Enterosis (f12; APA; BGB; FAD; KOM; PHR; X16317658); Epilepsy (f; CRC); Epistaxis (1; APA); *Escherichia* (1; WO3); Fever (f1; APA; BGB; CRC; PNC; WAM); Fistula (f; CRC); Flu (f1; BGB; CRC; DAA; WAM); Fungus (1; WO3); Gas (f; KAB); Gastritis (f12; FAD; KOM; X16317658); Gastrosis (1; APA; BGB; PHR; X16255542); Gingivitis (f; MKK); Gleet (f; KAB); Grippe (f; BGB); Headache (f; BGB; CRC); Head Colds (f; KAB); Heartburn (f; KAB); *Helicobacter* (1; X16317658); Hematochezia (f; AUS); Hematoma (f; CRC); Hematoptysis (f; AUS); Hematuria (f; AUS); Hemorrhage (f12; FAD); Hemorrhoids (1; CRC; FNF; PHR); Hepatosis (f12; JLH; PHR; PH2; WO3; X16619341); High Blood Pressure (f1; APA; BGB; CRC; PNC); Hyperglycemia (f; PED); Hyperpigmentation (f; WO3); Hysteria (f; CRC); Incontinence (f; CRC); Induration (1; CRC; JLH); Infection (12; APA; BGB; CAN; KOM); Inflammation (1; APA; JAR12:99; PHR; PH2; PNC; WAM); Jaundice (f; AAH); Leukemia (1; WO3; X8069962); Leukorrhea (f; CRC); Malaria (f1; DEP; KAB; WO3; X16141673); Measles (f; CRC); Melancholy (f; CRC); Menorrhagia (f; CRC); Mucosis (1; APA); *Mycobacterium* (1; X12860311); Mycosis (1; WO3); Nerves (f1; CRC; X15597307); Nervousness (1; APA; CRC); Pain (f1; APA; CRC; KAB; PHR; WO2); Perspiration (f; PHR); Pertussis (f; DAA); Pleurisy (f; CRC); Poison Ivy (f; WAM); Pneumonia (f; CRC); Pulmonosis (f; KAB); Rashes (f; APA; CRC; WAM); Respirosis (f; BGB); Rheumatism (f; CRC); Sclerosis (f; JLH); Seborrhea (f; WO3); Smallpox (f; CRC); Sores (f; WO2); Sore Throat (f; CRC); Spasms (f12; BGB; KOM; SHT; WO2; X17009839); Splenosis (f; JLH); *Staphylococcus* (1; WO3); *Streptococcus* (1; X12860311); Swelling (f1; KAB; WO3); Thrombosis (1; CAN); Toothache (f; CRC; MKK); Tuberculosis (f; CRC); Tumors (f1; JLH; X16387422; X8069962); Ulcers (f1; CRC; X16317658; X16647233); UTIs (1; APA; CAN); Varicosity (f; PH2); VD (f; KAB); Warts (f; CRC); Wen (f; CRC); Whitlow (f; WO2); Worms (f; AAH); Wounds (f1; APA; BGB; KAB; PHR); Yeast (1; WO3). And I wouldn't touch this one with a 10-foot tub: painful, cramp-like conditions of psychosomatic origin in the lower part of the female pelvis, as a sitz bath (KOM; PH2).

Dosages:

FNFF = ! Leaves edible; used as tea. Young leaves eaten in salads, sauces and soups, cooked as vegetable, steeped in teas or used like hops in beer, and believed to make them more intoxicating (DEP). EO used to flavor alcoholic and non-alcoholic beverages (FAC). 1–2 tsp herb/cup water/3–4×/day (APA); 4.5 g herb (KOM); 2–4 tbsp fresh herb (PED); 3–6 g dry herb (PED); 1 g flower (KOM); 2–4 g flower head, or in tea, 3×/day (CAN); 0.5–1 tsp tincture (APA); 2–4 ml tincture (1:1 in 45% ethanol) 3×/day (CAN); 3 tsp juice (APA; KOM); 2–4 ml liquid extract (1:1 in 25% ethanol) 3×/day (CAN); 4.5 g dry fl:22 ml alcohol/23 ml water (PED); 2–4 ml liquid herb extract (PNC). Commission E approves 4.5 g yarrow for anorexia, dyspepsia, GI discomforts (PM60:1994).

- Argentinians use tea (10 g herb/500 g water) for amenorrhea, bloody diarrhea, catarrh, and tuberculosis (JFM).
- British insert leaves in nostrils to provoke bleeding thereby relieving headache and migraine (AAH).
- Cherokee use for fever, hematachezia, hematoptysis, and hematuria (AUS).
- Chickasaw use for neck cramps (AUS).
- French use as emmenagogue and to suppress the lochia (KAB).
- Irish chew leaves or smoke in pipe for toothache (AAH).
- Javans use aqueous extract for malaria (X16141673).
- Norwegians chew herb for toothache, using also for rheumatism (KAB).
- Peruvians use as circulatoric, hemostat, and for hemorrhoids (EGG).
- Scots believe warm tea good for colds and other childhood diseases (AAH).
- Somerset women wear yarrow in the shoe for dysmenorrhea and metrorrhagia (AAH).
- Yunani consider flowering tops analgesic, anthelmintic, cerebrotonic, diuretic, emmenagogue, febrifuge, stimulant, tonic, and uterotonic, and use for delirium, dysuria, gleet, head cold, and hepatitis (KAB).

Downsides:

Class 2b; emmenagogue, uterotonic (AHP), hence contraindicated in pregnancy (PH2; WAM). Because thujone in the oil is reputed to be abortifacient and to affect the menstrual cycle, its use in pregnancy and lactation is to be avoided (CAN). “No health hazards or side effects are known in conjunction with the proper administration of designated therapeutic dosages” (PH2). Commission E reports hypersensitivity to milfoil and other Asteraceae (KOM). Other sources report hypersensitivity to sesquiterpene lactones. Rare contact allergy (AEHD). Newall, Anderson, and Phillipson (1996) report that the sesquiterpene lactones are allergenic and can cause dermatosis. Contraindicated in allergies, dermatosis, and epilepsy (CAN). Excessive doses may interfere with or augment anticoagulant, blood pressure, diuretic, and sedative medications (CAN). “Available data are insufficient to support the safety of yarrow use in cosmetic products” (X11558643). As of July 2007, the FDA Poisonous Plant Database listed 58 titles alluding to toxicity of this species.

Extracts:

LD50 = 12,000 mg/kg scu rat; LD50 = 16,860 mg/kg scu rat; LD100 = 20,000 mg/kg scu rat; LD50 = 3,650 mg/kg orl mus; 3,100 ipr mus; 999 mg/kg scu mus. Extracts antiedemic, antihistaminic, antiinflammatory, antiprostaglandin, and diuretic. EO CNS-depressant, 300 mg/kg orl rat hypothermic, motor-depressant, 300–600 mg/kg orl rat anticonvulsant, sedative. Flavonoid fractions antispasmodic; basic fractions antipyretic, hypotensive (CAN). EO of one Greek variety contained nearly 50% ascaridole (WO3). Ethanolic extract of yarrow repels *Aedes* mosquitoes, due mainly to caffeic acid, chlorogenic acid, pyrocatechol, salicylic acid, and stacydrine, also active adenine, ferulic acid, mandelic acid, and methyl esters of caprylic-, linolenic-, and undecylenic acids (WO3).

Leaf extract reduced biting by *Aedes* mosquitoes (X16506457). A fraction enriched in dicaffeoylquinic acids (DCCAs) and luteolin-7-O-beta-d-glucuronide was 2–3 times as choleric as cynarin (X16303291). Extract enhanced protective properties of gastric juice (X16255542).

Migraine relief from ancient Mayan remedy (ACT2(6):414. 1996). While I doubt that linden (*Tilia grandifolia*) and yarrow (*Achillea millefolium*) were combined with vitamin B complex by ancient Mayans, I do appreciate Carlos Hernandez Robles, MD's report of near 100% success in treating migraine with close to 2,000 Mexicans. Follow-up studies in the Netherlands (Erasmus Univ., Rotterdam) led to 29 migraine-free patients for one year. With the EO used in Iran for neuralgia and rheumatic pain, Afsharypuor et al. (1996) report that wild Iranian yarrow's oil is dominated by α -bisabolol, spathulenol, cis-nerolidol, cis-carveol and trans,trans-farnesol. Strangely, even though yarrow is a well-studied herb, most of the compounds they report were new to my database for yarrow. Their data increased the ppms for the antiinflammatory bisabolol nearly 100-fold, rationalizing the antirheumatic activity. Still at 925 ppm yarrow is far behind chamomile at 10,000 ppms bisabolol. Shall we think of it as the poor man's bisabolol? It's a weed. Camomile is not. The bornyl acetate, quantified at 50 ppm, adds its spasmolytic and sedative activity. The 50 ppms himcholine may add to antiinflammatory activity. And they add the anodyne antispastic activity of phenol.

MACELA (*Achyrocline satureioides* (Lam.) DC.) + ASTERACEAE

Illustrations:

fig 247C (ARG)

Synonyms:

Achyrocline albicans Gris.; *A. candicans* (Kunth) DC.; *A. citrina* Gris.; *A. mathiolaefolia* DC.; *A. mollis* Benth.; *A. vargasiana* DC.; *Gnaphalium candicans* Kunth; *G. satureioides* (Lam.) DC. (basionym); fide (EGG; MPG; USN).

Common Names:

Allqo Wirawira (Bol.; Que.; DLZ); Bira Bira (RAI); Camomila Nacional (RAI); Hembra Marcela (RAI); Huira Huira (Peru; Que.; EGG); Juan Blanco (RAI); K'aja Wirawira (Aym.; Bol.; DLZ); Kea Kea (Aym.; Peru; EGG); Macela (Brazil; Eng.; Por.; Scn.; AH2; MPB; RAI; USN); Macelo do Campo (Brazil; MPB); Marcela (Brazil; Uru.; MPB; MPG); Marcela da Mata (Brazil; MPB); Marcela Hembra (Arg.; Uru.; MPG); Marcelita (RAI); Mirabira (RAI); Perpétua do Mato Suso (Brazil; RAI); Vira Vira (Bol.; DLZ; RAI); Wira Wira (RAI); Yatey Caa (RAI); Yerba de Chico (RAI).

Activities:

Analgesic (1; MPG; RAI); Anthelmintic (f; MPG); Antiaggregant (f; RAI); Anticonvulsant (f; RAI); Antiherpetic (1; MPG; X15551398); Antihyperglycemic (1; X11858757); Antiinflammatory (f1; MPB; MPG); Antioxidant (1; RAI; X15050420; X16114090; X9876284); Antiradicular (1; RAI); Antiseptic (f1; MPG; RAI); Antispasmodic (1; MPB; MPG); Antitumor (1; RAI); Antitussive (f; DLZ; RAI); Antiviral (1; RAI; X10932751; X15551398); Aphrodisiac (f; RAI); Bactericide (1; RAI); Bitter (f; MPB); Cardiac (1; RAI); Carminative (f; MPG); Cholagogue (f1; MPG; RAI); Cytoprotective (1; X15036461; X15050420); Cytotoxic (1; X15050420); Diaphoretic (1; RAI); Digestive (f1; MPG; X11820863); Emmenagogue (f; RAI); Expectorant (f; EGG); Febrifuge (f; DLZ; EGG; MPG); Hepatoprotective (1; RAI; X11820863); Hypocholesterolemic (f; MPG); Hypo-

glycemic (1; RAI); Immunostimulant (1; MPG; RAI; X4052142); Immunosuppressant (1; X10189954); Insecticide (1; RAI); Molluscicide (1; MPG); Mutagenic (1; MPG); Myorelaxant (1; MPG; RAI; X15185852); Phagocytotic (1; MPG); Prooxidant (1; X15050420); Sedative (f1; MPG; RAI); Stomachic (f; MPB); Sudorific (f; EGG); Tonic (f; DLZ; MPG); Vasorelaxant (1; X15185852); Vermifuge (1; RAI).

Indications:

Amenorrhea (f; MPG; RAI); Anorexia (f; RAI); Asthma (f; EGG; MPG; RAI); Bacteria (1; RAI); Bronchosis (f; RAI); Cancer (1; RAI; X15050420); Cancer, liver (1; RAI); Cholecocystosis (f; RAI); Colds (f; RAI); Colic (f; RAI); Colitis (f; RAI); Convulsions (f; RAI); Coughs (f; DLZ; RAI); Cramps (f; RAI); Diabetes (f1; MPG; RAI); Diarrhea (f1; RAI); Digestion (f1; MPG; X11820863); Dysentery (f1; MPB; RAI); Dysmenorrhea (f1; RAI); Dyspepsia (f; MPG; RAI); Enterosis (f; RAI); Epilepsy (f; RAI); *Escherichia* (1; RAI); Fever (f; DLZ; EGG; MPG); Flu (f; RAI); Gallstones (f; RAI); Gas (f; MPG; RAI); Gastrososis (f; MPB; RAI); Headache (f; RAI); Hepatosis (f1; RAI; X11820863); Herpes (1; MPG; RAI; X15551398); High Cholesterol (f; MPG); HIV (1; RAI); IBS (f; RAI); Hyperglycemia (1; RAI; X11858757); Impotence (f1; MPG; RAI; X15185852); Infection (f1; MPG; RAI); Inflammation (f1; MPB; MPG; RAI); Insomnia (f1; MPG; RAI); Myalgia (f; RAI); Nausea (f; RAI); Neuralgia (f; RAI); Neurosis (f; RAI); Pain (f1; MPG; RAI); Pertussis (f; DLZ); Pseudo-Rabies (1; RAI); Rheumatism (f; RAI); *Salmonella* (1; RAI); Spasms (f1; MPG; RAI); *Staphylococcus* (1; RAI); Tumors (f1; MPG; RAI); Viruses (1; RAI; X10932751; X15551398); Worms (f1; MPG; RAI).

Dosages:

FNFF = ! One cup herb tea 2–3×/day (RAI); 1–2 g herb capsule or tablet 2–3×/day (RAI); 2–3 ml herb tincture 2×/day (RAI).

- Argentinians use for asthma, diabetes, dysmenorrhea, and dyspepsia (MPG; RAI).
- Bolivians use as anticonvulsant, antitussive, carminative, febrifuge, and tonic (DLZ; RAI).
- Brazilians use for anorexia, bacteria, colds, colic, diabetes, diarrhea, dysentery, dysmenorrhea, dyspepsia, enterosis, epilepsy, flu, gallstone, gastrososis, headache, hepatosis, inflammation, insomnia, nausea, neuralgia, pain, rheumatism, and spasms (MPB; RAI).
- Colombians use for cholecocystosis and tumors (MPG; RAI).
- Paraguayans use for bacterial infection and worms (RAI).
- Peruvians use for bronchoses, cough, and diabetes (RAI).
- Uruguayans use as antiinflammatory, antiseptic, carminative, cholagogue, emmenagogue, hypocholesterolemic, and sedative; for bacteria, dysmenorrhea, dyspepsia, impotence, infection, inflammation, insomnia, and spasms (MPG; RAI).
- Venezuelans use for diabetes, dysmenorrhea, and impotence (MPG; RAI).

Downsides:

Not covered (AH2; KOM; PH2). Diabetics, hypoglycemics, and pregnant women might advise their practitioners. May potentiate barbiturates and other sedatives, insulin (RAI). As of July 2007, the FDA Poisonous Plant Database listed one title alluding to toxicity of this species.

Extracts:

LD50 (aqueous extracts) = >5,000 mg/kg orl rat (X15507360). A prenylated dibenzofuran, achyrofuran, isolated from the extract significantly lowered blood glucose levels (20 mg/kg q.d.) in bioassay-guided fractionation using the db/db mouse model for type 2 diabetes (X11858757). According to granulocytes and carbon clearance tests, polysaccharide fractions from water extracts with molecular weights in the range of 25,000 to 500,000 and higher showed significant immunostimulant activity (X4052142).

**PERENNIAL PARA CRESS (*Acmella oleracea* (L.) R. K. Jansen.) +
ASTERACEAE**

A

Illustrations:

pl 533A (KAB)

Synonyms:

Spilanthes acmella DC. var. *oleracea* (L.) Hook. f.; *S. acmella* Murr. var. *oleracea* Hook. f.; *S. acmella* DC. var. *oleracea* (Jacq.) Baker; *S. oleracea* Jacq.; *S. oleracea* L. (basionym); *Spilanthus oleracea* L.; fide (POR; USN).

Notes:

Regrettably, McGuffin et al. (2000) recognize *Spilanthes acmella* (now *Blainvillea acmella* in USN) and *Spilanthes oleracea* (now *Acmella oleracea* in USN) as distinct species but assigns them both the standardized name “spilanthes” and other common names “para cress” and “toothache plant.” Backed into a corner I am sticking with USN, who also recognize *Acmella oppositifolia*. Yet nowhere do I find a key to the three species, now scattered through two genera.

Acmella oleracea = perennial para cress

Acmella oppositifolia = opposite-leaved para cress

Blainvillea acmella = annual para cress

The JTR entries may in fact apply to *Blainvillea*, since Roig y Mesa (1928) describe it as a cultivated annual encountered in Trinidad (RyM).

Common Names:

Agrião do Brasil (Por.; POR); Agrião do Pará (Brazil; Por.; EGG; POR); Akalkar (Sanskrit; EFS); Akra (Bom.; SKJ); Anamafana (Betsimaraka; Sakalave; KAB); Anamalahoye (Hova; KAB); Anamalahokely (Hova; KAB); Anamalahombazaho (Hova; KAB); Anamalahoye (Hova; KAB); Berro de Pará (Por.; POR); Berros del Para (Rus.; KAB); Botão de Ouro (Por.; POR); Botoncillo (Peru; EGG); Botón de Oro (Pr.; Peru; Por.; EGG; JTR; POR); Brazil Cress (Eng.; POR); Braziliaanse Cresson (Dutch; POR); Brazilskiy Kress (Rus.; KAB); Brède Mafane (Fr.; POR); Brede Malgache (Fr.; KAB); Cabrito (Cuba; Por.; JTR; POR); Chimaya (Peru; JTR); Cobiriqui (Nomatsiguenga; Peru; EGG); Contrayerba (Peru; JTR); Creixans del Para (Cat.; KAB); Cress of Para (Eng.; EFS); Cresson de Para (Fr.; POR); Cresson du Bresil (Fr.; KAB); Cresson du Para (Fr.; KAB); Cresson Para (Fr.; Guy.; KAB); Cúc áo Rau (Vn.; POR); Deflamatoria (Peru; JTR); Espilanto (Por.; Rus.; KAB; POR); Henkala (Burma; DEP); Hierba del Espanto (Por.; POR); Huzarenknoop (Dutch; POR); Inambu (Por.; POR); Jambú (Por.; Sp.; POR); Jambuacú (Brazil; Por.; EGG; POR); Jambú do Rio (Por.; POR); Jamburana (Por.; POR); Kibana Oranda Sennichi (Japan; POR); Kiespijnknoppenkruid (Dutch; EFS); Kimotodoha (Betsileo; KAB); Mangevitsa (Betsileo; KAB); Mastruco (Brazil; KAB); Mata Gusanos (Peru; JTR); Yambu (Por.; POR); Nhambu (Por.; POR); Pakarmul (India; Pun.; EFS; SKJ); Para-Cress (Eng.; KAB; POR; USN); Parakrasse (Swe.; POR); Parakres (Dutch; EFS); Parakress (Ger.; KAB); Parakresse (Den.; Ger.; EFS; POR); Paratuinkers (Dutch; POR); Perennial Cress (Eng.; WOI); Perennial Para Cress (Eng.; POR); Phak Khrat (Thai; POR); Phak Phet (Thai; POR); Pimenteira do Pará (Brazil; Por.; KAB; POR); Qian Ri Ju (China; POR); Remedio de los Pobres (Por.; POR); Roshunia (Ben.; SKJ); Somam (Amuesha; Peru; Yanasha; EGG); Spilante (It.; POR); Spilante des Potagers (Fr.; POR); Tandvärksplanta (Swe.; POR); Toothache Plant (Eng.; POR; USN); Tsarskiy Kress (Rus.; KAB); Ukra (Madras; SKJ); Yerba del Espanto (Peru; JTR); Yin Du Jin Niu Kou (China; POR); Yuyo Quemada (Peru; EGG).

Activities:

Anthelmintic (f; JTR); Antiscorbutic (f1; FNF; JTR); Antiseptic (f; EGG); Antitumor (f; JLH); Convulsant (1; X2758174); Insecticide (1; WOI); Sialogogue (f1; DEP; JTR; SKJ); Stimulant (f; DEP; SKJ).

Indications:

Cancer (f; JLH); Cancer, prostate (f; JLH); Cystosis (f; WOI); Diabetes (f; EGG); Gingivitis (f; DEP; SKJ; WOI); Glossosis (f; DEP; SKJ); Gout (f; EFS; WOI); Headache (f; DEP; SKJ); Hepatosis (f; EGG); Infection (f; EGG); Pain (f; WOI); Paralysis (f; DEP; SKJ); Prostatitis (f; JLH); Scurvy (f; WOI); Sore Throat (f; DEP; EGG; WOI); Stammering (f; KAB; SKJ); Toothache (f; JTR; SKJ; WOI); Tumors (f; JLH); Worms (f; JTR); Xerostoma (f1; DEP; FNF).

Dosages:

FNFF = ! Herb eaten raw or steamed, e.g., in Peru, especially pre-conquest (EGG; WOI).

- Brazilians use the leaves for prostate cancer (JLH).
- Peruvians chew the flowers for dental and throat pain (EGG).
- Peruvians use the plant decoction as antiseptic (EGG).

Downsides:

As of July 2007, the FDA Poisonous Plant Database listed three titles alluding to toxicity of this species.

Extracts:

Extract induced convulsion in rats (ip 50–150 mg/kg) (X2758174).

OPPOSITE-LEAVED PARA CRESS

(*Acmella oppositifolia* (Lam.) R. K. Jansen var. *oppositifolia*) +

ASTERACEAE

Illustrations:

p 62 (AUS)

Synonyms:

Acmella pilosa R.K. Jansen; *Anthemis americana* Mutis ex L.; *A. occidentalis* Willd.; *A. oppositifolia* Lam. (basionym); *Ceratocephalus americanus* (Mutis) Kunth.; *Spilanthes americana* (Mutis) Hier; *S. beccabunga* DC.; *S. mutisii*; *S. oppositifolia* (Lam.) D'Arcy; fide (BNA; MPG; USN).

Notes:

Regrettably McGuffin et al. (2000) recognizes *Spilanthes acmella* (now *Blainvillea acmella* in USN) and *Spilanthes oleracea* (now *Acmella oleracea* in USN) as distinct species but assigns them both the standardized name “spilanthes” and other common names “para cress” and “toothache plant.” Backed into a corner I am sticking with USN, which also recognizes *Acmella oppositifolia*. Yet nowhere do I find a key to the three species I cover, now scattered through two genera.

Acmella oleracea = perennial para cress

Acmella oppositifolia = opposite-leaved para cress

Blainvillea acmella = annual para cress

Not finding *Acmella ciliata* elsewhere, I am including it herein, from Lacaze and Alexiades (1995), as MD2.

Common Names:

Abecedária (Brazil; AUS); Agrião Bravo (Brazil; AUS); Botão de Ouro; Botoncillo (Bol.; Col.; Ecu.; Peru; DLZ; EGG; IED; MPG; RAR); Botón de Oro (Col.; Peru; EGG; MPG; RAR); Botón Sula (Peru; EGG; RAR); Calabaza (Ma.; JFM); Chisacá (Col.; Pan.; AUS; IED; JFM; MPG); Chisacá Calentano (Col.; IED); Chisacá de Cafetal (Col.; IED); Cresson de Para (Ma.; JFM); Curundú (Bol.; Chiriguano; DLZ); Deflamadera (Peru; EGG); Eséshijaji (Ese'ëja; MD2); Flor de Maria (Ma.; JFM); Grana de Oro (Ma.; JFM); Guaca (Col.; AUS; MPG); Jambu (Brazil; AUS); Jambu Açu (Brazil; AUS); Kobiriki (Matsigenka; Shipibo; MD2); Kobiripini (Shipibo; MD2); Ni (Huastec; AUS); Obiriqui (Peru; Shipibo/Conibo; EGG); Pimenta d'Água (Brazil; AUS); Quemadera (Col.; AUS; MPG); Rem (Ma.; JFM); Rem'q en (Ma.; JFM); Risacá (Col.; Pan.; AUS; IED; JFM; MPG); Salivatorio (Peru; EGG); Santa Maria (Col.; IED); Sheta Rao (Peru; Shipibo/Conibo; EGG; MD2); Spot Flower (Fla.; Eng.; AUS); Tripa de Gallo (Ma.; JFM); Xux (Maya; AUS; JFM); Yuyo (Col.; MPG); Yuyo Quemada (Col.; IED; MPG). (Nscn).

Activities:

Analgesic (f; MPG); Anesthetic (1; MPG); Antibilious (f; MPG); Antiinflammatory (f; RAR); Antispasmodic (f; EGG); Cholinergic (1; MPG); CNS-Stimulant (1; MPG); Sialogogue (f; EGG; MPG).

Indications:

Acne (f; MD2); Aphtha (f; MPG); Arthrosis (f; DLZ); Backache (f; DLZ); Bilioussness (f; MPG); Bites (f; MD2); Burns (f; MD2); Caries (f; MD2); Cramps (f; EGG); Dermatitis (f; MD2; MPG); Hepatitis (f; IED; MD2); Inflammation (f; RAR); Itch (f; MD2); Odontosis (f; JFM); Pain (f; DLZ; MPG); Rheumatism (f; DLZ); Sore Throat (f; AUS; JFM); Spasms (f; EGG); Stings (f; MD2); Stomatosis (f; AUS; JFM; MPG); Toothache (f; MD2; MPG).

Dosages:

FNFF = ! Leaves eaten in salads or cooked as greens (JFM).

- Bolivians use root decoction as anesthetic for arthritic and back pains (DLZ).
- Choco Indians eat leaves to treat liver problems (IED; JFM).
- Colombians take small cup of decoction while fasting as an antibilious hepatoprotectant and to scrub away age spots on the face (MPG).
- Colombians tamp gold flowers in cavities for toothache (MPG).
- Peruvians chew the flowers to strengthen the teeth and prevent caries, and also as dental anesthetics and sialogogues (EGG; MD2).
- Peruvians take the leaf tea as antispasmodic (EGG).

WILD TOBACCO (*Acnistus arborescens* (L.) Schltdl.) + SOLANACEAE

Illustrations:

pl 253B (DAG)

Synonyms:

Atropa arborescens L. (basonym); *Dunalia arborescens* Sleum.; *D. campanulata*; fide (EGG; JFM; USN).

Notes:

The name “quiebraollas” (pot buster) accrues because the wood burns so that it may break pots over the fire (EGG).

Common Names:

Baikuanim (Aguaruna; Peru; SOU); Batard Sirio (Ma.; JFM); Belladone Arborescent (Guad.; AVP); Cojojo (Ecu.; Ma.; DAG; JFM); Espino (Peru; EGG); Esporão de Galo Falso (Brazil; MPB); Fruto de Sabia (Brazil; Ma.; JFM; MPB); Fruto Gallino (Col.; AVP); Galán (Pr.; AVP); Galán Arboreo (Pr.; AVP; JFM); Gallinero (Pr.; AVP); Güitite (Cr.; Ecu.; AVP; DAG); Huitite (Ma.; JFM); Macaoaqui (Peru; EGG); Madera de Pega (Ma.; JFM); Mariana (Brazil; Ma.; JFM; MPB); Marianeira (Brazil; Ma.; JFM; MPB); Mata Gallina (Dor.; AHL; AVP); Matapaqui (Ma.; JFM); Mixito (Ma.; JFM); Nuguito (Ma.; JFM); Palo de Gallina (Pr.; AVP); Palo de Pollo (Ma.; JFM); Piropiro (Peru; EGG); Quiebra Ollas (Ma.; Peru; EGG; JFM); Sureau (Fwi.; JFM); Sureau du Pays (Guad.; AVP); Surio (Ma.; JFM); Tabaco de Monte (Ma.; JFM); Tabalque (Col.; AVP; JFM); Tomatoquina (Col.; AVP); Toque (Ma.; JFM); Tree Tobacco (Ma.; JFM); Tree Wild Tobacco (Eng.; AVP); Uvito (Ma.; JFM). (Nscn).

Activities:

Anticancer (f1; JLH; X11867095; X15104512; X15241891); Antileukemic (1; X15241891; X16824549); Antimalarial (1; X16713157); Antiproliferant (1; X16824549); Cytotoxic (1; X11867095; X15104512; X15241891; X16824549); Diuretic (f; MPB); Emollient (f; EGG); Narcotic (f; MPB); Piscicide (1; JFM).

Indications:

Arthritis (f; EGG); Cancer (f1; JLH; X11867095; X15104512; X15241891; X16824549); Caries (f; EGG); Colds (f; DAW; JFM); Coughs (f; JFM); Fever (f; DAW; JFM); Gastrosis (f; JFM); Hemorrhoids (f; JFM; MPB); Leukemia (1; X15241891; X16824549); Malaria (1; X16713157); Migraine (f; EB30:137); Mumps (f; EB30:137); Neuralgia (f; EB30:137); Oliguria (f; MPB); Pain (f; EGG; JFM); Rheumatism (f; EGG); Sore Throat (f; JFM); Toothache (f; EGG).

Dosages:

FNFF = X

- Argentinians apply leaf decoction to hemorrhoids (JFM).
- Costa Ricans gargle decoction made from new shoots for sore throat; young stem sap or crushed leaves applied to piles (JFM).
- Dominicans use leaf decoction for cold and fever (JFM).
- French West Indians use floral tea for cough and gastrosis (JFM).
- Peruvians apply leaves as emollient in lard to rheumatic aches (EGG; JFM).
- Trinidadians use leaf poultice for fever, migraine, mumps, and neuralgia (JFM).

Downsides:

Fruit said to poison poultry (AHL). As of July 2007, the FDA Poisonous Plant Database listed three titles alluding to toxicity of this species.

Extracts:

Two withaphysalin compounds isolated from the leaves displayed potent cytotoxic activities against several cancer cell lines (IC₅₀ = 0.20–1.46 µg/ml; IC₅₀ = 0.89–8.08 µg/ml) (X11867095; X15104512; X15241891).

COYOL PALM (*Acrocomia aculeata* (Jacq.) Lodd. ex Mart.) ++

ARECACEAE

Illustrations:

p 35 (L&W)

Synonyms:

Acrocomia fusiformis (Sw.) Sweet; *A. lasiospatha* Mart.; *A. media* O. F. Cook; *A. mexicana* Karw. ex Mart.; *A. microcarpa* Barb. Rodr.; *A. mokayayba* Barb. Rodr.; *A. sclerocarpa* Mart.; *A. spinosa* (Mill.) H. E. Moore; *A. totai* Mart.; *A. vinifera* Oerst.; *Bactris pavoniana* Mart.; *Cocos fusiformis* Sw.; *Euterpe aculeata* (Willd.) Spreng.; fide (POR; USN).

Common Names:

Acrocome (Fr.; POR; USN); Akurokomia (Japan; POR); Akurokomia Yashi (Japan; POR); Akurokomiya (Japan; POR); Amankayo (Sp.; POR; USN); Biga Raagu (Ma.; JFM); Bo Duo Li Ge Ge Lu Zong (China; POR); Catei (Dor.; AVP); Cayara (Bol.; Mex.; DLZ); Cheech (Ma.; JFM); Chunta (Arg.; AVP); Coco (Par.; AVP); Cocoyal (Bel.; BNA); Cocoyol (Bel.; BNA); Cocoyul (Bel.; BNA); Colconab (Ma.; JFM); Coquito Baboso (Mex.; Sp.; JFM; PCS; POR); Coquito Habroso (Ma.; JFM); Corojo (Cuba; Sp.; JTR; USN); Corojo de Jamaica (Cuba; JTR); Corojo Palm (Eng.; POR); Corosse (Haiti; AVP); Coroxo (Peru; RAR); Corozo (Dor.; Nic.; Pr.; Sp.; Ven.; JTR; POR; USN); Corozo Criollo (Dor.; Pr.; JTR); Coyol (Cr.; Fr.; Hon.; Mex.; Sp.; AVP; JFM; PCS; POR); Coyol Babosa (Ma.; JFM); Coyol Baboso (Mex.; POR); Coyol Espinosos (Ma.; JFM); Coyoli Palm (Eng.; POR; USN); Coyolipalme (Ger.; POR; USN); Coyol Palm (Eng.; POR); Coyol Redondo (Ma.; Mex.; JFM; POR); Cuayu Coyotli (Mex.; PCS); Cum (Ma.; JFM); Ge Lu Ye Zi (Hong Kong; Taiwan; POR); Groo-Groo (Trin.; JTR); Grugru (Fr.; Pr.; JTR; USN); Grugru Palm (Bel.; BNA; USN); Guacoyol (Mex.; JFM; PCS); Istok (Ma.; JFM); Macaúba (Ma.; FAC); Macaw Palm (Eng.; POR; USN); Map (Ma.; JFM); Mbocayá (Par.; AVP); Mbocaya Palm (Par.; FAC); Mexican Wine Palm (Ma.; JFM); Mexico Palm (Eng.; POR); Mocot (Ma.; JFM); Mo Xi Ge Ge Lu Zong (China; POR); Mucajá (Por.; POR); Mucujá (Brazil; POR; RAR); Mucuja Palm (Eng.; POR); Noix de Coyol (Fr.; POR; USN); Palma de Coyol (Ma.; JFM); Palma de Vino (Ma.; JFM); Palma Redonda (Mex.; POR); Palma Redondo (Ma.; JFM); Palmera de Puerto Rico (Sp.; POR); Palmita del Coyol (Sp.; FAC); Paraguay Palm (Eng.; POR; USN); Pi Ci Ge Lu Zong (China; POR); Pi Lu (Ma.; JFM); Prickly Palm (Eng.; L&W); Puerto Rico Acrocomia (Eng.; L&W); Puerto Rico Palm (Eng.; POR); Ruffle Palm (Eng.; POR); Sipa (Bel.; BNA); Supa (Ma.; JFM); Suppa Palm (Bel.; BNA; JFM); Ticachiti (Ma.; JFM); Totai (Bol.; Sp.; POR; USN); Tuc (Ma.; JFM); Tucuma (Sp.; POR; USN); Wine Palm (Ma.; JFM). (Nscn).

Activities:

Antiatherogenic (1; JFM); Antiinflammatory (f; JTR); Diuretic (f; JTR); Emollient (f; JTR); Refrigerant (f; JTR).

Indications:

Arthrosis (f; JTR); Atherosclerosis (1; JFM); Diabetes (f; JFM); Fever (f; JTR); Inflammation (f; JTR); Oliguria (f; JFM; JTR); Osteosis (f; JTR); Pain (f; JTR).

Dosages:

FNFF = ! Sap consumed fresh, fermented as palm wine, or used for starch or sugar. Seed kernels eaten raw, source of a nutritious oil. Terminal buds eaten as palm cabbage in Salvador. In Guatemala fruits are candied in syrup and eaten (FAC; JFM).

- Bolivians and Yucatanese drink powdered carbonized root in water for diabetes (DLZ; JFM).
- Costa Ricans drink sap as a diuretic (JFM).
- West Indians consider the fruit antiinflammatory, diuretic, nutritious, and refrigerant and respect the seed oil for arthritis, bone-ache, and inflammation (JTR).

MAIDENHAIR FERN (*Adiantum capillus-veneris* L.) ++**PTERIDACEAE****Notes:**

According to Burkill (1985–1995), the generic name derived from the Greek *adiantos*, meaning “unwetted,” and the present species in keeping with the notion of unwettability, was given the epithet meaning “pubic hair.” “The name in English is doubtless a salacious extension.”

Common Names:

Adiant (Rus.; KAB); Adiante (Fr.; AUS; EFS); Adianthe (Fr.; KAB); Adianto (It.; EFS; KAB; POR); Adianto Bianco (It.; AUS); Adianton (Greek; KAB); Ægte Venushår (Den.; POR); Aivenca (Por.; UPW); Ajenuz (Sp.; EFS); Akite (Nig.; NWO); Alambrillo (RAI); Apa (Nig.; NWO); Avenca (Brazil; Por.; AUS; RAI; UPW); Avenca Cabelo de Venus (Brazil; JFM); Avenca Comun (Brazil; Por.; AUS); Baldirikara (Tur.; EFS; KAB); Barun (RAI); Bisfaif (India; KAB); Black Maidenhair (Eng.; AUS; NPM); Cabellera de Venus (Ma.; JFM); Cabello de Venus (Brazil; Por.; AUS; KAB); Cabelo de Venus (Ma.; JFM); Capelvenere (It.; AUS; EFS; HH2; KAB); Capelvenere Comune (It.; POR); Capilaria (Por.; UPW); Capilaria de Mompilher (Por.; UPW); Capilera (Sp.; KAB; POR; RAI); Capilera de Mompelcier (Sp.; KAB); Capillaire (Fr.; Réunion; AUS; BOU; KAB); Capillaire Cheveux-de-Vénus (Fr.; POR); Capillaire Commune (Fr.; EFS; HH2; KAB); Capillaire de Montpellier (Fr.; EFS; HH2; POR); Capillaire d'Italie (Fr.; KAB); Capillaire Vraie (Fr.; KAB); Capillaria (Por.; KAB); Capille e Jenere (RAI); Capillera (Cat.; KAB); Capil Venere (It.; AUS; KAB); Cebolla de Venus (Peru; EGG); Celantrillo (RAI); Centaurea (RAI); Cheveux de Venus (Fr.; AUS; EFS; HH2; POR); Chib (Maya?; AUS); Chica Voinicului (Rom.; KAB); Cilantrillo (Sp.; JFM; RAI); Cilantrillo de Ojo de Agua (Sp.; JFM); Common Maidenhair (Eng.; AUS; UPW); Cuamaquistli (Mex.; Nahuatl; AUS); Culandrillo (RAI); Culantrillo (Cuba; Mex.; Peru; Sp.; AUS; EGG; HH2; JTR); Culantrillo Capillaire (Ma.; JFM); Culantrillo de Pozo (Cuba; Sp.; Spain; EFS; JTR; POR; RAI; VAD); Damtali (Kas.; DEP); Doddergrass (Eng.; AUS); Duddergrass (Eng.; AUS); Dumtuli (Kas.; NAD); Europees Venushaar (Dutch; POR); Falsia (Cat.; KAB); Failtean Flonn (Gaelic; AUS); Fern Kam Dam (RAI); Frauenhaar (Ger.; AUS; EFS; HH2); Frauenhaarfarn (Ger.; POR); Frawenhar (Ger.; AUS); Geutheer (Kas.; MKK); Gospine-Kosa (Slo.; HH2); Guengit (Ber.; BOU); Hanspadi (Guj.; DEP; KAB); Hansraj (Him.; Hindi; India; EFS; MKK); Helecho Culantrillo (RAI); Herba Capillorum Veneris (RAI); Herbe de Capillaire (Fr.; HH2); Herva Capillar (Por.; KAB); Iunkfrawenhare (Ger.; AUS); Junckfrawenhare (Ger.; AUS); Jungfernhhaar (Ger.; HH2); Kapillarkraut (Ger.; EFS); Kirwatzei (India; KAB); Krasnyi Jenskiy Volos (Rus.; KAB); Kvindehaar (Den.; EFS); Lady's Hair (Eng.; EFS; HH2); Lappenfarn (Ger.; HH2); Maidenhair (Malta; KAB); Maidenhair Fern (Eng.; Scn.; AH2; KAB; POR); Maria's Fern (Eng.; KAB); Mubarak (Hindi; India; Kum.; DEP; EFS; KAB); Nesinka Jhar (Chepang; Nepal; NPM); Net Hair Fern (Nig.; NWO); Netik (Che.; HH2); Ochquewi Miecheken (Delaware; AUS); Ofu Isi (Nig.; NWO); Our Lady's Hair (Eng.; KAB); Pakhale Unyu (Nepal; NPM); Paku-Rambut (Malaya; EFS); Paprika (Slo.; HH2); Parshavarsha (Salt Range; KAB); Parasigavashan (Salt Range; KAB); Pata Lewana (Suto; KAB); Pata Mawa (Suto; KAB); Perul Fetei (Rom.; KAB); Perul Sfantei Marri (Rom.; KAB); Pursha (Hindi; KAB); Rajraf (Ber.; BOU); Saq el Akhal (Arab.; BOU); Sha'ar el-Ard (Arab.; BOU); Sha'ar el-Ghul (Arab.; BOU); Sha'ar el-Khanzir (Arab.; BOU); Shair ul Jin (Arab.; EFS; KAB); Shiruljin (Arab.; DEP; KAB); Shopumbillo (Peru; EGG); Sirsia-Peshane (Iran; EFS; KAB); Southern Maidenhair (Eng.; AUS; USN); Southern Maidenhair Fern (Eng.; POR); Steenruyte (Dutch; AUS); Steinraute (Ger.; HH2); Tursin il Bir (Malta; KAB); Venuksenhiussaniainen (Fin.; POR); Venushaar (Dutch; Ger.; EFS; HH2); Venushaarfarn (Ger.; POR); Venus Hair (Eng.; EFS); Venus Hair Fern (Eng.; JFM; RAI; USN); Venushår (Den.; POR); Venus Maidenhair (Eng.; UPW; USN); Vergura Invelita (Rom.; KAB); Vrouwenhaar (Dutch; EFS; KAB); Weewilsquee (Shawnee; AUS); Zhu Zong Cao (Pin.; DAA).

Activities:

Abortifacient (f; EB47:184); Analgesic (f; NPM); Anthelmintic (f; LMP); Antibilious (f; DEP); Antifertility (f1; RAI); Antioxidant (f; RAI); Antiradicular (f; RAI); Antiseptic (f1; RAI); Antitussive (f; EGG; RAI); Antiviral (1; RAI); Astringent (1; BUR; HHB); Bactericide (f1; RAI); Cardioprotective (f; RAI); Contraceptive (f1; EB31:340; RAI); Decongestant (f; RAI); Demulcent (f; GMH; PH2; VAD); Deobstruent (f; BOU; DEP); Depurative (f; DAA; EB47:184); Detoxicant (f; RAI); Diaphoretic (f; DAA; EGG); Discutient (f; DEP); Diuretic (f; BOW; DAA; DEP; NAD); Emetic (f; DAA; LMP); Emmenagogue (f; BUR; DEP; HHB; KAB; NAD); Emollient (f; BOU; DAA; EGG; UPW); Expectorant (f; BOW; BUR; DAA; DEP; NAD; PH2; UPW); Febrifuge (f; DAA; DEP; LMP); Hemostat (f; EB31:340); Hepatoprotective (f; RAI); Hypocholesterolemic (f1 RAI); Hypoglycemic (1; HH2; RAI); Hypotensive (f1; RAI); Laxative (f; DAA); Mucolytic (f; VAD); Pectoral (f; BUR; DAA; DEP; GMH; PH2; UPW); Propecic (f; DAA; GMH; PH2); Refrigerant (f; BUR); Resolvent (f; DEP); Secretolytic (f; RAI); Stimulant (f; DAA; EFS; GMH); Sudorific (f; DAA); Tonic (f; BUR; DAA; UPW).

Indications:

Alopecia (f; BOW; DAA; RAI); Amenorrhea (f; AUS; KAB; EB50:40); Asthma (f; AUS; DAA; GMH); *Bacillus* (1; RAI); Bacteria (f1; RAI); Bilioussness (f; DEP); Bleeding (f; MAX); Boils (f; NPM); Bronchosis (f; HH2; KAB; PH2; EB48:146); Cancer (f; DEP); Cancer, liver (f; UPW); Cancer, spleen (f; UPW); Cancer, uterus (f; UPW); *Candida* (f1; NWO; RAI); Cardiopathy (f; RAI); Catarrh (f; DAA; DEP; GMH); Cephalosis (f; DAA); Cerebrosis (f; AUS); Chest Colds (f; UPW); Childbirth (f; DAA; EB50:40; JFM); Chills (f; DAA; EB28:327); Colds (f; DAA; EB48:146; KAB; MKK; UPW; WO3); Colic (f; KAB); Congestion (f; RAI); Constipation (f; DAA); Consumption (f; AUS); Coughs (f; AUS; EB48:146; EGG; GMH; HH2; NAD; NPM; PH2; RAI); Cystosis (f; DAA); Dandruff (f; BOW; NWO); Diabetes (f1; HH2; RAI); Dropsy (f; DAA); Dysmenorrhea (f; AUS; DAA; HH2; NPM; PH2); Dysuria (f; EGG; RAI); Eczema (f; RAI); *Escherichia* (1; RAI); Fever (f; BUR; DAA; DEP; LMP); Flu (f; RAI); Fungus (f; NWO); Gallstones (f; RAI); Gastrosis (f; RAI); Gingivosis (f; VAD); Gout (f; GMH); Gravel (f; AUS; DAA; GMH); Gray Hair (f; PH2); Headache (f; NPM; WO3); Head Colds (f; DAA; KAB; UPW); Heartburn (f; RAI); Hepatosis (f; BOU; DAA; JFM; RAI; UPW); High Blood Pressure (f1; RAI); High Cholesterol (f1; RAI); Hydrophobia (f1; RAI); Hyperglycemia (1; HH2; RAI); Impetigo (f; LMP); Infection (f1; BUR; HHB; NWO; RAI); Infertility (f; NWO); Insanity (f; DEM); Jaundice (f; AUS; EGG; GMH; RAI); Kidney Stones (f; AUS; RAI); Laryngosis (f; RAI); Lice (f; NWO); Metrorrhagia (f; EB31:340); Mucososis (f; RAI); Mycosis (f; NWO); Nephrosis (f; AUS; GMH); Pain (f; NPM; PH2); Periodontosis (f; VAD); Pertussis (f; HH2; PH2); Pharyngosis (f; BOW; RAI; VAD); Placenta (f; EB50:40); Pleurisy (f; AUS; GMH; RAI); *Pseudomonas* (1; RAI); Pulmonosis (f; DAA; DEP; EFS; GMH; KAB); Respirosis (f; DAA; HHB; PH2); Rheumatism (f; DEM); Rhinosis (f; DAA; HH2); Sclerosis (f; DAA; JLH); Snake Bites (f; DAA; LMP); Sores (f; EB25:245); Sore Throat (f; KAB; RAI); Splenosis (f; BOU; DAW; UPW); *Staphylococcus* (1; RAI); Stings (f; DEM); Stomatosis (f1; RAI; VAD); Stones (f; AUS; DAA; JFM); Swelling (f; GMH); Throat (f; KAB); Uterosis (f; UPW); Vaginitis (f; VAD); Viruses (f1; RAI); Worms (f; LMP); Wounds (f; EB43:480); Yeast (f; NWO).

Dosages:

FNFF = ! Steep 1 spoon powder/cup 10–20 min, take 1 cup after each meal (VAD); 1 oz herb/pint boiling water, sweetened (GMH); 1.5 g herb/cup tea (HH2; PH2); 20–30 grains (DEP); expressed juice with pepper for fever (NAD); 50–100 drops tincture (1:10) 1–3×/day (VAD); 30–50 drops fluid extract (1:1) 2–3×/day (VAD). British Galway Islanders dry leaves

as a tea substitute (AUS). “In the Arran Islands ... to form soft drinks” (FAC). Decocted with *Dryopteris normalis* and drunk 4 mornings following intercourse as contraceptive (EB31:340).

- Africans inhale smoke from burning leaves for head and chest colds (UPW).
- Argentinians take decoction for amenorrhea, childbirth, dyspepsia, hepatitis, rheumatism, and sore throat (JFM).
- Arizona Navajo use the plant to treat bee and centipede stings and mental problems (AUS).
- Asian Indians use for boils, bronchitis, colds, diabetes, eczema, wounds, and to stimulate menstruation (RAI).
- Brazilians use for alopecia, amenorrhea, anorexia, asthma, bronchitis, childbirth, cough, dry throat, dysmenorrhea, dyspepsia, flu, laryngitis, mucositis, nephrosis, respirosis, and rheumatism (RAI).
- Californian Mahuna take plant for rheumatism (AUS).
- Chepangs in Nepal apply to boils (NPM).
- Cubans use as emmenagogue and pectoral (JTR).
- French use in “sirop de capillaire” for bronchitis, cough, and throat ailments (KAB).
- Kayenta Navajo used the plant in lotions for bee and centipede stings and they also smoked the plant for insanity (HAD).
- Mexicans use for alopecia, amenorrhea, birth control, bronchitis, colic, constipation, cystitis, dysmenorrhea, gastritis, hepatitis, kidney stone, metrorrhagia, and respirosis (KAB; MAX; RAI).
- Nepalese apply the leaves topically to the head for headache, to the chest for chest ache (NPM).
- Peruvians suggest its use as antirheumatic, antitussive, aperitive, diaphoretic, diuretic, emmenagogue, emollient, expectorant, insectifuge, and pectoral, for alopecia, asthma, biliary stones, calculus, catarrh, colds, congestion, cough, dysmenorrhea, dysuria, gallstones, gastritis, heartburn, hydrophobia, hyperacidity, jaundice, sore throat, sour stomach, and stomachache (EGG; RAI).
- Punjabi apply leaves with pepper a/o honey for catarrh and fever (KAB).
- Spaniards, considering the plant antiinflammatory, bechic, expectorant, and mucolytic, suggest it for asthma, bronchitis, catarrh, cystitis, dermatitis, gingivitis, periodontitis, stomatitis, and vulvo-vaginal dystrophy and inflammation (VAD).
- Suto smoke the leaves for head and chest colds (KAB).
- Yucatanese take decoction (8–10 g plant/300 cc water) 3–4×/day for amenorrhea and urinary stones (JFM).

Downsides:

Not covered (AHP). “No health hazards or side effects are known in conjunction with the proper administration of designated therapeutic dosages” (PH2). Not for use during pregnancy (PH2). As of July 2007, the FDA Poisonous Plant Database listed five titles alluding to toxicity of this species.

Extracts:

LD50 (frond extract) 82.5 mg/kg ipr mus (HH2). Alcoholic extract hypoglycemic (10–15 mg/100 ml) in dogs at 10 mg/kg (route not specified).

SORRAPILLA (*Adiantum latifolium* Lam.) ++**PTERIDACEAE****Notes:**

Adiantum latifolium is an accepted name and widely used. In Amazonian Peru in the “devil’s fields” formed by ants beneath stands of *Duroia hirsuta* (Rubiaceae), the ants clip all the plants except this *Adiantum*, which they allow to grow for some reason. All other plants are clipped, which creates an eerie openness beneath these small trees that grow in colonies. (Robbin Moran, pers. comm., Aug. 29, 2007).

Common Names:

Sano Sano (Peru; MD2); Shakushia (Amahuaca; MD2); Shebebe (Shipibo/Conibo; MD2); Sorrapilla (Peru; MD2); Suelda con Suelda (Peru; MD2); Yarinilla (Peru; MD2).

Activities:

Contraceptive (f; MD2); Hemostat (f; MD2).

Indications:

Bleeding (f; MD2); Childbirth (f; MD2); Infection (f; MD2); Metrorrhagia (f; MD2); Vaginitis (f; MD2); Wounds (f; MD2).

Dosages:

FNFF = ?

- Madre de Dios Peruvians apply mashed leaves to wounds to stop bleeding, taking the plant decoction for bleeding after childbirth (MD2).
- Madre de Dios Peruvians use in steam baths for vaginal infections (MD2).
- Peruvians suggest root decoction as contraceptive (MD2).

BLACK STICK (*Adiantum tenerum* Sw.) ++**PTERIDACEAE****Illustrations:**

p 108 (AAB)

Synonyms:

Adiantum tenerum var. *farleyense* (T. Moore) André; fide (USN).

Notes:

Plants said to have adorned ancient Mayan ceremonial altars (AAB).

Common Names:

Black Stick (Bel.; Eng.; AAB; AUS); Brittle Maidenhair (Eng.; USN); Capilaria de México (Mex.; JTR); Culantrillo de México (Cuba; JTR); Culantrillo de Pozo (Cuba; JTR); Helecho (Bel.; Sp.; AAB); Maidenhair Fern (Bel.; Eng.; AAB); Palo Negro (Bel.; Sp.; AAB; AUS); Roc-Che-Cwan (Bel.; Eng.; Maya; AUS). (Nscn).

Activities:

Detoxicant (f; AAB); Emmenagogue (f; AAB; DAW; MAX; UPH); Lactagogue (f; AAB); Litholytic (f; JTR); Nephrotonic (f; AAB); Parasiticide (f; AAB); Pectoral (f; JTR); Sudorific (f; JTR).

Indications:

Alcoholism (f; AAB); Bronchosis (f; JTR); Calculus (f; JTR); Catarrh (f; JTR); Colic (f; JTR); Coughs (f; AAB); Dandruff (f; AAB); Diarrhea (f; JTR); Hepatosis (f; JTR); Inflammation (f; JTR); Mucososis (f; JTR); Nephrosis (f; AAB); Parasites (f; AAB); Stones (f; JTR).

Dosages:

FNFF = !

- Argentínians and Cubans recommend the leaf tea as an emmenagogue (AAB).
- Belizeans apply macerated leaves to scalp for dandruff (AAB).
- Belizeans sip infusion (3 stems steeped in 3 cups boiling water for 20 min) as a detoxicant and expectorant for alcoholics, and as lactagogue, nephrotonic, and parasiticide (AAB).
- Mexicans use leaf tea for colic and diarrhea (JTR).

CENTURY PLANT (*Agave americana* L.) ++**AGAVACEAE****Illustrations:**

fig 3, p 7 (MPG)

Synonyms:

Agave altissima Zumagl; *A. expansa* Jacobi; *A. fuerstenbergii* Jacobi; *A. milleri* Haw.; *A. ornata* Jacobi; *A. picta* Salm-Dyck; *A. ramosa* Hoech.; *A. rasconensis* Trel. ex Standl.; *A. spectabilis* Salisb.; *A. variegata* Hort. ex Steud.; *A. vera-cruz* Drum; *A. virginica* Mill.; *A. zonata* Trel.; fide (EGG; HHB; MPG; USN).

Notes:

The names and identities of the *Agaves* are confused and confusing. After spending two days with the literature, I still wasn't sure from whence came my "tequila." Leaves of *A. sisalana* may attain 1.5 m long, and 10 cm wide, those of *A. americana* are larger, attaining 2 m with scapes up to 13 m (AHL). Though native to Mexico, this species has made itself at home elsewhere, e.g., in India and in the Andes, reaching to 3,700 m above sea level. The leaves reportedly contain an acrid EO which renders plaster and wallpaper termite proof (WO2). Flowers pollinated by nectar-feeding bats and hummingbirds (AUS).

Common Names:

Agav (Tur.; EFS); Agave Americano (It.; EFS); Agave d'Amérique (Fr.; EFS); Agave Pit'a (Peru; ROE); American Agave (Eng.; USN); American Aloe (Eng.; HHB; USN); American Sisal (Eng.; EFS); Amerikaanse Sisal (Dutch; EFS); Amerikanische Agave (Ger.; EFS; USN); Anai Katrazhai (Tam.; WO2); Anarash (Ben.; WO2); Annaikathalai (Tam.; WO2); Badukattalenaru (Kan.; WO2); Banskeora (Hindi; WO2); Bara Kanwar (Hindi; WO2); Bhutalle (Kan.; WO2); Bilati (Ben.; WO2); Bilatipat (Ben.; WO2); Birhot Okumari (Oriya; WO2); Cabuya (Ecu.; MPG); Cabuya Negro (Ecu.; MPG); Century Plant (Eng.; USN); Chahuar (Ecu.; MPG); Chuchau (Peru; EGG); Chunta P'ajra (Bol.; Que.; DLZ); Ckara (Peru; EGG); Fiques (Peru; ROE); Garingboom (Afr.; Dutch; EFS; USN); Hathi Sengar (Hindi; WO2); Henequén (Sp.; EFS); Hundertyährige Aloe (Ger.; HHB); Jangli Kunvara (Guj.; WO2); Jungli Anarash (Ben.; WO2); Kalakkantalu (Sanskrit; WO2); Kalanaru (Kan.; WO2); Kantala (Sanskrit; EFS; WO2); Kellupancarita (Peru; EGG); Kithanara (Tel.; WO2); Koyan (Ben.; WO2); Lu Sung Ma (China; EFS); Maguei-Pflanze (Ger.; HHB); Maguey (Cuba; Dor.; Peru; Sp.; AHL; EFS; ROE; USN); Maguey Mexicano (Peru; EGG); Mara (Peru; EGG); México (Peru; EGG); Ocke Pakcpa

(Peru; EGG); Ojepajpa (Peru; EGG); Packpa (Peru; EGG); Pacpa (Peru; EGG); Pajpa (Peru; EGG); Panam Kattazha (Mal.; WO2); Pappa (Peru; EGG); Penca (Peru; EGG); Penca Azul (Peru; EGG); Penco (Ecu.; MPG); Penco Negro (Ecu.; MPG); Pinca (Peru; EGG); Pita (Peru; Sp.; EFS); Pita Comun (Sp.; USN); Pite (Fr.; USN); Pite d'Amérique (Fr.; JAD); Pitha Kalabuntha (Tam.; WO2); Pitiera (Por.; EFS); Pito (Sp.; HHB); Pitta (It.; EFS); Q'ellu Panqarita (Aym.; DLZ); Rakashima Talu (Tel.; WO2); Rakaspatta (Hindi; India; EFS; WO2); Ryfzetsu Ran (Japan; TAN); Spreading Century Plant (Eng.; JAD); Wilayti Kaitulu (Pun.; WO2); Wild Century Plant (Eng.; JAD); Yana Chahuar (Ecu.; MPG). (Nscn; American entries diacritically prepared).

Activities:

ACE-Inhibitor (1; X10624863); Allergenic (1; ROE); Antiedemic (f1; MPG; X9225599); Antihypertensive (1; X10624863); Antiinflammatory (f1; MPG; X9225599); Antileukemic (1; X10865469); Antirheumatic (f; MPG); Antiseptic (f; MPG); Bactericide (1; MPG); Cicatrizant (f; DAW); Cytotoxic (1; X10865469); Depurative (f; DAW; EFS); Dermatitigenic (1; ROE; X11109152); Digestive (f; EGG); Diuretic (f; EFS); Emmenagogue (f; ROE; WO2); Febrifuge (f; WO2); Gram(+)-icide (1; MPG); Gram(−)-icide (1; MPG); Hemolytic (1; ROE); Insecticide (f; ROE); Larvicide (1; X3249563); Laxative (f; MPG; WO2); Molluscicide (1; X6736709); Mosquitocide (1; X3249563); Narcotic (f; ROE); Piscicide (1; ROE); Proteolytic (1; WO3); Uteroactive (1; X2640501); Vulnerary (f; EGG).

Indications:

Amenorrhea (f; ROE); Appendicitis (f; EGG); Arthrosis (f; MPG); Ascites (f; EB24:2); Bacteria (1; MPG); Bruise (f; EB31:356); Burns (f; DLZ); Cancer (f1; JLH; ROE; WO2; X10865469); Catarrh (f; DLZ); Colic (f; ROE); Conjunctivitis (f; EGG); Constipation (f; MPG; WO2); Diarrhea (f; ROE); Dislocation (f; EGG); Dropsy (f; ROE); Dysentery (f; DAW; WO2); Edema (f1; MPG; X9225599); Fever (f; WO2); Gastrosis (f; EGG); Gonorrhea (f; EGG; ROE); Headache (f; EGG); Hepatitis (f; EGG); Hernia (f; EGG); High Blood Pressure (1; X10624863); Infection (f1; MPG); Inflammation (f1; MPG; X9225599); Jaundice (f; EGG); Leukemia (f1; JLH; X10865469); Malaria (f; WO2); Nephrosis (f; DLZ); Pharyngitis (f; ROE); Rabies (f; EGG); Rheumatism (f; MPG); Scrofula (f; WO2); Sores (f; EGG); Sore Throat (f; ROE); Sprains (f; DAW); Syphilis (f; EFS); Tenia (f; ROE); Toothache (f; ROE); Tuberculosis (f; MPG); Tumors (f; JLH); VD (f; EGG); Wounds (f; DAW; EGG).

Dosages:

FNFF = !! Important food for Apache, Mohave, Paiute, Papago, Ute, and Yuma Indians (DEM). Kickapoo Indians eat asparagus-like “quite” young flower stalks baked on hot stones. Bulbous leaf bases also eaten after baking. The sap “aguamiel” that exudes when the stem is cut is fermented to make the Mexican national drink, pulque. Further distillation leads to Mescal (WO2), maybe even tequila, as in *A. tequilana* (HHB). Peruvians make chicha and vinegar (EFS; EGG; FAC; HHB; TAN). Andeans dissolve the sap in water for use as a natural pesticide on potatoes against “polilla” and “rancho” (EGG). Ecuadorian aborigines used the superficial roots mashed in water as one of the first shampoos, and antecedent of modern shampoos, quips Gupta (MPG).

- Andeans treat cancerous inflammations and sores with the sap (ROE).
- Andeans use leaf tea with honey as a wash for conjunctivitis (ROE).
- Asian Indians report the core of the plant is used for malaria and other fevers (WO2).
- Bolivians inhale the smoke of burning scapes for catarrh (DLZ).
- Bolivians use the jelly with honey for bruises, gonorrhea, internal tumors, nephritis, rheumatism, and tuberculosis (DLZ).
- Latinos boil a tablespoon of mashed leaf in ½ liter water 5–10 min and take it alone or sweetened for arthritis or tuberculosis (MPG).

- Peruvians apply the sap to indolent ulcers and sores (EGG).
- Peruvians plaster root decoction with flour or roasted leaves to dislocations and hernias (EGG).
- Peruvians take the decoction with aloe and wormwood for appendicitis (EGG).
- Peruvians take the leaf decoction for conjunctivitis (EGG).
- Peruvians take the sap for hydrophobia (EGG).
- Peruvians use the roots for headache, and mashed as lather for hair health (EGG).
- Quechuans used the sap “chahuarmishqui” as antiinflammatory, antirheumatic, and antiseptic (MPG).

Downsides:

Overdoses may cause diarrhea and gastritis (MPG). The juice of the plant is allergenic (ROE). Sap can cause contact dermatitis (X11109152). As of July 2007, the FDA Poisonous Plant Database listed 33 titles alluding to toxicity of this species.

Extracts:

The saponin hecogenin-tetraglycoside is cytotoxic against HL-60 human promyelocytic leukemia cells (IC₅₀ = 4.3 µg/ml (X10865469). Extracts antihypertensive and antiinflammatory (X10624863; X9225599). Crude extracts contain two utero-active compounds (X2640501). Extract larvicidal for *Aedes fluviatilis* at 100 ppm (X3249563).

BILLYGOAT WEED (*Ageratum conyzoides* L.) + ASTERACEAE

Illustrations:

p 77 (NPM); pl 132A (DAG); pl 518C (KAB)

Notes:

I was working on this write-up for billygoat weed when *Newsweek* (Jan. 17, 2005) ran an issue covering the future of nutrigenomics (what I naively term “gene friendly food pharmacy” since our genes have millions of years experience with many of these phytochemicals). That same day I was visited by Frederic Abramson, director of Alpha Genomics. Both of us were visited telephonically by the senior author of the article, Anne Underwood. So what? My database increasingly enters many enzyme inhibitors, not just alpha-reductase-inhibitors, beta-amylase inhibitors, COX2-Is, etc., and scores the plants possessing these for (1) edibility, (2) safety, and (3) efficacy in hundreds of activities and indications. Abramson’s database lists which variants in the human genome are involved with those enzymes and their inhibitors. The potential synergies of a potential mix of his and my databases may indeed lead to a computer generated list of foods tailored to the individual human genome. I mention that here because, in compiling this, I first went through only my Native American sources for American folk uses for the herb. I had quite a sizable list. Then I took a quick look into the Asian sources, and saw a lot of uses I had not seen in my American sources. Is this another reflection of genomic differences between Caucasians, Native Americans, Asian Indians, and Africans. I think so. The pharmaceutical firms treat all of us as average when none of us are.

Used as a diuretic for cystitis under the names “diabetes weed” and “gravel weed,” the weed was listed in the U.S. National Standard Dispensatory in 1905 (JFM).

Common Names:

Agerato (Ma.; JFM); Aiguille (Guad.; AVP); Angale No (Gurung; NPM); Appa Gras (Eng.; NPM); Azier Français de Devez (Fr. Guiana; AVP); Azier François (Fr.; USN); Bastard Agri-

mony (Eng.; NPM); Bhera Jhar (Nepal; NPM); Billygoat Weed (Eng.; USN); Boke (Nepal; NPM); Bouton (Fr.; USN); Bratar (Tamang; NPM); Cacália Mentrasto (Brazil; MPG); Catinga de Barrão (Brazil; MPB; MPG); Catinga de Bode (Brazil; MPB); Celestina (Ma.; JFM); Celestina Azul (Cuba; Ma.; AVP; JFM; JTR); Celestina Blanca (Cuba; Ma.; JFM; JTR); Chuva (Col.; Ma.; Sp.; AVP; JFM; USN); Curía (Brazil; MPG); Dalidare (Gurung; NPM); Diabetes Weed (Eng.; JFM); Erva de Santa Lucía (Brazil; MPG); Erva de São João (Brazil; EGG; MPB; RAR); Erva de São José (Brazil; MPB); Ganamane (Nepal; NPM); Ganaune Jhar (Nepal; NPM); Gande (Gurung; Magar; Nepal; NPM); Ganki (Mooshar; NPM); Ganne Jhar (Nepal; NPM); Goat Weed (Eng.; NPM; USN; WOI); Gravel Weed (Eng.; JFM); Gyaine (Raute; NPM); Hanuman (Nepal; NPM); Herbe a Bouc (Fwi.; JFM; JTM); Huarmi (Peru; EGG; SOU; USN); Huarmi Huarmi (Peru; EGG; RAR; SOU); Indringer Ageratum (Afrikaan; USN); Kegucha Ghyan (Newari; NPM); Manrubio (Ma.; JFM); Manthani Mran (Tamang; NPM); Mari Preta (Brazil; MPB); Mastruco (Brazil; Ma.; JFM; JTR); Mejorana (Ma.; JFM); Mentrasto (Brazil; Pr.; AVP; MPB; MPG; USN); Mondrasto (Ma.; Pr.; JFM; JTR); Namche Jhar (Magar; NPM); Nougou (Afr.; AVP); Petit Pain Doux (Guad.; AVP); Picão-Roxo (Brazil; USN); Ponge Jhar (Magar; NPM); Raunde (Chepang; NPM); Raunja (Chepang; NPM); Raunne (Nepal; NPM); Retentina (Col.; AVP); Rompesaragüelo (Ven.; JLH); Rompe Zaragüey (Dor.; AHL); Sang Jhar (Chepang; NPM); Santa Lucia (Ecu.; DAG); Seto Raunne (Nepal; NPM); Silliwa (Aym.; DLZ); Supiqewa (Que.; DLZ); Teatina (Peru; RAR); Thangawinowa (Tamang; NPM); Thang Mran (Tamang; NPM); Tirino (Gurung; NPM); Warmi (Que.; DLZ); Whiteweed (Eng.; USN; WO2); Wild Ageratum (Eng.; JFM); Witte Hede (Ma.; JFM); Yerba de Cabro (Pr.; AVP; JTR); Yerba de Chivo (Dor.; EGG; RAR); Zèb à Pik (Creole; Haiti; VOD); Zèb à Pisé (Creole; Haiti; VOD); Zèb à Sorcier (Creole; Haiti; VOD); Zèb la Vierge (Creole; Haiti; VOD). (Nscn; American entries diacritically prepared).

Activities:

Abortifacient (f; JFM); Allelochemic (1; X16132220); Analgesic (1; MPG; VOD); Anthelmintic (f1; VOD); Antiedemic (1; X15693721); Antiinflammatory (f12; MPG; VOD; X15693721); Antioxidant (1; X12686450); Antiseptic (f1; VOD); Antiserotogenic (1; X12686450); Antispasmodic (f1; VOD; X10685113); Astringent (f; EGG; RAR; VOD); Bactericide (f1; VOD); Cardiodepressant (1; WO3); Carminative (f; DLZ; EGG; RAR); Cyanigenic (f1; DLZ); Diuretic (f; DLZ; EGG; RAR); Emmenagogue (f; EGG; RAR); Febrifuge (f; EGG; RAR); Fungicide (f1; VOD); Gastroprotective (1; X12686450); Hemostat (f1; MPG; VOD; WO3); Insecticide (1; MPG; X11124374; X17469080); Juvabional (f1; MPB); Larvicide (1; X16253435); Litholytic (f; KAB); Molluscicide (1; WO3); Mosquitocide (1; WO3; X16253435); Myorelaxant (1; MPG; X10685113); Nematocide (1; MPG); Pediculicide (f; NPM); Stimulant (f; DLZ; EHH; RAR); Tonic (f; DLZ); Vulnerary (f1; MPB; X16226414).

Indications:

Ague (f; KAB); Amenorrhea (f; EGG; RAR); Arthrosis (f12; MPG); Atony (f; JTR); Bacteria (1; VOD); Beriberi (f; RAR); Bleeding (f1; MPG; VOD; WO3); Boils (f; NPM); Bruise (f; NPM); Catarrh (f; EGG; RAR); Childbirth (f; JFM); Colds (f; NPM; VOD); Colic (f; MPB; VOD); Coughs (f; MPG; NPM); Cystosis (f; EGG; JFM; RAR); Dermatitis (f; JFM); Diabetes (f; JFM); Diarrhea (f; VOD); Dislocation (f; NPM); Dysentery (f; KAB); Dysuria (f; JFM); Ecchymosis (f; KAB); Edema (1; X15693721); Enterosis (f; JFM; MPB; JTR); Epilepsy (f; VOD); Fever (f; EGG; RAR; VOD); Fungus (1; VOD); Gas (f; DLZ; EGG; JFM; RAR); Gastrosis (f1; EGG; RAR; JTR; X12686450); Gonorrhea (f; MPB); Gravel (f; JFM); Hemorrhoids (f; WO3); Infection (f1; VOD); Inflammation (f12; MPG; VOD; X15693721); Itch (f; JFM); Leprosy (f; NPM); Mange (f; JFM); Mycosis (1; VOD); Ophthalmia (f; KAB); Pain (f1; EGG; MPG; RAR; VOD); Pediculosis (f; NPM); Proctosis (f; KAB); Prolapse (f; KAB); Pulmonosis (f; MPG); Rheumatism (f12; EGG; MPG; RAR); Scabies (f; NPM); Schistosoma (1; MPG); Snake Bites (f; NPM); Sore Throat (f; JFM); Spasms (f1; VOD);

X10685113); *Staphylococcus* (1; MPB; VOD); Stomachache (f; EGG; RAR); Stones (f; KAB); Strangury (f; JFM); Swelling (f; WO3); Tetanus (f; KAB; JFM); Uterosis (f; MPB); VD (f; MPB); Worms (f1; VOD); Wounds (f1; MPB; X16226414).

Dosages:

FNFF = X.

- Asian Indians apply a buttered leaf paste to swollen hemorrhoids (WO3).
- Asian Indians report that the petroleum ether extract considerably suppresses mosquito populations (*Culex*) (WO3).
- Asian Indians suggest the leaves with salt as a vulnerary on wounds to prevent tetanus (WO2).
- Bolivians a/o Peruvians take leaf decoction as carminative, diuretic, stimulant, and tonic (DLZ; SOU).
- Brazilians consider the plant analgesic, antispasmodic, febrifuge, and tonic, using it for amenorrhea, arthrosis, colic, rheumatism, and uterosis (MPG).
- Cubans use as febrifuge, sudorific and for atony and “pneumatosis” of the digestive tube (JTR).
- Dominicans consider the stem decoction antidiarrheal, the leaf tea as antiinflammatory (VOD).
- Haitians add a pinch of salt to freshly squeezed plant juice and use 2–3 drops as nose drops to control epilepsy (VOD).
- Haitians apply the antiseptic plant juice to dermatosis (VOD).
- Haitians use leaf decoction for bleeding, cold, colic, fever, and spasm (VOD).
- Madagascans use leaves and stems against leprosy (KAB).
- Nepalese apply flower head juice to scabies, and paste them on rheumatism (NPM).
- Nepalese apply plant juice to bruises, cuts, lice, and wounds (NPM).
- Nepalese paste the leaves on thorns to facilitate their removal (NPM).
- Nepalese powder the dried plant onto wounds and ruptures caused by leprosy (NPM).
- Nepalese rub crushed leaves on head to exterminate lice (NPM).
- Peruvians take the tea as carminative, emmenagogue, and stimulant (EGG).
- Surinamese take the decoction for cold and sore throat (JFM).
- Trinidadans take the tea (believed abortifacient) for cough, cystitis, and flu, using the root tea for diabetes (JFM).
- Venezuelans poultice the leaves onto tumors (JLH).
- Venezuelans rub plant juice, in alcohol, onto rheumatic areas (JFM).

Downsides:

Cyanogenic herb toxic to grazing animals (DLZ). Contains pyrrolizidine alkaloids (MPB). As of July 2007, the FDA Poisonous Plant Database listed eight titles alluding to toxicity of this species.

Extracts:

The plant has clinically demonstrated efficacy in arthrosis, diminishing pain and inflammation within a week (MPG). Ethanol extracts protected gastric lesions by 80.59% at 500 mg/kg and 89.33% at 750 mg/kg (X12686450). Extract larvicidal for *Aedes aegypti*, LC50 = 148 µg/l (X16253435). Leaf EO insecticidal for *Sitophilus zeamais* (X11124374).

GOLDEN TRUMPET (*Allamanda cathartica* L.) +**APOCYNACEAE****A****Synonyms:**

Allamanda cathartica var. *hendersonii* (W. Bull ex Dombrain) L. H. Bailey & Raffill; *A. cathartica* var. *nobilis* (T. Moore) L. H. Bailey & Raffill; *A. hendersonii* W. Bull ex Dombrain; *A. nobilis* T. Moore; *Orelia grandiflora* Aubl.; fide (USN).

Common Names:

Alamanda (Brazil; MPB; USN); Alamanda-Amarela (Brazil; USN); Alamanda de Flora Grande (Brazil; MPB); Alamande (Ger.; Guy.; KAB; USN); Allamandagide (Kan.; WO2); Allemandatheega (Tel.; WO2); Amanda (Sp.; JFM); Araba (Mun.; KAB); Arasinhu (Kan.; KAB); Arba (Mun.; WO2); Bejuco de San Jose (Cr.; Sp.; JFM); Buttercups (Eng.; JFM); Campana (Sp.; JFM); Campana Anarilla (Sp.; AVP); Campanitas Amarillas (Bel.; BNA); Canarias (Sp.; AVP); Canario (Pr.; Sp.; JFM); Carolina (Brazil; USN); Cautiva (Sp.; JFM); Cipo de Leite (Por.; GMJ); Copa de Mantequilla (Dor.; AHL); Copa de Oro (Sp.; USN); Copo de Oro (Col.; Sp.; JFM); Datkassey (Palikur; GMJ); Dedal de Dama (Brazil; MPB; USN); Dumári Raiüwa (Garifuna; IED); Flor de Barbero (Cuba; RyM); Flor de Muerto (Sp.; Ven.; AVP; JFM); Golden Bell (Eng.; DAV); Golden Trumpet (Eng.; AVP; USN; WO2); Haladilu (Kan.; WO2); Harkakra (Ben.; WO2); Huaitasisa (Peru; SOU); Jaharisontakka (Bom.; KAB); Jalapa (Cr.; JFM); Jalapa Falsa (Sp.; JFM); Jasmin d'Amarille (Fr.; KAB); Jazmín Amarillo (Sp.; Ven.; AVP; JFM); Jazmín Falcón (Sp.; Ven.; AVP; JFM); Ka'ilewki (Wayapi; GMJ); Kanangani (Kon.; KAB); Kolaambi (Mal.; WO2); Lian B Lait (Guad.; AVP); Mala Suegra (Cuba; SOU); Mantequilla (Dor.; AHL; AVP); Orélia (Brazil; MPB); Orélie (Creole; Guy.; AVP; GMJ); Orélie Cathartique (Guad.; Haiti; AVP); Orélie de la Guyane (Guy.; KAB); Pilakaner (Bom.; KAB); Pivlikanher (Bom.; KAB); Quatro Patacas (Brazil; Por.; AVP; MPB); Santa Maria (Brazil; MPB); Tasiyasiay (Wayapi; GMJ); Tropical Buttercup (Eng.; DAV); Tumi Lalahka (Ulwa; ULW); Wild Senna (Sp.; JFM); Wilkens Bitá (Ma.; JFM); Yellow Alamanda (Eng.; JFM); Yellow Bell (Eng.; AVP).

Activities:

Antidermatophytic (1; X12112301); Antileukemic (1; FNF); Antiseptic (1; X12112301); Antitussive (f; GMJ); Bactericide (1; WO2); Emetic (f; JFM; ULW); Febrifuge (f; GMJ); Fungicide (1; X12112301); Helminthicide (f; FNF); Hydragogue (f; KAB); Hypotensive (1; WO2); Laxative (f; JFM); Nematicide (1; X10817223); Purgative (f; ULW); Toxic (f; SOU).

Indications:

Anxiety (f; RVM); Ascites (f; KAB); Bacteria (1; WO2); Cancer (1; FNF; WO2); Carcinoma (nasopharynx) (1; WO2); Colic (f; WO2); Constipation (f; JFM); Coughs (f; GMJ); Dermatophyte (1; X12112301); Dermatitis (1; X12112301); Fever (f; GMJ); Fungus (1; X12112301); High Blood Pressure (1; WO2); Infection (1; X12112301); Jaundice (f; JFM; WO3); Leukemia (1; FNF); Malaria (f; JFM); Mycosis (1; X12112301); Nematode (1; X10817223); Ringworm (1; WO3); Scabies (f; FNF); Snake Bite (f1; KAB; X11025161); Splenomegaly (f; JFM); Splenosis (f; JFM); Worms (f; FNF); Wounds (1; X16597335).

Dosages:

FNFF = X.

- Palikur wash heads with decoction for anxiety (RVM).
- Surinamese decoct chipped root (20 cm segment) with 2 leaves *Cassia alata* for spleen problems (JFM).
- Surinamese decoct chipped root (20 cm segment) in 3 liter water for jaundice and splenomegaly resulting from malaria (JFM).
- Surinamese decoct root (20 cm segment) with 30 cm segment of *Aristolochia* root and take 3 times for malaria (JFM).
- Surinamese infuse 20 leaves/liter water as emetic and laxative (JFM).
- Wayapi rub down the body with solar bark tea for fever (GMJ).

Downsides:

Large doses may cause diarrhea and nausea (WO2). As of July 2007, the FDA Poisonous Plant Database listed 24 titles alluding to toxicity of this species.

Extracts:

Plumieride exhibits a non-cytotoxic nature against a P(388) mouse leukaemia cell line (X12112301). Leaf extract promotes wound healing (X16597335). Plant extract exhibited moderate neutralization against hemorrhagic effects of *Bothrops atrox* venom (X11025161).

LEMON VERBENA (*Aloysia citriodora* Palau) ++

VERBENACEAE

Synonyms:

Aloysia citriodora Ortega ex Pers.; *A. sleumeri* Moldenke; *A. triphylla* (L'Her.) Britt.; *Lippia citriodora* (Lam.) Kunth; *L. triphylla* (L'Hér.) Kuntze; *Verbena citriodora* Cav.; *V. triphylla* L'Hér.; *Zapania citriodora* Lam.; fide (MPG; RDF3:19; USN).

Common Names:

Aloysie (Ger.; RDF3:19); Bela Luiza (Por.; EFS); Belle Louise (Por.; RDF3:19); Capim Cidrô (Por.; RDF3:19); Cedrina (It.; EFS); Cedrón (Arg.; Sp.; JFM; MPG; USN); Cedrón de Paraguay (Par.; RDF3:19); Cedrón en Rama (Sp.; RDF3:19); Cedrón Hembra (Sp.; RDF3:19); Cetrina (It.; EFS); Cidrilha (Por.; RDF3:19); Cidrinha (Arg.; Por.; MPG; RDF3:19); Cidrô (Por.; RDF3:19); Cidron (Sp.; JFM); Cidrô Pessegueiro (Por.; RDF3:19); Cidrozinho (Por.; RDF3:19); Citronelle (Fr.; BOU; EFS; JFM); Citronenkraut (Ger.; EFS); Demon Verbena (Arg.; MPG); Diapalma (His.; AHL); Doce Lima (Por.; EFS); Echte Verbenenkraut (Ger.; EFS); Echte Verbene (Ger.; RDF3:19); Echt Verbenkruid (Dutch; EFS); Erba Luigia (It.; EFS); Erva Cidreira (Por.; RDF3:19); Herba Cidreira (Arg.; MPG); Herba Luisa (Sp.; JFM); Herb Louisa (Eng.; BOU; EFS); Hierba de la Princesa (Sp.; RDF3:19); Hierba Luisa (Arg.; MPG); Lemongrass Verbena (Eng.; RDF3:19); Lemon-Scented Verbena (Eng.; Scn.; AH2; CR2; EFS); Lemon Verbena (Eng.; Scn.; AH2; BOU; CR2; USN); Limonete (Por.; EFS); Lipia (Tur.;

EFS); Lippie (Fr.; EFS); Lúcia Lima (Por.; EFS); Lucia Lime (Por.; RDF3:19); Lwiza (Arab.; BOU); Maria Luisa (Sp.; RDF3:19); Montecedrón (Bol.; RDF3:19); Ouheireche (Ber.; BOU); Real Vervain (Eng.; EFS); Salvia Limao (Arg.; MPG); Sweet-Scented Verbena (Eng.; Ocn.; AH2; EFS); Té Maria Luisa (Guat.; RDF3:19); Verbena (Eng.; Ocn.; AH2); Verbena Aromatica (Sp.; JFM); Verbena de las Indias (Sp.; RDF3:19); Verbena de Olor (Spain; RDF3:19); Verbenekraut (Ger.; RDF3:19); Vervain (Eng.; EFS); Verveine (Fr.; JFM); Verveine Citronelle (Fr.; BOU; USN); Verveine Odorante (Fr.; BOU; EFS); Yerba Luisa (Cuba; Sp.; EFS; JFM; RyM); Zitronenstrauch (Ger.; USN); Zitronenverbena (Ger.; RDF3:19).

Activities:

Acaricide (1; CRC); Analgesic (f1; RDF3:19; TAD); Anticholinergic (f; RDF3:19); Antidote (f; JFM); Antigenotoxic (1; X15294350); Antimutagenic (1; MPG); Antioxidant (1; X15294350); Antiradicular (1; X15294350); Antiseptic (1; CRC; WO2); Antispasmodic (f1; BOU; CRC; JFM; PH2; PHR; RDF3:19); Antiulcer (1; X12752733); Anxiolytic (1; RDF3:19); Aphicide (1; CRC); Bactericide (1; CRC; MPG; X12752733); Cardiotonic (f; RDF3:19); Carminative (f; BOU; CRC; SKJ; WO2); Digestive (f1; CRC; EFS; HHB; RDF3:19); Diuretic (f1; RDF3:19); Expectorant (f; CRC); Febrifuge (f; BOU; MPG; PH2; PHR); Fungicide (f; RDF3:19); Nervine (f; CRC; EFS; SKJ); Pectoral (f; CRC; EFS; JFM); Purgative (f; WBB; WO2); Sedative (f; CRC; PH2); Stimulant (f; CRC); Stomachic (f; BOU; CRC; EFS; WBB); Sudorific (f; JFM); Tranquilizer (f; CRC).

Indications:

Acariasis (1; CRC); Agitation (f; PH2; PHR); Amenorrhea (f; RDF3:19); Anxiety (1; RDF3:19); Asthma (f; JFM); Bacteria (1; CRC; MPG; WBB; X12752733); Bites (f; JFM); Cardiopathy (f; RDF3:19); Caries (f; RDF3:19); Chills (f; PHR; PH2); Colds (f; BOU; JFM); Colic (f; JFM); Constipation (f; PHR; PH2); Cramps (f; PH2); Dermatitis (f; PHR; PH2); Diarrhea (f; AHL; CRC; TAD); Dyspepsia (f; CRC; PHR; PH2); Dyspnea (f; WO2); *Escherichia* (f; WO2); Fever (f; BOU; CRC; JFM; MPG; PH2; PHR); Fungus (1; RDF3:19); Gas (f; BOU; BRU; CRC; JFM; SKJ; WO2); *Helicobacter* (1; X12752733); Hemorrhoids (f; PHR; PH2); Hysteria (f; RDF3:19); Infection (f1; CRC; WO2; X12752733); Insomnia (f1; PHR; PH2; RDF3:19); Malaria (f; MPG); *Micrococcus* (1; WO2); *Mycobacterium* (1; WO2); Mycosis (1; RDF3:19); Nausea (f; AHL); Nervousness (f; CRC; PH2; RDF3:19); Neurotonia (f; BRU); Pain (f1; RDF3:19; TAD); Rabies (f; CRC); Respirosis (f; RDF3:19); *Salmonella* (1; MPG); Sore Throat (f; JFM); Spasms (f1; BOU; CRC; JFM; PH2; PHR; RDF3:19); *Staphylococcus* (1; WBB); Stomachache (f; AHL); Tuberculosis (1; CRC); Ulcers (1; X12752733); Varices (f; PHR; PH2).

Dosages:

FNFF = !!! Tea widely consumed; leaves also used in home cookery, fruit salads, jellies, desserts (CRC; FAC; TAN; RDF3:19). 45 ml decoction, several times/day (CAN). 2–5 cups/day of decoction (5–29 g leaf/liter water) (PH2).

- Argentinians take the tea as antidote to animal bites and as a digestive (JFM).
- Argentinians use leaf tincture for fever and malaria (MPG).
- Bolivians take the tea for bites, cardiac oppression, hysteria, nervousness, and “susto” (RDF3:19).
- Brazilians take the tea for colds, fever, and sore throat (JFM).
- Central Americans take the leaf tea as antiasthmatic, antispasmodic, carminative, pectoral, sedative, and sudorific (JFM).
- Dominicans suggest the plant for colds, diarrhea, nausea, and stomachache (AHL).
- Latin Americans take the tea for asthma, colds, colic, diarrhea, dyspepsia, and fever (CRC).
- North Africans take the tea for colds, fever, and spasm (CRC).
- Paraguayans use as cardiotonic and stimulant (RDF3:19).
- Yemeni use a compress of lemon verbena and lavender for dyspnea (WO2).

Downsides:

Class 1 (AHP). “No health hazards or side effects are known in conjunction with the proper administration of designated therapeutic dosages” (PH2). “Terpene-rich volatile oils are generally regarded as irritant and may cause kidney irritation during excretion,” hence renal patients should avoid (CAN). Excessive doses are best avoided during pregnancy and lactation (CAN). Contains glycosides of the relaxant sedative COX-2 inhibitor, apigenin (FNF; TRA).

Extracts:

EO was once used in perfumery, especially for colognes; it is still used for flavoring liqueurs (CRC). EO acaricidal and bactericidal (CRC; X12752733). A 2% emulsion of EO kills 90% of the mite, *Tetranychus telarius*, and the aphid, *Aphis gossypii* (CRC). Alcoholic leaf extract antibiotic for *E. coli*, *Mycobacterium tuberculosis*, and *Staphylococcus aureus* (antimalarial tests were negative) (CRC).

KHAKIWEED (*Alternanthera pungens* Kunth) ++**AMARANTHACEAE****Illustrations:**

p 316 (MAX)

Synonyms:

Achyranthes repens L.; *Alternanthera achyrantha* (L.) R. Br.; *Alternanthera repens* (L.) Link; *Illecebrum achyrantha* L.; fide (AH2; MPG; USN).

Common Names:

Abéné Mulo (Ivo.; UPW); Achawal Kachu (Arg.; MPG); Anku Pichana (Bol.; Que.; DLZ); Ardosna Jardin (Ma.; JFM); Bashe Umpatpatelet Atulet (Arg.; MPG); Bonfu (Gui.; UPW); Broad Path (Eng.; JFM); Caape (Arg.; MPG); Caramelito (Bol.; DLZ); Caroca (Ma.; JFM); Ccepo Ccepo (Peru; SOU); Ci Hua Lian Zi Cao (China; USN); Dágunró (Nig.; UPW); En Toba (Arg.; MPG); Erva de Pinta (Brazil; AUS); Hierba del Pollo (Sp.; USN); Hierba del Toro (Sp.; JFM); Humuto (Peru; SOU); Ierwa Achawa (Arg.; MPG); Kabal Xtes (Maya; JFM; MAX); Khaki Bur (Eng.; UPW); Khakiweed (Eng.; Haw.; Scn.; AH2; USN); Klāgbā (Ghana; UPW); Llapa Reliñ (Arg.; MPG); Monigbe (Upper Volta; UPW); Periquito de Espinho (Brazil; USN); Quisca Yuyu (Arg.; MPG); Sacachiquim (Ma.; JFM); Sanguinaria (Ma.; JFM); Sièn Goni (Sen.; UPW); Taaso (Araucano; Arg.; MPG); Tianguis (Ocn.; AH2); Tianguispepecla (Mex.; MAX); Tianguis Pepétua (Mex.; AUS); Tianquizppepecla (Mex.; MAX); Tianquizppepetla (Mex.; MAX); Torito (Arg.; MPG); Umutu (Peru; SOU); Washer Woman (Eng.; JFM); Yerba del Moro (Peru; SOU); Yerba del Pollo (Arg.; Uru.; MPG).

Activities:

Abortifacient (f; JFM; UPW); Analgesic (f; UPW); Antiinflammatory (f; MPG); Astringent (f; MAX); Decongestant (f; MPG); Diaphoretic (f; MAX); Diuretic (f; MAX; MPG); Emollient (f; MPG); Eueptic (f; MPG); Hemostat (f; DLZ); Lactagogue (f; UPW); Laxative (f; DLZ); Litholytic (f; MAX); Tonic (f; MPG); Vermifuge (f; UPW).

Indications:

Bleeding (f; DLZ); Calculus (f; MAX); Childbirth (f; UPW); Constipation (f; DLZ; UPW); Dentition (f; MPG); Diarrhea (f; MPG; UPW); Dysentery (f; JFM); Dyspepsia (f; DLZ); Enterosis (f; DLZ; MPG); Fever (f; MAX; UPW); Gastrosis (f; MAX; MPG); Gonorrhea (f; WO2); Hepatosis (f; MPG); Infection (f; JFM); Inflammation (f; MPG); Metrorrhagia (f;

DLZ); Nephrosis (f; MPG); Neuralgia (f; UPW); Pain (f; UPW); Sore Throat (f; UPW); Stones (f; MAX); Swelling (f; UPW); Syphilis (f; AUS); Tuberculosis (f; DLZ); Vaginitis (f; DLZ); VD (f; AUS; WO2); Worms (f; UPW); Wounds (f; DLZ).

Dosages:

FNFF = !!

- Barbadians take decoction as abortifacient and antidyenteric (JFM).
- Bolivians take leaf decoction 3×/day for constipation, dyspepsia, enterosis, and tuberculosis (DLZ).
- Bolivians use decoction as a wash for bleeding, metrorrhagia, vaginitis, and wounds (DLZ).
- Ghanaians express juice from heated leaves to sniff for neuralgia (UPW).
- Ghanaians use as abortifacient, analgesic, lactagogue, and to stop abdominal pain and dysentery (UPW).
- Congolese use decoction to treat VD (UPW).
- Ivory Coastals take for childbirth and worms (UPW).
- Mexicans take juice decoction as astringent, diaphoretic, and diuretic, for fever and to clear gastrointestinal passages. Eaten cooked for calculus (MAX).

Downsides:

As of July 2007, the FDA Poisonous Plant Database listed one title alluding to toxicity of this species.

LOVE-LIES-BLEEDING (*Amaranthus caudatus* L.) ++

AMARANTHACEAE

Illustrations:

p 13 (MPG)

Synonyms:

Amaranthus alopecurus Hochst. ex A. Br. de Bouche.; *A. caruru* Hort.; *A. caudatus* L. subsp. *mantegazzianus* (Pass.) ined.; *A. caudatus* subsp. *saueri* V. Jehlík; *A. caudatus* var. *albiflorus* Moq.; *A. caudatus* var. *alopecurus* Moq.; *A. dussii* Sprenger; *A. edulis* Speg.; *A. mantegazzianus* Pass.; *A. maximus* Mill.; *A. paniculatus* Wall.; *A. pendulus* Hort. ex Moq.; fide (MPG; POR; USN).

Common Names:

Abanico (Ma.; JFM); Achis (Ma.; Peru; JFM; POR; RAR); Achita (Bol.; Ma.; Peru; Que.; Sp.; DLZ; JFM; POR; RAR; USN); Amarante Caudée (Fr.; POR; USN); Amarante Queue-de-Renard (Fr.; POR; USN); Amaranto (Ma.; Sp.; JFM; POR); Amaranto Coda Rossa (It.; POR); Anant (Ben.; WOI); Ataco (Ecu.; MPG); Ataco Morado (Ecu.; MPG); Bayam Ekor Kucing (Mal.; POR); Bayam Selaseh (Mal.; POR); Bledo Cimarron (Ma.; JFM); Bledo Francés (Sp.; POR; USN); Bledo Rojo (Ma.; JFM); Borlas (Ma.; JFM); Bustanafroz (Tel.; WO2); Cauda de Raposa (Por.; POR); Chaquilla (Ma.; JFM); Chichimeca (Ma.; JFM); Chilikaesoppu (Kan.; WO2); Chilai (Ben.; WO2); Chuamarasa (Ben.; WO2); Chuko (Guj.; WO2); Coimi (Ma.; Peru; JFM; POR; RAI; USN); Cola de Zorro (Ma.; Peru; JFM; POR); Coyo (Peru; Sp.; POR; RAR); Coyos (Ma.; JFM); Cuipa (Peru; POR; USN); Discipline des Religieux (Fr.; USN); Foxtail (Eng.; USN); Foxtail Amaranth (Eng.; POR; USN); Fuchsschwanz (Ger.; POR); Gartenfuchsschwanz (Ger.; POR; USN); Himo Geitou (Japan; POR); Hong Xian Cai (Taiwan; POR); Inca Wheat (Eng.; Ocn.; AH2; POR; USN); Inkaweizen (Ger.; POR; USN); Jataco (Sp.; POR; USN); Kahola Bhaji (Mar.; WO2); Kedari Chua

(Him.; WO2); Keikera (Tel.; WOI); Kiwicha (Bol.; Peru; Que.; Sp.; DLZ; POR; USN); Lao Qiang Gu (China; POR; USN); Lao Qiang Ke (Taiwan; POR); Love-Lies-Bleeding (Eng.; Scn.; AH2; POR; USN); Millmi (Bol.; Que.; DLZ); Moco de Pavo (Ma.; Peru; JFM; POR); Moncos de Peru (Por.; POR; USN); Peddathotakura (Tel.; WO2); Phak Khom Bai Daeng (Thai; POR); Pira (Ma.; JFM); Pison Calaloo (Bel.; Ma.; BNA; JFM); Punarevon-häntä (Fin.; POR); Pungikerrai (Tam.; WO2); Purple Amaranth (Eng.; USN); Qamaya (Sp.; POR); Qoymi (Bol.; Que.; DLZ); Queue de Renard (Fr.; USN); Quihuicha (Ma.; JFM); Quilete (Sp.; POR; USN); Quinoa del Valle (Arg.; POR); Quinoa (Ma.; JFM); Quinoa del Valle (Ma.; JFM); Raamadaanaa (Hindi; POR); Rævehale-Amarant (Den.; POR); Rajagaro (Guj.; WO2); Rajagira (Sanskrit; WO2); Rajgira (Hindi; WO2); Rama Dana (Hindi; WOI); Ramdana (Hindi; WO2); Rana Tampala (Sin.; POR); Rävsvans (Swe.; POR); Red-Hot-Cat-tail (Eng.; USN); Sangoracha (Sp.; POR); Sangorache (Ecu.; MPG); Sennin Koku (Japan; POR; USN); Sergorache (Ecu.; MPG); Shiritsa Khvostataia (Rus.; POR); Sirukeerai (Tam.; WO2); Siru Kiray (Tam.; WOI); Szarlat Zwisly (Pol.; POR); Tassel Flower (Eng.; USN; WO2); Trigo del Inca (Sp.; POR; USN); Trigo Inca (Ma.; JFM); Velvet Flower (Eng.; USN); Wei Sui Xian (China; POR).

Activities:

Abortifacient (f; WO2); Alpha-Amylase-Inhibitor (1; X15930754); Antidiabetic (1; X15930754); Antiemmenagogue (f; MPG); Antiinflammatory (f; MPG); Antioxidant (1; X15930754); Antiseptic (1; MPG; X8843942); Astringent (f; MPG); Diuretic (f; JFM; MPG); Emmenagogue (f; DLZ); Fungicide (1; MPG; X8843942); Hemagglutinant (1; MPG); Laxative (f; WO2); Nervine (f; DLZ); Proteinase-Inhibitor (1; X8305477); Sedative (f; DLZ); Tranquilizer (f; DLZ).

Indications:

Amebiasis (f; MPG); Arthrosis (f; DLZ); Bronchosis (f; JFM; MPG); Colds (f; JFM); Constipation (f; WO2); Cystosis (f; DLZ); Diabetes (1; X15930754); Diarrhea (f; MPG); Enterosis (f; DLZ); Fever (f; DLZ; JFM); Fungus (1; MPG; X8843942); Gastrosis (f; DLZ); Gingivosis (f; MPG); Hemorrhoids (f; WO2); Hepatosis (f; DLZ); Infection (1; MPG; X8843942); Inflammation (f; DLZ; MPG); Insomnia (f; DLZ); Mycosis (1; MPG); Nervousness (f; DLZ); Pain (f; DLZ); Pulmonosis (f; JFM; WBB); Rheumatism (f; MPG); Scrofula (f; WO2); Sores (f; WO2); Sore Throat (f; MPG).

Dosages:

FNFF = !! Seeds and leaves eaten (MPG). Grown as a potherb in India.

- Bolivians suggest the decoction for amenorrhea, cystosis, and rheumatic pains (DLZ).
- Bolivians suggest the tea for hepatosis, gastrosis, and intestinal fevers (DLZ).
- Bolivians use the leaves infused in milk to calm the nerves and alleviate insomnia (DLZ).
- Senegalese use roots boiled in honey as a pediatric laxative (WO2).
- South Africans use the leaves as abortifacient (WO2).

Downsides:

As of July 2007, the FDA Poisonous Plant Database listed six titles alluding to toxicity of this species.

Extracts:

Squalene reportedly reaches 2.2% in seed of “Oscar blanco” and 7.5% in “Victor red” varieties (X15930754).

ALTAMISA (*Ambrosia arborescens* Mill.) +**ASTERACEAE****A****Illustrations:**

p 115 (MPG); p 701 (ROE)

Synonyms:*Ambrosia artemisioides* Willd.; *Artemisia artemisioides*; *Franseria artemisioides* Willd.**Notes:**

Roersch (1994) notes that the altamisa is close kin to *Ambrosia peruviana*, sharing some of its common names and applications. He reports *Ambrosia arborescens*, the “altamisa” in Apurímac, Cusco, and Puno, but failed to find *Ambrosia peruviana*, the “markhu,” in Puno. He also reports *Ambrosia peruviana* from Bolivia, Colombia, and the Caribbean (ROE). However, De Lucca and Zalles (1992) report *Ambrosia arborescens* from Bolivia with both common names “altamisa” and “markhu.” I suspect that only the taxonomists distinguish the two, and that the names and applications are interchangeable with most Native Americans. Regrettably, I have no key to distinguish these two closely related species; I wish Roersch had provided one in his interesting comparison of the species.

Common Names:

Ajenjo (Bol.; MPG); Altamisa (Bol.; Ecu.; MPG; ROE); Ambrosia Silvestre (Bol.; MPG); Artemiasa (Bol.; MPG); Artemisa (Bol.; DLZ; MPG); Artimisia (Ecu.; MPG); Artrisa (Bol.; MPG); Madre Hierba (Bol.; DLZ; MPG); Marckhu (Aym.; Bol.; Ecu.; MPG); Marco (Bol.; Ecu.; MPG; USN); Marcu (Ecu.; MPG); Marju (Peru; Que.; EGG); Uriuri (Bol.; MPG). (Nscn).

Activities:

Analgesic (f; EGG; MPG); Antiinflammatory (f; MPG); Antiseptic (f1; MPG); Antispasmodic (f; MPG); Antiulcer (1; X10837995); Bactericide (1; MPG); Contraceptive (f; MPG); Cytoprotective (1; X10837995); Diuretic (f; MPG); Emmenagogue (f; DLZ; EGG; MPG); Emollient (f; ROE); Hemostat (f; ROE); Insecticide (f; MPG); Insectifuge (f; MPG); Molluscicide (1; MPG); Pulifuge (f; EGG; MPG); Stimulant (f; MPG); Tonic (f; MPG); Vermifuge (f; EGG; MPG).

Indications:

Abscesses (f; ROE); Amenorrhea (f; DLZ; MPG); Arthrosis (f; MPG; ROE); *Bacillus* (1; MPG); Bacteria (1; MPG); Bleeding (f; ROE); Bruise (f; MPG); Cardiopathy (f; ROE); Colic (f; MPG); Cramps (f; MPG); Diarrhea (f; ROE); Dysentery (f; DLZ; MPG); Dysmenorrhea (f; DLZ; MPG); Edema (f; ROE); Enterosis (f; MPG); Epilepsy (f; DLZ; MPG); Fever (f; ROE); Fracture (f; ROE); Hematoma (f; MPG); Hemorrhoids (f; EGG; ROE); Infection (f1; MPG); Inflammation (f; MPG); Metrorrhagia (f; ROE); *Micrococcus* (1; MPG); Nausea (f; MPG); Nervousness (f; MPG); Oliguria (f; DLZ; MPG); Pain (f; EGG; MPG); Parasites (f; MPG; ROE); Pneumonia (f; ROE); Puerperium (f; ROE); Rheumatism (f; MPG; ROE); Sores (f; MPG); Spasms (f; MPG); Sprains (f; ROE); Stomachache (f; ROE); Swelling (f; ROE); Toothache (f; ROE); Tumors (f; ROE); Ulcers (1; X10837995); Uterosis (f; ROE); Worms (f; EGG; MPG).

Dosages:

FNFF = X

- Andean Peruvians chew the flower heads for toothache (ROE).
- Andean Peruvians wash rheumatic areas with the decoction (ROE).
- Bolivians massage cramps and rheumatic areas with toasted leaves (DLZ).

- Bolivians suggest leaf tea to correct dysentery, dysmenorrhea, and oliguria (DLZ).
- Bolivians suggest root tea for epilepsy (ROE).
- Peruvians apply leaves topically to hemorrhoids (EGG).
- Peruvians suggest the leaf tea for worms (EGG).
- Peruvians use leaf tea as analgesic (EGG).

Downsides:

Large doses can be poisonous, causing CNS-depression, diarrhea, nausea, and vomiting (MPG). As of July 2007, the FDA Poisonous Plant Database listed one title alluding to toxicity of this species.

PERUVIAN RAGWEED (*Ambrosia peruviana* Willd.) + ASTERACEAE

Illustrations:

fig 16 (MPG); p 33 (TRA)

Synonyms:

Ambrosia cumanensis Kunth; *A. paniculata* auct. non Michx.; *A. paniculata* var. *cumanensis* (Kunth.) O. E. Schulz; *A. paniculata* var. *peruviana* (Willd.) O. E. Schulz.

Notes:

I regret that the TRAMIL (TRA) book reported many of the activities my database back then indicated for quercetin. Quercetin occurs in all plants, methinks, and everything they (and my database) said could accrue equally then to all plants. The more quercetin in the plant, the more possibility that the activity accrued to the plant, the less, the less. At one level quercetin inhibits p450, at another stimulates; at one level it is mutagenic, at another antimutagenic, at least *in vitro*; shall we throw up our hands. No, methinks. It occurs in all plants. Our herbivorous ancestors and the genes they passed on to us have co-evolved with quercetin for millions of years. I'm flaky enough to assume that our homeostatic body treats it like a vitamin, grabbing it if needed, urinating it if unneeded. It has many positive sides and some downsides as well. I suspect there are hundreds such ubiquitous chemicals, occurring in all or most green plants, and homeostatically mined by the human ingesting the plants containing them. Inca Indians used the herb, or its juice, to preserve cadavers (EGG; JFM; ROE; SOU).

Common Names:

Absinthe Anglais (Creole; Haiti; VOD); Absinthe Bâtard (Creole; Haiti; VOD); Absinthe de la Dominique (Creole; Haiti; VOD); Absinthe Marron (Creole; Haiti; VOD); Ajenjo (Peru; EGG); Alcanfor (Cuba; Ma.; JFM; JTR); Altamisa (Cuba; Hon.; Pan.; Peru; Sal.; Ven.; EGG; JFM; JTR; MPG; RAR; ROE; TRA); Altamiz (Hon.; Nic.; Peru; JFM; MPG; RAR); Altamiza (Peru; RAR); Altemisa (Ven.; MPG); Amargo (Peru; EGG; JFM; RAR; SOU); Ambroise a Feuilles d'Armoise (Creole; Haiti; VOD); Ambroisie (Fwi.; USN); Ambrosia Silvestre (Peru; ROE); Artamisa (Dor.; Ven.; MPG; TRA); Artemisa (Cuba; Dor.; Peru; Sp.; Ven.; AHL; EGG; JTR; MPG; SOU; USN); Cumana Ragweed (Peru; EGG; JFM; SOU); Maki (Peru; ROE); Malco (Peru; ROE); Marco (Peru; Sp.; EGG; JFM; RAR; SOU; USN); Marcu (Peru; EGG; SOU); Markhu (Peru; ROE); Marquito (Peru; EGG; JFM; RAR); Mashi Paico (Shipibo/Conibo; EGG); Mugwort (Ma.; JFM); Ragweed (Eng.; JFM; VOD); Wegwood (Ma.; JFM); Wild Tansy (Ma.; JFM); Wormwood (Eng.; JFM; USN). (Nscn).

Activities:

Analgesic (1; TRA); Anthelmintic (f; RAR; VOD); Antiaggregant (1; TRA); Antiallergic (1; TRA); Antiarrhythmic (1; TRA); Antihemorrhagic (1; TRA); Antiherpetic (1; TRA); Anti-

inflammatory (1; TRA); Antimalarial (f; VOD); Antioxidant (1; TRA); Antiseptic (f; ROE); Antispasmodic (f1; MPG; ROE; X15582831); Antiviral (1; MPG; TRA); Astringent (f; JTR); Bactericide (1; MPG; TRA); Capillariprotective (1; TRA); Depurative (1; MPG); Emmenagogue (f; EGG; JFM; ROE); Emollient (f; ROE); Febrifuge (f; JTR; VOD); GABA-nergic (1; X15582831); Hemostat (f; ROE); Hypotensive (1; TRA); Insecticide (1; MPG); Myorelaxant (1; TRA); Neurosedative (f; JFM); Neurotonic (f; EGG); NOS-Inhibitor (1; X15507340); Parasiticide (1; MPG); Pediculicide (f; MPG); Positive Chronotropic (1; TRA); Stimulant (f; JTR); Stomachic (f; VOD); Tonic (f; MPG); Vermifuge (f; EGG; JFM; SOU).

Indications:

Abscesses(f; ROE); Allergies (f1; MPG; TRA); Amenorrhea (f; EGG; ROE; SOU); Arrhythmia (1; TRA); Arthrosis (f; JTR); Bleeding (f1; MPG; ROE; TRA); Cardiopathy (f; MPG; ROE); Childbirth (f; MPG; ROE); Chorea (f; JFM); Colic (f; TRA); Constipation (1; MPG); Convulsions (1; MPG); Cramps (f; ROE); Dysmenorrhea (f; ROE); Dyspepsia (f; ROE); Edema (f; ROE); Enterosis (f; ROE); Epilepsy (f1; JFM; ROE; X15582831); Fever (f; JFM; JTR; VOD); Gastrosis (f; EGG; MPG; TRA); Headache (f; MPG); Hemorrhoids (f; ROE); Herpes (1; TRA); High Blood Pressure (f1; MPG; TRA); Hysteria (f; EGG; ROE; SOU); Infection (f1; MPG; ROE; TRA); Inflammation (1; TRA); Insomnia (f; MPG); Leukorrhea (f; ROE); Malaria (f; VOD); Myalgia (f; MPG); Nervousness (f; MPG); Neuralgia (f; JFM; RAR; ROE; SOU); Otoris (f; MPG); Pain (f1; MPG; TRA); Parasites (f; MPG; ROE); Pediculosis (f; MPG); Pneumonia (f; ROE); Rheumatism (f; JFM; RAR; SOU); Spasms (f1; MPG; ROE; X15582831); *Staphylococcus* (1; MPG); Stomachache (f; EGG; MPG; ROE); Swelling (f; MPG; ROE); Sydenham's Chorea (f; ROE); Toothache (f; ROE); Tumors (f; ROE); Uterosis (f; ROE); Vaginitis (f; ROE); Worms (f; EGG; JFM; ROE; RAR; SOU; VOD); Yellow Fever (f; MPG).

Dosages:

FNFF = X

- Andean Peruvians chew flower heads for toothache (ROE).
- Andean Peruvians take with molle and eucalyptus for swollen feet (in pregnancy) (ROE).
- Andean Peruvians wash rheumatic areas with the decoction (ROE).
- Colombians use dry leaf decoction as emmenagogue (MPG).
- Cubans use plant, in baths or lotions, for rheumatism (JFM; JTR).
- Dominicans take leaf decoction, cultivating the plant as a febrifuge (JFM; VOD).
- Haitians suggest the plant as anthelmintic, antimalarial, febrifuge, and stomachic (VOD).
- Hondurans take the plant for convulsions, gastrosis, parasites, parturition, and stomachache (MPG).
- Nicaraguans take for "aire," cardiopathy, gastrosis, high blood pressure, insomnia, nervousness, and otoris (MPG; TRA).
- Peruvians suggest root decoction for hysteria and neuralgia (SOU).
- Peruvians take decoction for amenorrhea and rheumatism (JFM; SOU).
- Puerto Ricans take floral decoction, in milk, for amenorrhea, epilepsy, and neuralgia (JFM).
- Salvadorans take decoction water for leukorrhea, parasites, and stomachache (MPG).
- Venezuelans make brooms from the plant to combat fleas (MPG).
- Venezuelans take powdered dry root decoction as antiepileptic, antirheumatic, emmenagogue, febrifuge, tonic, and vermifuge (MPG).

Downsides:

Some Haitians may be allergic (to the pollen), experiencing asthma, conjunctivitis, eczema, laryngitis, rhinitis, and urticaria (VOD). As of July 2007, the FDA Poisonous Plant Database listed one title alluding to toxicity of this species.

Extracts:

Plant decoction significantly reduced epilepsy-induced convulsion amplitude in mice (X15582831).

TORCHWOOD (*Amyris elemifera* L.) + RUTACEAE

Illustrations:

p 396 (AHL)

Notes:

The AUS, AVP, and JTR entries may also apply to *A. sylvatica*, which may or may not be a synonym of a variety of closely related *A. balsamifera*. The two species share many common names and folk uses.

Common Names:

Amyris Wood (Jam.; AUS); Balsam Tree Bark (Eng.; AUS); Bois Blanc (Guad.; Haiti; Mart.; AVP); Bois Candil (Ma.; JFM); Bois Chandelle (Guad.; Haiti; Mart.; AVP); Bois Flambeau (Guad.; AUS); Bois Pini (Guad.; Haiti; Mart.; AVP); Candlewood (Eng.; AVP); Chandelle Blanc (Dor.; AUS); Chandelle Marron (Haiti; AHL); Chilillo (Hon.; AVP); Cuaba Amarilla de Costa (Cuba; AUS); Cuaba de Costa (Cuba; AVP); Cuabilla (Cuba; Pr.; AUS; AVP); Elemi (Eng.; AUS); Guacanejo (Dor.; AUS; AVP); Gum Elemi (Eng.; AUS); Lignum Rhodium (Jam.; AVP); Melón (Sal.; AVP); Palo de Tea (Dom.; Pr.; AVP); Pimienta (Hon.; AVP); Roldán (Sal.; AVP); Rosewood (Jam.; AVP); Sea Amyris (Eng.; AVP; USN); Taray (Hon.; AUS; AVP); Tea (Pan.; Pr.; AVP); Teilla (Pr.; AUS); Torchwood (Eng.; AVP; USN); Trois Paroles (Haiti; AUS); Waika Pine (Bel.; AUS; BNA); White Candlewood (Jam.; AVP); White Torch (Bah.; AVP). (Nscn).

Activities:

Febrifuge (f; DAW); Mycobactericide (1; X9626931); Pectoral (f; JTR).

Indications:

Arthrosis (f; JLH); Childbirth (f; AUS); Diarrhea (f; AUS); Dyspnea (f; JTR); Fever (f; DAW); Flu (f; DAW); *Mycobacterium* (1; X9626931); Puerperium (f; DAW); Sores (f; DAW); Tumors (f; JLH); VD (f; AUS); Wounds (f; DAW).

Dosages:

NFFF = ! Flesh of fruit aromatic but edible (JFM).

- Bahamians use for childbirth, fever, flu, sores, and wounds (Eldridge, 1975).
- Caicos Islanders use shoot teas for diarrhea (AUS).
- Cubans steep wood macerate in wine 9 days for shortness of breath (AUS).
- Venezuelans use leaf decoction for VD (AUS).

Downsides:

As of July 2007, the FDA Poisonous Plant Database listed one title alluding to toxicity of this species.

Extracts:

The compound texalin, an oxazole from *Amyris elemifera*, showed antimycobacterial activity when tested against *Mycobacterium tuberculosis*, *M. avium*, and *M. kansasii* (X9626931).

**CASHEW (*Anacardium occidentale* L.) +
ANACARDIACEAE**

**Illustrations:**

p 287 (L&W); pl 275 (KAB)

Synonyms:

Acajuba occidentalis (L.) Gaertn.; *Anacardium microcarpum* Ducke; *Cassuvium pomiferum* Lam.; fide (POR).

Notes:

Known in Haiti since 1558 (VOD). Too often I find contrasting reports about herbs, as for example many edible plants may contain some antioxidant, some pro-oxidant, some carcinogenic, some anticarcinogenic, some hypertensive, some hypotensive, some hyperglycemic, some hypoglycemic phytochemicals. In my fantasy world I speculate that the human body, having co-evolved with many such phytochemicals for millions of years, has homeostatic mechanisms for grabbing those phytochemicals it needs, excluding those it does not need. Very speculative. Rarely do I find the juxtaposition of such contrasts in a single sentence in an abstract as, e.g., fresh and processed cashew apple juice, a favorite beverage in Brazil, “have mutagenic, radical-trapping, antimutagenic, and co-mutagenic activity and ... these properties can be related to the chemical constituents of the juices” (X12802807). My Caucasian genes cannot have known cashew, nor *Capsicum*, nor *Carica*, much more than 500 years, when the Caucasians “discovered” America in 1492. My Native American genes, if any, may have known them closer to 50,000 years.

Friends and vague listeners may have heard me urging a “Gatesian” computerized approach, analyzing 1,000 of the better food farmaceuticals, for 1,000 important phytochemicals so we could then, via “Gatesian” computer approaches, determine which were best for which malady of mankind. Phillips et al. (2005) certainly dampen my enthusiasm for such an approach, showing that just the nuts present huge analytical challenges. And my decades of compiling have shown me what mega-variation there is in the quantization of phytochemicals within a given species. I fear a mega-Gatesian mega-cybernetic quandary. “The results of this study also illustrate the complexity that can be involved in evaluating food phytochemical data. Determination of the phytosterol composition of nuts and seeds is not amenable to production

scale analysis of predetermined components using existing standard values” (Phillips et al., 2005). What is the most efficacious mix of the subinfinite combinations of the various sterols in a given nut, or in a 7-nut mixture, some possibly synergic, some probably additive, some possibly even antagonistic. I still optimistically suspect that all these sterols have been known to our genes for millions of years of co-evolution and hence the body homeostatically grabs those it needs from the sterol mix, excluding them if unneeded. Fortunately for nut-lovers, they quantified the phytosterols in nuts and seeds commonly consumed in the U.S. Such phytosterols are medicinally important, e.g., in BPH and in high cholesterol (X16302759).

Common Names:

Acajaiba (Brazil; Por.; AVP; KAB); Acajiú (It.; POR); Acajou (Haiti; Ma.; AVP; JFM); Acajou a Pommes (Fr.; Fwi.; AVP; L&W; POR); Acajounrd (Den.; POR); Acajou Occidental (Fr.; EFS); Acaju (Col.; Ma.; Tupi; JFM; RAR); Acajubaum (Ger.; USN); Acaya (Bol.; Ma.; JFM; MPG); Acayoba (Arg.; AVP); Acayocha (Ocaina; Peru; Sa.; EGG; SOU); Acayoiba del Brasil (Sp.; KAB); Acuyu (Bol.; MPG); Agnikrita (Sanskrit; KAB); Akajoubaum (Ger.; POR); Akaju (Dutch; EFS); Alcayoiba (Chile; MPG); Amarillo (Col.; MPG); Amerikan Elmasi (Tur.; EFS); AZaaro (Ocaina; EGG; RAR; SOU); Anacardier (Fr.; KAB; USN); Anacardier Occidental (Fr.; EFS); Anacardio (Col.; It.; MPG; POR); Anacardo (Arg.; Chile; Col.; Sp.; AVP; MPG; POR; USN); Anacardo Occidental (Sp.; EFS); Andima (Tam.; KAB); Andi Paruppu (Mal.; WOI); Arbol de Jobo (Col.; MPG); Arushkara (Sanskrit; KAB); Atinga (Ga; Krobo; Twi; KAB); Badami Pharangi (Iran; EFS; NAD); Balubad (Tag.; KAB; POR); Beli Mahagoni (Bos.; Croatia; Serbia; POR); Bellota de Acajou (Sp.; AVP); Bholliaambo (Oriya; KAB); Bollogo (Ilo.; KAB); Boschkassjoe (Dutch; Sur.; AVP; L&W); Brazilian Cashew (Eng.; POR); Buas Gajus (Malaya; KAB); Bunga Kesar (Malaya; IHB); Cacahuil (Dor.; Ma.; Pr.; AVP; JFM; JTR); Cachou (Fr.; AVP); Cajou (Fr.; Ma.; JFM; POR); Cajú (Brazil; Ma.; Peru; Por.; AVP; JFM; POR; RAR; USN); Cajuasu (Brazil; Por.; AVP; RAR); Cajú Do (Por.; POR); Cajúeiro (Brazil; Ma.; Por.; AVP; EFS; JFM; L&W; POR; USN); Cajuil (Dor.; Ma.; Pr.; AVP; JFM; L&W); Caju Manso (Por.; AVP); Canjil (Ven.; JTR); Caobo (India; AVP); Caracoli (Ma.; JFM); Caschunuss (Ger.; KAB); Casciu (It.; AVP); Casha (Sa.; SOU); Cashew (Eng.; Scn.; JFM; POR; USN); Cashewnoot (Dutch; POR); Cashu (Dwi.; L&W); Casjoe (Ma.; JFM); Casoi de Filipinas (Sp.; KAB); Casoy (Pi.; Tag.; Vis.; KAB; PCS); Casu (Peru; AVP; L&W); Casuy (Tag.; KAB); Caujil (Col.; MPG); Caujir (Col.; MPG); Cayutero (Par.; AVP); Cherry (Dwi.; AVP); Chorote (Ma.; JFM); Chura (Col.; MPG); Coa (Ticuna; EGG); Common Cashew (Eng.; POR); Cuji (Ma.; JFM); Cuya (Sa.; SOU); Dao Lon Hot (Ic.; KAB); Diboto (Congo; AVP); Djambu Monjet (Malaya; EFS); Du Xian Zi (Pin.; DAA); Ecorce Anti-Diabetique (Fr.; AVP; KAB); Elefanteluus (Den.; EFS); Epatca (Slovenia; POR); Epatka (Slovenia; POR); Gaerumara (Kan.; NAD); Gaju (Sumatra; IHB); Gajus (Java; Malaya; IHB; POR); Gera Bija (Kan.; DEP); Gera Poppu (Kan.; DEP); Gera Vate (Kan.; DEP); Geru (Kan.; KAB); Gerubija (Kan.; KAB; WOI); Gia Nhu Thu (Ic.; KAB); Gonkuda (Tulu; KAB); Gous el Kabouly (Arab.; AVP); Govamba (Kan.; KAB); Gove (Kan.; KAB); Guchhapushpa (Sanskrit; KAB); Hajli Badam (Ben.; KAB; SKJ); Hijlibadam (Ben.; DEP; NAD); Hijilabodamo (Oriya; KAB); Indijanski Kašu-Orah (Bos.; Croatia; Serbia; POR); Jacote (Guat.; Sal.; AVP); Jacote Maranyon (Guat.; Sal.; AVP); Jaedema Midi (Tel.; NAD); Jambu (Java; IHB); Jambu Erang (Sumatra; IHB); Jambu Golok (Malaya; IHB; POR); Jambu Irong (Malaya; IHB); Jambu Mede (Malaya; Sunda; IHB; POR); Jambu Mete (Java; IHB); Jambu Monje (Sumatra; IHB); Jambu Monyet (Java; Malaya; IHB; KAB; POR); Jambu Siki (Sunda; IHB); Jambu Terong (Malaya; IHB); Janggar (Malaya; IHB); Janggus (Malaya; EFS; IHB; KAB; POR); Jidi Anti (Tel.; DEP); Jidimamidi (Tel.; KAB); Jidi Mamidi Vittu (Tel.; DEP); Jidi Vate (Kan.; DEP); Jiede Pundu (Tel.; DEP); Jocote (Peru; EGG); Jocote Marañón (Guat.; Hon.; Ma.; Sal.;

JFM; L&W); Kaajuu (Hindi; Nepal; Urdu; POR); Kaju (Ben.; Bom.; Dec.; Guj.; Hindi; Kon.; Mah.; Malaya; Mar.; Sin.; DEP; JFM; KAB; NAD); Kaju Atta (Sin.; DEP; KAB); Kaju Chabi (Mar.; DEP; KAB); Kaju Kaliya (Bom.; DEP; KAB); Kajus (Malaya; IHB); Kajutaka (Sanskrit; KAB; SKJ); Kallarma (Tam.; KAB); Kanju (Hausa; KAB); Kanjus (Malaya; IHB); Kappal Cherun Kuru (Mal.; DEP); Kappalmavu (Mal.; KAB); Kappalsera (Mal.; KAB); Kappa Mavakuru (Mal.; DEP); Kappa Mavu (Mal.; NAD); Kasauh (Ulwa; EB53:363); Kaschubaum (Ger.; EFS; POR; USN); Kaschunuss (Ger.; POR); Kaschunussbaum (Ger.; AVP; POR); Kasho (Amahuaca; Piro; Shipibo/Conibo; EGG; MD2; RAR); Kashu (Ese'aja; EGG; MD2); Kashumavu (Ker.; Mal.; KAB; SKJ); Kasjoe (Dutch; Ma.; Sur.; AVP; JFM; POR); Kasjoeboom (Dutch; POR); Kasoy (Tag.; POR); Kazao (Congo; AVP); Kazu (Kon.; KAB); Kazuwa (Congo; AVP); Kempuguru (Kan.; KAB); Kempukerubija (Kan.; DEP; NAD); Kia Jou Chou (China; KAB); Kia Jou Tsou (China; KAB); Kjiu (China; AVP); Hottai (Tam.; DEP); Kottaimundiri (Tam.; DEP; KAB); Lonkabholli (Oriya; KAB); Mamuang Himapan (Thai; IHB); Mamuang Him Maphan (Thai; POR); Manzana Portuguesa (Peru; EGG); Marañon (Col.; Cr.; Cuba; Guat.; Mex.; Peru; Sal.; Sp.; Tupi; AVP; EFS; EGG; JFM; KAB; MD2; POR; RyM; USN); Merei (Ma.; JFM); Mereke (Ma.; Sur.; AVP; JFM); Merey (Col.; Ma.; Ven.; AVP; JFM; JTR; POR); Merey del Orinoco (Sp.; KAB); Merey Sabaero (Ma.; JFM); Merli (Sp.; EFS); Mijaguo (Ma.; JFM); Mijao (Ma.; JFM); Mindiri (Tam.; WOI); Mindiri Appazham (Tam.; NAD); Mindiri Paruppu (Tam.; NAD); Mkanju (Swahili; KAB); Mokkalamidi (Ap.; Tel.; KAB; SKJ); Moonthamamidivittu (Tel.; NAD); Mundiri (Tam.; DEP; KAB; SKJ); Mundiri Kai (Tam.; NAD); Mundiri Kottae (Tam.; NAD); Muntam Amidi (Tel.; KAB; WOI); Muntamamidi Vittu (Tel.; DEP); Muntha Mamidi (Tel.; WOI); Nierenbaum (Ger.; EFS; USN); Noix Cajou (Creole; Fr.; Haiti; POR; VOD); Noix d'Acajou (Fr.; Fr. Guy; Haiti; AVP; L&W; POR); Noix de Cajou (Fr.; POR); Noyer d'Acajou (Fr.; KAB); Nucnu Bares (Sa.; SOU); Nucnu Varas (Que.; RAR); Nucnyu Baras (Sa.; SOU); Nuez de Anacardo (Sp.; AVP); Oacaju (Brazil; KAB); Olvi (Sur.; AVP); Orosi (Ma.; JFM); Orvi (Dutch; Ma.; Sur.; AVP; JFM; L&W); Pajuil (Ma.; Pr.; Sp.; Ven.; AVP; JFM; JTR); Paludi Cashupete (Dwi.; AVP; L&W); Parangimavu (Mal.; KAB); Paranki Nava Kuru (Mal.; DEP); Parvati (Sanskrit; KAB); Patirimavu (Mal.; KAB); Pauji (Ma.; Ven.; AVP; JFM); Pauxi (Ma.; JFM); Pipak (Bos.; Croatia; Serbia; POR); Pipci (Croatia; POR); Pomme Acajou (Haiti; AVP); Pomme Cajou (Guad.; Haiti; AVP; VOD); Pomme d'Acajou (Fr.; Haiti; L&W; POR; VOD); Pommier de Cajou (Fr.; KAB); Ponm Kajou (Creole; Haiti; VOD); Portugimavu (Mal.; KAB); Prithagabija (Sanskrit; KAB); Saram (Tam.; KAB); Shoephaphara (Sanskrit; EFS; MPI; NAD); Sigidima (Tam.; KAB); Sihosayesi (Burma; DEP; KAB); Sophahara (Sanskrit; KAB); Sophara (Sanskrit; KAB); Srigdhapitaphala (Sanskrit; KAB); Swai Chanti (Ic.; KAB); Thayet (Burma; DEP; KAB); Thee Hot (Burma; KAB); Thee Noh (Burma; DEP; KAB); Tihotiya-si (Burma; DEP; KAB); Ti Hsien Tzu (China; KAB); Tirigai (Tam.; KAB); Turakageru (Kan.; KAB; NAD); Uaipinu (Cuna; IED); Upapushpika (Sanskrit; KAB); Uri (Garifuna; IED); Uttumabalam (Tam.; KAB); Vrittapatra (Sanskrit; KAB); West Indian Cashew Nut (Eng.; KAB); West Indische Elefantenausagebaum (Ger.; EFS); West Indische Olifants-Luizenboom (Dutch; EFS); Ya Koi (Thai; IHB); Yao Guo (China; POR); Yao Guo Li (China; POR); Yao Guo Shu (China; POR); Yapiru (Ma.; JFM); Ya Ruang (Thai; IHB); Yevutsa (Awuna; KAB).

Activities:

Aldose-Reductase-Inhibitor (1; WO3); Alpha-Glucosidase-Inhibitor (1; WO3); Alterative (f; NAD); Amebicide (1; IED); Analeptic (f; EGG); Anesthetic (f1; DEP; IED; NAD); Anthelmintic (f1; MPB); Antidiabetic (f; MPB); Antiedemic (f1; MPG; VOD; X15148523; X2414605); Antihepatotoxic (1; WO2); Antihypertensive (1; MPG; WO2); Antiinflammatory (f1; MPB; MPG; X15148523; X15507326); Antileishmanic (f; X8701041); Anti-

mutagenic (1; X15138017); Antioxidant (f1; VOD; X16095792); Antiradicular (f; VOD); Antiseptic (f1; EGG; RAI; WO2); Antitumor (1; VOD; WO3); Antitussive (f; RAI); Antiviral (1; X15876501); Aphrodisiac (f; MPB; VOD); Astringent (f1; MPB); Bactericide (1; MPI; VOD; WO3); Cardiotonic (f; EGG); Chemopreventive (f1; VOD; X16095792); CNS-Depressant (1; MPB; VOD); Contraceptive (f; DAV); Cytotoxic (1; WO3); Depurative (f; JFM; MPB); Diaphoretic (f; MPB); Digestive (f; RAI); Discutient (f; IED); Diuretic (f; RAI; WO2); Emmenagogue (f; VOD); Expectorant (f; DAV; MPB); Febrifuge (f; NAD; RAI); Fungicide (f1; IED; VOD; X15619579); Gram(+)-icide (1; VOD); Hemostat (f; DAV); Hypoglycemic (f1; MPG; RAI; WO2; X15174002); Hypotensive (f; RAI); Insecticide (1; WO2); Insectifuge (f; IED); Invertase-Inhibitor (1; WO3); Keratolytic (f; EGG); Lactagogue (f; VOD); Larvicide (1; WO2); Laxative (f; VOD); Lipooxygenase-Inhibitor (1; WO3); Molluscicide (1; MPB); Mutagenic (1; X15138017); Prostaglandase-Synthase-Inhibitor (1; WO3); Purgative (f; WO2); Rubefacient (f1; MPI); Secretolytic (f1; RAI); Sedative (1; MPB); Stimulant (f; MPB); Tonic (f; MD2; MPB); Tyrosinase-Inhibitor (1; RAI; X8021657); Vasorelaxant (1; X15138017); Vermifuge (f; JFM); Vesicant (1; MPI); Vulnerary (f; VOD).

Indications:

Acariasis (f; RAR); Acne (f1; MPG; VOD; WO3); Aftosa (f; MPG; RAR); Age Spot (f; VOD); Amebiasis (1; IED); Amenorrhea (f; VOD); Amnesia (f; WO2); Anemia (f; VOD); Aphtha (f; MPB); Arrhythmia (f; WO2); Arthritis (f1; X15148523); Asthma (f; JFM; RAI); Bacteria (1; MPI; RAI; VOD; WO3); Bleeding (f; DAV; EGG); Bronchosis (f; RAI); Burns (f; IHB; VOD); Cachexia (f; MPB); Callus (f; JLH); Cancer (1; VOD; WO3); Cancer, breast (1; WO3); Cancer, cervix (1; WO3); Cancer, skin (1; WO3); *Candida* (f; EGG; IHB); Cardiopathy (f; EGG; WO2); Caries (f; EGG; RAI); Catarrh (f; IHB; MPB); Cholera (f; WO2); Colds (f; IED); Colic (f; MPB; RAI); Congestion (f; JFM; RAI); Constipation (f; IHB; VOD); Contraception (f; DAV); Corns (f; JLH; WO2); Coughs (f; MD2; RAI); Cracked Feet (f; DEP); *Cryptococcus* (1; X15619579); Debility (f; MPB; RAI); Dermatosis (f; IHB; JTR; MD2; MPB; NAD; VOD); Diabetes (f1; EGG; JFM; MPB; MPG; RAI; WO2; X15174002; X9741880); Diarrhea (f1; IED; IHB; MD2; ULW; VOD; X15876501); Dysentery (f; DAV; JFM; VOD); Dyslactea (f; VOD); Dyspepsia (f; JFM; MPB); Dysuria (f; RAI); Edema (f1; MPG; VOD; X15148523; X2414605); Enterosis (f; MPB); *Escherichia* (1; RAI); Feet (f; IHB); Fever (f; IED; MD2; NAD; RAI; VOD); Filaria (1; MPG); Flu (f; DAV; MPG; VOD); Fungus (f1; IED; MD2; VOD; X15619579); Gastrosis (f1; JFM; RAI); Gingivosis (f; IED); Glaucoma (1; WO3); Headache (f; IED); *Helicobacter* (1; RAI); Hemoptysis (f; DAV; RyM; VOD); Hepatoma (1; WO2); High Blood Pressure (f1; EGG; MPG; RAI; WO2); Hookworm (f; WO2); Hyperglycemia (f1; MPG; RAI; WO2; X15174002); Impotence (f; MPG; VOD; WO2); Infection (f1; EGG; IED; MD2; MPI; RAI; VOD; WO2; WO3; X15619579; X15876501); Inflammation (f1; MPB; MPG; X15148523; X15507326; X2414605); Insanity (f; WO2); *Leishmania* (f1; X8146389); Leprosy (f; IHB; NAD; RAR; WO2); Lupus (f; MPG); Malaria (f; IED; MPG; RAI; VOD); Mycosis (f; IED; IHB; MD2); Myosis (f; RAI); Nausea (f; IHB; JFM; MD2); Nephrosis (f; WO2); Neurosis (f; VOD); Pain (f1; DEP; IED; MPG; NAD); Pemphigus (f; IHB); Pericarditis (f; WO2); *Pseudomonas* (1; RAI); Psoriasis (f; DEP; MPG; NAD; VOD); Puerperium (f; JFM); Rashes (f; IED); Rheumatism (f1; WO2; X15148523); Ringworm (f; VOD); Rotavirus (1; X15876501); Scrofula (f; RAI); Septic Shock (1; X15507326); Sores (f; VOD; WO2; X870104); Sore Throat (f1; IED; RAI; WO3); Stomachache (f; JFM); Stomatosis (f; JFM); Swelling (f1; MPG; X2414605); Syphilis (f; MPB; MPG; RAI; VOD); Thrush (f; IHB; MD2; VOD); Toothache (f; VOD); Tumors (1; VOD; WO3); Ulcers (1; RAI); Vaginosis (f; DAV; EGG; RAI); VD (f; MPB; RAI); Viruses (1; X15876501); Warts (f; IHB; MPG; RAR; VOD; WO2); Worms (f1; JFM; MPB; VOD); Wounds (f; RAI; VOD; X8701041).

Dosages:

FNFF = !!! Fruits edible raw, seed poisonous until roasted. Fruit juice regarded as bechic, cardi-tonic (doc. of signatures, the “apple” looks like the heart?), diuretic, expectorant, laxative, and respiratonic, applied to acne, calluses, corns, lupus, sores, tumors, and warts, and drunk for catarrh, cholera, dermatoses, flu, hemoptysis, leprosy, nausea, nephrosis, and sore throat (JLH; MPG; NAD; SOU; VOD; WO2).

- Asian Indians suggest the acrid seed resin for amnesia, heart palpitations, mental derangement, rheumatic pericarditis, and small pox (WO2).
- Brazilians gargle with bark decoction for inflammation, sore throat, and stomatosis (JFM), using the plant also for asthma, bronchitis, colic, corns, cough, debility, diabetes, dyspepsia, dysuria, eczema, enterosis, fever, impotence, leishmania, myosis, oliguria, pain, psoriasis, scrofula, sore throat, stomatosis, syphilis, tonsillitis, urogenitosis, vaginosis, VD, warts, and wounds (MPB; RAI).
- Colombians soak the bark in water 24 hr and take for diabetes (JFM).
- Cubans use the “fruit” for diabetes, the bark infusion for dysentery and eruptions (JTR).
- Cuna take sweetened bark decoction with *Spondias* bark for asthma, cold, and congestion (IED).
- Haitians poultice mature leaves on burns and dermatoses (VOD).
- Haitians take bark or leaf decoction for amenorrhea, anemia, diabetes, diarrhea, fever, malaria, neuroses, plaque, and thrush, using the plant for caries, diabetes, stomatitis, toothache, and warts (RAI; VOD).
- Latinos suggest bark tea, 3–4 cups/day, for dermatosis, diabetes, inflammation, sore throat, and stomatosis (MPG), and the decoction for diarrhea, dysentery, and sore throat (JFM).
- Latinos take leaf decoction for diarrhea, dyspepsia, and gastrosis (JFM).
- Mexicans suggest the plant for arthrosis, dermatosis, diabetes, diarrhea, freckles, leprosy, sores, swelling, syphilis, and warts (JTR; PCS; RAI).
- Panamanians take for asthma, cold, congestion, diabetes, diarrhea, high blood pressure, and inflammation (RAI).
- Peruvians use the plant for cough, dermatoses, diarrhea, flu, fungus, infection, mycosis, and thrush, suggesting douches with bark decoction for candidiasis and vaginitis (EGG; MD2; RAI).
- Surinamese boil a sliver of bark, 5 × 10 cm, in 1 liter water for diarrhea, dysentery, and sore throat (JFM), using the seed oil to kill botfly larvae (RAI).
- Tikuna use fruit juice for diarrhea and flu (DAV; RAI; SAR).
- Trinidadans take leaf decoction for asthma, cough, diarrhea, dyspepsia, and stomach-ache (JFM; RAI).
- Venezuelans respect the astringent leaf tea for diabetes and diarrhea (JFM), the resin for caries and warts (JTR), taking the plant for dysentery, leprosy, and sore throat (RAI).

Downsides:

Not covered (AHP; KOM). Alkyl phenols are dermal irritants. May cause poison ivy like reactions. As of July 2007, the FDA Poisonous Plant Database listed 128 titles alluding to toxicity of this species.

Extracts:

Alcoholic leaf extract anticancer, antihepatomic, hypoglycemic (MPI; WO2). Fruit juice contains three antitumor compounds (JAF41:1012).

PINEAPPLE (*Ananas comosus* (L.) Merr.) +++**BROMELIACEAE****Illustrations:**

fig 16 (DAV)

Synonyms:

Ananas ananas (L.) Voss; *A. duckei* Hort.; *A. sativus* Schult. & Schult. f.; *A. sativus* var. *duckei* Camargo; *Bromelia ananas* L.; *B. comosus* L. (basionym); fide (AH2; USN).

Common Names:

Aainunnas (Iran; KAP); Abacaxi (Brazil; Por.; AVP; MPB; POR; USN); Abacaxí do Mato (Brazil; USN); Achupalla (Que.; EGG; RAR); Ainunnas (Arab.; Iran; EFS); Anachi Pazham (Tam.; POR); Ananá (Guarani; Sp.; DLZ; POR; USN); Ananas (Den.; Dutch; Fin.; Fr.; Ger.; Haiti; Hindi; Rus.; Sanskrit; Swe.; Tur.; Yunani; AVP; KAP; POR; USN); Ananás (Por.; POR; USN); Anânâs (Arab.; POR); Ananas Commun (Fr.; POR); Ananas Edule (Guad.; Mart.; AVP); Ananaseiro (Por.; UPW); Ananasie (Ma.; JFM); Ananas Jadalny (Pol.; POR); Ananas Pain de Sucre (Creole; VOD); Ananassa (Ger.; AVP); Ananás Selvagem (Brazil; USN); Ananasso (It.; AVP; POR); Ananasso Ordinario (It.; POR); Ananaz (Por.; AVP); Ananaz do Mato (Por.; AVP); Anannaas (Urdu; POR); Anannaasa (Hindi; POR); Anaras (Ben.; KAP); Annaanas (Urdu; POR); Annasi (Sin.; KAP); Annasipazham (Tam.; KAP); Bhaikatacher (Nepal; KAP); Bhui Katar (Nepal; POR); Bo Luo (China; POR); Boniama (Dor.; AVP); Cancá (Cacataibo; Shipibo; EGG; RAR; SOU); Cancan (Amahuaca; Cashibo; Piro; EGG; RAR; SOU); Canga (Conibo; EGG; RAR); Chihuy (Que.; RAR; SOU); Chiirimahuay (Aym.; SOU); Chi Na' (Tikuna; SAR); Chirianti (Peru; SOU); Chixnu (Uvoshá; SOU); Chop (Ma.; JFM); Chulu (Aym.; SOU); Cjhuy (Que.; EGG); Curauá (Brazil; RAR); Dyahsoonco (Uvoshá; SOU); Feng Li (China; POR); Festa (Tur.; POR); Fichtenapfel (Ger.; EFS); Ganna (Piro; EGG; RAR); Garaffon Piña (Peru; DAV); Gebero Piña (Peru; DAV); Gravatá (Brazil; USN); Hakatamenanasu (Japan; KAP); Hanna (Piro; SOU); Huacamayo Piña (Peru; DAV); Jambo Piña (Peru; DAV); Korisha (Candoshi; SOU); Lagarto Piña (Peru; DAV); Mâak Nat (Laos; POR); Matzatlí (Mex.; AVP); Mazati (Ma.; JFM); M'noah (Khmer; POR); Nana (Cocoma; Creole; Culina; EGG; RAR; SOU; VOD); Na Naq Thì (Burma; POR); Nanas (Malaya; Por.; POR; UPW); Nanas Hijao (Malaya; EFS); Nanasie (Ma.; JFM); Osi (Cuna; IED); P'a In Ae P'ul (Korea; POR); Panacous (Brazil; AVP); Phalta (Aym.; SOU); Piña (Bel.; Col.; Cr.; Cuba; Dor.; Sp.; AHL; RyM; USN); Piña de América (Sp.; POR; USN); Piña Negra (Peru; DAV); Piña Tropical (Sp.; POR; USN); Pine (Trin.; AVP); Pineapple (Bel.; Eng.; Scn.; AH2; BNA; CR2; USN);

Pinha (Brazil; Por.; EFS); Pinya (Tag.; POR); Pita (Brazil; AVP); Pomme de Pin (Ma.; JFM); Sapparot (Thai; POR); Shiju (Choco; IED); Thom Dua (Vn.; POR); Tohuan (Amuesha; AVP); Traí Qua (Vn.; POR); Tuhuan (Amuesha; Yanesha; EGG); Yánanásh (Aguaruna; Jibaro; Shuar; EGG; RAR; SOU); Yayama (Dor.; AVP); Yeíawa (Garifuna; IED); Yurujtira (Bol.; Que.; DLZ); Z'Ananas (Haiti; AHL); Zannanna (Haiti; AVP; VOD).

Activities:

Abortifacient (f1; DAV; EGG; VOD; WO2); Alterative (f; KAP); Analgesic (1; APA; X15841258); Anorectic (1; APA; CRC); Anthelmintic (f1; DAV; EGG); Antiaggregant (1; APA; KOM; PH2; X16308185); Antiallergic (1; X16337164); Antiasthmatic (1; X16337164); Anticolitic (1; X15936249); Antidiabetic (1; X16753349); Antidote (f; AHL; JFM); Antie-demic (1; KOM); Antiencephalotic (1; X15794389); Antifertility (1; KAP; WO2); AntiIBD (1; X15936249); Antiileus (1; X16137711); Antiinflammatory (1; APA; PH2; WO2; X15841258; X16337164); Antimetastatic (1; X15796214); AntiMS (1; X15794389); Antineurotic (1; X15794389); Antinitrosaminic (1; JNU); Antioxidant (1; WO2; X14611187); Antiplatelet (1; X16308185); Antiradicular (1; X14611187); Antisarcomic (1; X15796214); Antisciatic (f; SUP); Antiscorbutic (1; IED); Antitendinitic (f; SUP); Antitumor (1; BGB; PH2; X15796214); Antiulcer (1; APA); Aperient (f; KAP); Ascaricide (f; UPW); Astringent (f1; DAV; EGG); Bac-tericide (1; BGB); Carminative (f; SAR); Cerebrotonic (f; EGG); Chitinase (1; X15665484); Cholagogue (f; IED); Decongestant (f; JFM); Depurative (f; CRC); Diaphoretic (f; IED); Digestive (f1; APA; CRC; KAP; MPB; VOD); Discussant (1; CRC); Diuretic (f1; AHL; APA; DLZ; KAP; VOD; WO2; X11297849); Emmenagogue (f1; APA; EFS; IED; KAP; VOD); Estrogenic (f1; CRC; WBB); Expectorant (f; UPW); Febrifuge (f; KAP); Fibrinolytic (1; APA; BGB; PH2); Fungicide (1; X15665484); Hemostat (f; EFS; KAP); Hydragogue (f; CRC); Hypotensive (f; EGG); IL-6-Inducer (1; X16367938); Immunomodulator (1; X16337164); Immunostimulant (1; X16367938); iNOS-Inhibitor (1; X16137711); Intoxicant (f; CRC); Laxa-tive (f1; VOD; WO2); Lipolytic (1; CRC; FNF); Litholytic (f; EGG); Myocontractant (1; CRC); Myorelaxant (1; APA; CRC); Necrolytic (1; WO2); NF-Kappa-B-Inhibitor (1; X16137711); Parasiticide (1; AHL; CRC; FNF); Proteolytic (1; AHL; APA; BGB; PH2); Purgative (1; IED; KAP); Refrigerant (f; CRC; IED); Suppurative (f; EGG); Taeniicide (1; WO2); Tonic (f; APA; KAP); Uterocontractant (1; CRC); Uterotonic (f; APA); Vermifuge (f1; AHL; CRC; KAP; VOD); Vulnerary (1; APA; X16367938).

Indications:

Abscesses (f; CRC); Allergies (1; X16337164); Amenorrhea (f; PH2); Anemia (f; EGG); Angina (f; VOD); Arteriosclerosis (f; EGG); Arthrosis (f1; DAV; EGG; X15841258); Asthma (f1; PH2; X16337164); Bacteria (1; JAC7:405); Biliousness (f; DLZ; EGG); Bites (f; IED); Bleeding (f1; CRC; DAV; EFS; KAB); Blennorrhagia (f; DAV; EGG); Bronchosis (f; JFM; MPB); Bruise (f1; CRC); Burns (f12; BGB; PH2; UPW); Calculus (f; EGG); Cancer (f1; APA; PH2); Catarrh (f; EGG); Cellulite (1; FT71:S73); Childbirth (f; CRC); Colic (f; EGG); Constipation (f1; APA; CRC; PH2); Corns (f; CRC); Cystosis (f; APA; CRC); Diabe-tes (1; X16753349); Diarrhea (1; APA; JAC7:405); Diphtheria (f; EGG); Dropsy (f; UPW); Dysmenorrhea (f; AHL; APA; PH2); Dyspepsia (f; APA; DAV; PH2); Dyspnea (f; UPW); Dysuria (f; DLZ; JFM); Edema (f1; CRC; KOM); Encephalosis (f1; X15794389); Entero-sis (f; EGG; RAR); *Escherichia* (1; JAC7:405); Exocrine Hepatic Insufficiency (f; BGB); Fever (f; CRC; PH2); Flu (f; EGG); Fungus (1; X15665484); Gas (f; APA; DAV); Gastrosis (f; EGG; KAP); Hematoma (f; CRC; WO3); Hemorrhoids (f1; JFM; FT71:S73); Hepatosis (f; DLZ; JFM); Hiccups (f; CRC); High Blood Pressure (f; EGG); Hypochondria (f; AHL; CRC); Ileus (1; X16137711); Infection (f1; IED; X15665484); Inflammation (f1; APA; EGG; MPB; PH2; X15841258); Jaundice (f; IED; KAP); Kidney Stones (f; APA; DAV); Labor (f; APA); MS (f1; X15794389); Mycosis (1; X15665484); Nasal Parasinusitis (1; KOM); Nausea (f; DLZ); Nephrosis (f; EGG); Neurasthenia (f; APA); Neurosis (1; X15794389); Obesity (f1;

CRC; PH2); Pain (f1; APA; EGG; X15841258); Pancreatosis (f; PH2); Parasites (f1; AHL; CRC; EGG); Phlebitis (f; APA); Pulmonosis (f; JFM); Respirosis (f; APA; CRC); Rheumatism (f1; DAV); Scarlet Fever (f; CRC); Sciatica (f; SUP); Seasickness (f; JFM); Sinusitis (f1; APA; CRC; X15796206); Smallpox (f; UPW); Sores (f1; AHL; CRC; WO3); Sore Throat (f; EGG; JFM); Spider Bites (f; UPW); Sprains (f1; CRC); Stings (f; IED); Strangury (f; EGG); Swelling (f1; APA; KOM; PH2); Tendinitis (f; SUP); Thrombophlebitis (f; APA); Tumors (f1; CRC; X15796214); Ulcers (f1; APA; CRC); Urethrosis (f; UPW); UTIs (1; APA); Vari-cosities (f; APA); VD (f; APA; CRC); Vertigo (f; UPW); Warts (f; CRC); Worms (f; APA; DAV; PH2); Wounds (f12; APA; PH2; X16367938).

Dosages:

FNFF = !!! Ripe fruits widely eaten raw or preserved, or made into beverages, juice, liqueur, vinegar or wine. Green fruits eaten pickled or in soups with hot sauce. Terminal buds or cabbages eaten raw or cooked; flower spikes peeled and steamed. Young shoots also eaten raw or curried (EGG; FAC; TAN). 80–320 mg bromelain/day (KOM; PH2); 250–500 mg bromelain 3×/day (APA); 14–28 ml fruit juice (KAP); 1–3 drams leaf juice (KAP).

- Bolivians gargle fruit decoction with honey for angina, sore throat, and tonsilitis (DLZ).
- Congolese take the leaf decoction for difficulty in breathing (UPW).
- Haitians eat ripe fruits as digestive (VOD).
- Haitians take juice of green fruit or flowers as abortifacient or emmenagogue (MPB; VOD).
- Haitians take juice of green fruit or root as diuretic or vermifuge (VOD).
- Haitians take ripe fruit juice as laxative, antidote to meat or shellfish poison, and as a gargle for angina (VOD).
- Latinos boil rind with rosemary and apply to hemorrhoids (JFM).
- Peruvians eat the fruit or drink the juice for anemia, arteriosclerosis, arthritis, catarrh, cystosis, diphtheria, dyspepsia, flu, high blood pressure, inflammation, intestinal parasites, nephrosis, pain, pharyngosis, stones, and worms (EGG).
- Peruvians suggest pineapple “chicha” for biliary calculus (EGG).
- Peruvians take leaf decoction for colic and gastrosis (EGG).
- Sierra Leone natives treat spider bites by alternating warm leaf tea washes with pieces of fruit (UPW).
- Trinidadans apply crushed young fruits or leaves or bind them on sprains (JFM).
- Venezuelans use sweetened juice of ripe fruits for hepatitis, jaundice, and seasickness (JFM).

Downsides:

Class 1 (JAD). Not covered (AHP). “No health hazards are known in conjunction with the proper administration of designated therapeutic dosages” (PH2). Some people may be allergic to Bromelain. Side effects may include allergy, diarrhea, GI problems, metrorrhagia, nausea, and vomiting (APA; KOM). Vietnamese attribute rare cases of heart failure with cyanosis and ecchymoses, followed by collapse and coma and sometimes death after eating fruits (WBB). May augment antiaggregant or anticoagulant activity of other blood thinners (KOM). Bromelain may increase blood and urinary levels of tetracyclines or other antibiotics (KOM; PH2). Large doses of ripe (I would have said unripe) fruit juice are reported to cause utero-contractions, so may be contraindicated in pregnancy (APA). Juice of unripe fruit highly irritant and abortifacient. As of July 2007, the FDA Poisonous Plant Database listed 31 titles alluding to toxicity of this species.

Extracts:

Root extracts (10 mg/kg orl rat) diuretic, ca. 75% of hydrochlorothiazide (X11297849). Bromelain has shown antiinflammatory, analgesic, and immunomodulatory properties which may provide a safer alternative or adjunctive treatment for osteoarthritis, asthma, and hypersensitivity disorders (X15841258; X16337164), and has also been shown to reduce tumor growth and metastasis (X15796214). This is the only case I remember of Fleming et al. (1998) missing a Blumenthal et al. (1998) Commission E approved drug, the American food plant, pineapple, with its proteolytic bromelain, a very active compound indeed.

Bromelain: antiaggregant, antianginal 1,500 mg/day, antiappetant, antiarthritic, anti-bronchitic, anticellulitic, antidysmenorrheic, antidyspeptic, antiechymotic, antiedemic ED50 = 50 mg/kg, antiepisiotomic, antiinfective, antiinflammatory, antileukemic, anti-metastatic 400mg/kg/day, antiplaque, antipneumonic, antiprostaglandin, antiradiation, antisclerotic, antisclerodermic, antisinusitic, antitendinitic, antithrombophlebitic, antithrombic 60–800 mg, antitumor, antitumor (breast), antitumor (lung) 0.3% diet, antitumor (skin), antitussive, antiulcer, bactericide, chemopreventive, digestive, emetic, fibrinolytic EC50 = 25 mg/kg, hypotensive, laxative, lipolytic, mucolytic, myorelaxant, nematocide, proteolytic 400–600 mg 3× daily, spasmolytic, vermifuge, vulnerary, LD50 = 20 ivn rbt; LD50 = 36 ipr mus, LD50 = >10,000 orl rat, LD50 = 30–35 par mus, LD50 = 85.2 par rat, LD50 = >20 par rbt (FNF).

CABBAGE BARK (*Andira inermis* (W. Wight) Kunth ex DC.) +

FABACEAE

Illustrations:

fig 18 (IED)

Synonyms:

Andira excelsa Kunth; *A. jamaicensis* Urb.; *A. microcarpa* Griseb.; *A. racemosa* Lam. ex J. St.-Hil.; *Geoffroea inermis* W. Wight; *Millettia rooseveltii* De Wild.; *Vouacapoua inermis* (W. Wright) A. Lyons; fide (USN).

Notes:

AVP entries below may also apply to *Andira excelsa* and *Andira racemosa*.

Common Names:

Acatrus (Brazil; AVP); Ajunado (Bol.; Sp.; DLZ; USN); Almendro (Cr.; Sp.; IED; USN); Almendro Cimarrón (Guat.; AVP); Almendro del Rio (Sal.; AVP); Almendro Montés (Sal.; AVP); Almendro Real (Sal.; AVP); Andira (Peru; EGG); Andira Uchi (Brazil; Por.; Sa.; SAR; USN); Andira Uxi (Brazil; MPB); Angelim (Brazil; Peru; Por.; AVP; USN); Angelim Branco (Brazil; Por.; USN); Angelim da Várzea (Brazil; Por.; MPB; USN); Angelim de Varzea (Peru; AVP); Angelim Liso (Brazil; Por.; USN); Angelin (Eng.; USN); Angelina (Col.; AVP); Angelin-a-Grappes (Fwi.; JTR); Angelin Palmiste (Guad.; Mart.; AVP); Angelin Tree (Eng.; JTR; USN); Aracuhy (Brazil; AVP); Arenillo (Pan.; AVP; IED); Avineira (Brazil; AVP; MPB); Bastard Cabbage (Bel.; Eng.; Trin.; AVP); Bastard Mahogany (Wi.; JTR); Batseed (Br. Guy.; AVP); Black Blossom Berry (Bel.; AVP); Black Plum (Tobago; AVP); Bois Olive (Guad.; Mart.; AVP); Bois Palmiste (Fwi.; Haiti; AVP; JTR); Cabbagebark (Bel.; Eng.; AVP; USN); Carbón (Hon.; AVP); Carne Asado (Cr.; IED); Chaperno (Guat.; AVP); Chigo (Ven.; AVP); Chirai (Ven.; AVP); Cocú (Cr.; Pan.; Sp.; IED; USN); Congo (Ma.; JFM); Cornwood (Eng.; Ma.; JFM); Crilumbica (Mex.; JTR); Cuartoloti (Ma.; JFM); Cuilimbuca (Mex.; AVP); Cujia (Nic.; AVP); Cumarurana (Brazil;

MPB); Dividive (Col.; IED); Dog Almond (Vi.; AVP); Dog Plum (Vi.; AVP); Dogwood (Eng.; IED); False Mahogany (Vi.; AVP); Guacamayo (Guat.; Hon.; AVP; JTR); Guaxis (Bol.; Chiriguano; DLZ); Guayacan Congo (Ma.; JFM); Iquichemenes (Bol.; Chiquitano; DLZ); Iximche (Ma.; JFM); Kabbes (Sur.; AVP); Kaway (Bel.; AVP); Kokaro (Ma.; JFM); Llabá (Ma.; JFM); Lombricero (Mex.; Trin.; AVP); Maca (Ma.; JFM); Maca Colorado (Mex.; JTR); Macallo (Mex.; JTR); Macayo (Mex.; AVP; JTR); Majagua Gallina (Ma.; JFM); Majoma (Ma.; JFM); Manteco (Col.; Sp.; USN); Moca (Cr.; Pr.; AVP; JTR); Moca Blanca (Pr.; AVP; JTR); Moca Colorado (Mex.; AVP); Moca Negra (Ma.; JFM); Motón (Ecu.; AVP); Pacay (Mex.; JTR); Palo de Burro (Dor.; AVP); Palo de Seca (Col.; AVP); Pau de Morcego (Brazil; Por.; USN); Peloto (Ma.; JFM); Pheasantwood (Jam.; AVP); Pilon (Pan.; IED); Pilón (Guy.; Ven.; AVP; JTR); Purga (Col.; AVP); Quinillo Colorado (Peru; AVP; EGG); Quira (Pan.; AVP; IED); Reddie (Ma.; JFM); Roode Kabbes (Sur.; AVP); Saint Martin (Fr. Guy.; AVP); Saint Martin Rouge (Fr. Guy.; AVP); Swamp Kaway (Bel.; AVP); Tarara (Bol.; Guarayo; DLZ); Tassac (Bol.; Chacoba; DLZ); Trompillo (Ma.; JFM); Uchy (Peru; RAR); Worm Bark Tree (Eng.; AVP); Wormwood (Jam.; AVP); Yaba (Cuba; JTR); Yaba Colorado (Cuba; JTR); Yabo (Dor.; Mex.; AVP; JTR); Yakba (Ma.; JFM); Yaya (Mex.; AVP). (Nscn).

Activities:

Anthelmintic (f; CRC; MPB; WO2); Antidote (*comocladia*) (f; CRC); Antiplasmodial (1; X11025148); Cicatrizant (f; DAV; RAR); Emetic (f; CRC; MPB; RAR); Febrifuge (f; IED; JFM); Laxative (f; IED); Narcotic (f; CRC; JTR; WO2); Parasiticide (f; IED); Piscicide (f; CRC; DLZ); Purgative (f; CRC; IED; MPB; SAR; WO2); Toxic (f; DLZ); Vermifuge (f; CRC; IED); Vulnerary (f; DLZ).

Indications:

Constipation (f; IED; WO2); Dermatitis (f; JFM); Dysentery (f; DLZ); Eczema (f; CRC; JFM); Enterosis (f; IED); Fever (f; CRC; IED; JFM; WO2); Malaria (f1; CRC; JFM; X11025148); Parasites (f; IED); Worms (f; CRC; IED; MPB; WO2); Wounds (f; DAV; DLZ; JFM; RAR); Yaws (f; CRC).

Dosages:

FNFF = ?

- Brazilians take decoction of 500 mg seed (elsewhere bark) on an empty stomach for parasites, possibly malarial parasites (JFM).
- Cubans take leaf decoction for *Comocladia* poisoning, fever, and worms (JFM; JTR).
- Jamaicans apply grated seed in paste to wounds, taking bark or fruit for worms (JFM).
- Nicaraguan Garifuna use bark decoction for constipation, fever, intestinal parasites, and worms (IED).
- Trinidadans apply bark decoction to eczema and yaws, and take orally for worms (JFM).

Downsides:

Not covered (AHP; APA; KOM; PHR. As of July 2007, the FDA Poisonous Plant Database listed 15 titles alluding to toxicity of this species.

Extracts:

Contains berberine and biochanin-A, both of which have many biologically important activities (WO2). Calycosin and genistein, from lipophilic stem and leaf extracts, antiplasmodial *in vitro* for *Plasmodium falciparum* (X11025148).