

Supplementary material

Fruits native to South America: a narrative review of biological properties and chemical profile

Compilation of scientific name, common name, image, and main outcomes of studies on chemical profile, anti-inflammatory, antioxidant and antimicrobial properties of selected fruits native to South America.

Scientific name	Fruit image	Common name	Country of origin	Chemical profile	Anti-inflammatory properties	Antioxidant properties	Antimicrobial properties
<i>Alibertia patinoides</i> <i>Borojoa patinoides</i>	 Source: Giovanni Garzon Pardo, CC BY-SA 4.0 < https://creativecommons.org/licenses/by-sa/4.0/ >, via Wikimedia Commons	Borojo	Colombia, Venezuela, Ecuador	<u>Studied part of the fruit:</u> fruit. <u>Main outcomes:</u> Using the SPME–GC–M technique, 21 volatile compounds were identified, with 2-nonanol being the main component. The volatile fraction was distributed among different chemical classes: eight alcohols, eight esters, two ketones, two carboxylic acids and one monoterpene compound. The alcohol family represented 68.78% of the total volatile compounds, with 2-nonanol (53.52%), responsible for the fruity and pulpy aroma. DOI: 10.1016/j.indcrop.2014.10.047	No anti-inflammatory studies available for this fruit.	<u>Studied part of the fruit:</u> fruit pulp and peel. <u>Main outcomes:</u> Three different extraction processes (methanol; ethanol+acetone; and water) were tested and assessed the antioxidant potential by FRAP, DPPH and Ferrous ion-chelating (FIC). As results, the ethanol+acetone extract presented the highest antioxidant potential for all tested methodologies, being FRAP: 426.58 µM of Trolox equivalents/100g; DPPH: 55.55 µM of Trolox equivalents/100g; and FIC: 1.63 µM of Ethylenediaminetetraacetic acid equivalent/100g DOI: 10.1016/j.indcrop.2014.10.047	<u>Main outcomes:</u> In general, all the strains were inhibited by the BAE showing inhibition halos ranging between 10.3 ± 0.7 and 22.4 ± 0.9 mm. The most sensible strains were <i>S. enteritidis</i> SE4406 (22.4 ± 0.9 mm) followed by <i>S. typhimurium</i> SE48 (15.32 ± 0.5 mm) and Gram-positive bacteria (<i>L. monocytogenes</i> , <i>S. aureus</i> and <i>B. thermosphacta</i>) DOI: 10.1016/j.indcrop.2014.10.047
<i>Anacardium occidentale</i>	 Source: Wilfredor, CC0, via Wikimedia Commons	Cajú	Brazil	<u>Studied parts of the fruit:</u> whole fruit. <u>Main outcomes:</u> By the UPLC-ESI-QToF technique, 13 phenolic compounds were identified in different genotypes: two phenolic acids (digalloyl glucoside and cinnamoyl glucoside), 5 glycosylated flavonoids (myricetin-O-hexoside, myricetin-O-rhamnoside, quercetin-O-hexoside, quercetin-O-rhamnoside, and isorhamnetin-O-hexoside), and 6 anacardic acids. DOI: 10.1016/j.fbio.2021.100931	<u>Studied parts of the fruit:</u> leaf. <u>Main outcomes:</u> Leaf extract (0.5-5 µg/mL) suppressed TNF-α and IL-1β production in activated macrophage culture. DOI: 10.1155/2017/2787308	<u>Studied parts of the fruit:</u> fruit and fibers. <u>Main outcomes:</u> Antioxidant potential of fruit juice and fibers was analyzed after the simulated gastrointestinal digestion <i>in vitro</i> . It was observed a decrease in antioxidant potential for juice (27% decrease) and for fiber (10.2%) after digestion. DOI: 10.1155/2018/3753562	<u>Main outcomes:</u> Solutions using higher <i>A. occidentale</i> concentrations were capable of inhibiting the microbial growth (<i>S. epidermidis</i> ATCC 12228 or <i>Staphylococcus aureus</i> ATCC 25923). <i>S. epidermidis</i> was the more sensitive organism. DOI: 10.1590/S1516-89132012000600006 <u>Main outcomes:</u> Antimicrobial activity was evaluated on <i>Staphylococcus aureus</i> ATCC 25923, <i>Listeria monocytogenes</i> ATCC 19115, <i>Escherichia coli</i> ATCC 25922 and <i>Salmonella Typhimurium</i> ATCC 51812. Only L-CAE exerted antimicrobial activity against <i>Listeria monocytogenes</i> ; treatment with 50 and 100 mg/mL L-CAE produced zones of inhibition around the colonies with sizes of 11 and 13 mm, respectively. CG-CAE and M-CAE did not exhibit antibacterial activity. DOI: 10.1007/s13197-020-04594-0
<i>Ananas comosus</i>	 Source:	Abacaxi/ Pineapple	Brazil, Paraguay, Argentina	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Fruits were analyzed for their phenolic profile using ESI(–)FT-ICR MS and ESI(–)MS/MS techniques, and 13 compounds were	<u>Studied parts of the fruit:</u> leaf. <u>Main outcomes:</u> Oral administration of leaf extract (100-500mg/kg) reduced paw edema in mice. In vitro (50-500 µg/mL), it modulated the production of	<u>Studied part of the fruit:</u> peel. <u>Main outcomes:</u> An <i>in vivo</i> experiment was done with winstar rats fed with a high-fat diet and threatened with the pineapple peel extract.	<u>Main outcomes:</u> Pineapple extract (<i>Ananas comosus</i> L. Merr.) is dissolved in aquadest, then poured into test tube at varying concentrations (6 g/ml; 3 g/ml; 1.5 g/ml; 0.75 g/ml, 0.375 g/ml; and

	Suniltg at Malayalam Wikipedia, CC BY 3.0 <https://creativecommons.org/licenses/by/3.0/>, via Wikimedia Commons			identified, present in the crude and phenolic extract of the samples. DOI: 10.1002/jsfa.8561	cytokines (TNF-α and IL-1β) prostaglandin. DOI: 10.1007/s10787-017-0379-3 Studied parts of the fruit: peel. Administration of peel extract (400 mg/kg) reduced <i>in vivo</i> inflammation in the carrageenan-induced air pouch model. DOI: 10.1016/j.jep.2021.114576	As results, the treatment was capable to decrease the MDA levels and increase the GSH levels, in comparison with the control group. DOI: 10.1016/j.metop.2021.100077	0.1875 g/ml). After 24 hours of incubation, samples are plated onto nutrient agar plate, to determine the MBC. The extract has antimicrobial activities against multidrug-resistant <i>Pseudomonas aeruginosa</i>. MIC could not be determined, because turbidity changes were not seen. The MBC of pineapple extract to multidrug-resistant <i>Pseudomonas aeruginosa</i> is 0.75 g/ml. DOI: 10.20473/ijtid.v6i5.4159
<i>Annona crassiflora</i>	 Source: Fernando Tatagiba, CC BY 3.0 <https://creativecommons.org/licenses/by/3.0/>, via Wikimedia Commons	Araticum/ Marolo	Brazil	<u>Studied parts of the fruit:</u> fruit pulp. <u>Main outcomes:</u> Semi-ripe fruit pulp was analyzed by HPLC-ESI-IT-MS/MS technique. From the ethanolic and ethyl acetate extracts, phenolic acids (p-coumaric, gallic, quinic and ferulic), flavones and derivatives (apigenin, epicatechin, 2'-5-dimethoxyflavone, 3',7-dimethoxy-3-hydroxyflavone, kaempferol-3-O-glucoside and 3-O-rutinoside, quercetin-3-O-glucoside, procyanidin B2 and rutin), aporphinic alkaloids (xylopin, stefagin and romucosine) and acetogenin (annonacin) were identified. DOI: 10.3390/foods11142079	<u>Studied parts of the fruit:</u> leaf. <u>Main outcomes:</u> Oral treatment (100-300 mg/kg) with methanolic extract of the leaves reduced carrageenan-induced edema and leukocyte migration, as well as MPO activity. DOI: 10.3109/13880209.2015.1014567	No antioxidant studies available for this fruit.	<u>Studied parts of the fruit:</u> fruit pulp. <u>Main outcomes:</u> Extracts were obtained with ethanol: water (7:3, v/v) and <i>in vitro</i> antibacterial activity evaluated through both the agar diffusion and broth microdilution methods against 60 Oxacillin Resistant <i>S. aureus</i> (ORSA) strains and against <i>S. aureus</i> ATCC6538. <i>A. crassiflora</i> inhibited the growth of the ORSA isolates in both methods (6-15mm diameter halo and MIC 25mg/mL) and <i>S. aureus</i> ATCC6538 (14-18mm diameter halo and MIC 12.5mg/mL) DOI: 10.1590/S0036-46652014000400011
<i>Annona squamosa</i>	 Source: Muhammad Mahdi Karim, GFDL 1.2 <http://www.gnu.org/licenses/old-licenses/fdl-1.2.html>, via Wikimedia Commons	Anón/ Fruta do conde	Brazil, Venezuela	<u>Studied part of the fruit:</u> fruit pulp. <u>Main outcomes:</u> The presence of the diterpenoid compound kaur-16-en-18-oic acid in considerable quantity (0.25% of DM) was detected in the lipid fraction. The essential oil from the fruit pulp was obtained and its volatile constituents were identified by GC-MS. The main compounds were α-pinene (25.3%), sabinene (22.7%) and limonene (10.1%). DOI: 10.3390/foods10102343 DOI: 10.1006/jfca.2000.0968	<u>Studied part of the fruit:</u> leaf and peel. <u>Main outcomes:</u> Leaf and peel extracts (1, 5 and 10 μg/mL) suppressed IL-6 secretion in stimulated THP-1 cell cultures. DOI: 10.34172/PS.2023.5	<u>Studied part of the fruit:</u> pulp and seeds. <u>Main outcomes:</u> Antioxidant potential was accessed by DPPH, ABTS, Fe³⁺ reduction, β-carotene and 2-deoxyribose (2-DR) protection assays. As results, the seed extract showed the highest antioxidant potential for all tested methodologies. (DPPH: IC₅₀ 0.36mg/mL; ABTS: IC₅₀ 0.14 mg/mL; Fe³⁺ reduction: IC₅₀ 0.57 mg/mL; 2-DR protection: IC₅₀ 0.41 mg/mL; β-carotene protection: IC₅₀ 0.16 mg/mL). DOI: 10.3390/foods10102343	<u>Main outcomes:</u> Ethanolic extract had a satisfactory inhibition effect for <i>Staphylococcus aureus</i> but did not affect <i>Escherichia coli</i>, <i>Listeria monocytogenes</i>, and <i>Salmonella typhimurium</i>. The sample presented a MIC of 0.340 mg mL⁻¹ for all bacteria tested and showed no bactericidal effect on the tested concentrations. DOI: 10.4067/S0717-75182020000200281
<i>Aristotelia chilensis</i>		Maqui	Chile, Argentina	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> From ethanolic and aqueous extracts and their fractions of	<u>Studied parts of the fruit:</u> pulp. <u>Main outcomes:</u> The extracts and fractions (50μg/mL) suppressed the	<u>Studied parts of the fruit:</u> whole fruit. <u>Main outcomes:</u> The authors studied the antioxidant potential of many different	<u>Main outcomes:</u> Inhibitory effect on 7 of the 8 bacteria assayed which occurs in a concentration-dependent manner (S.

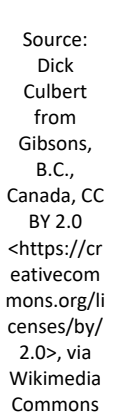
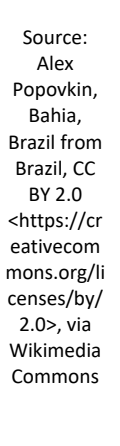
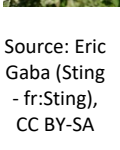
	Source: Denis.prévôt, CC BY-SA 3.0 < https://creativecommons.org/licenses/by-sa/3.0/ >, via Wikimedia Commons			ripe fruits, different phenolic compounds were identified by HPLC technique and spectroscopic data analysis (UV, NMR). Fractions of anthocyanidins, flavonoids and phenolic acids were obtained by flash and open column chromatography. The main compounds gentilic acid, ferulic acid, gallic acid, p-coumaric acid, sinapic acid, 4-hydroxybenzoic acid, delphinidin, cyanidin, vanillic acid, delphinidin gallate, gallic acid, catechin and epi-catechin as mixtures 1:1, and several glycosides of anthocyanidins (delphinidin-3-sambubioside-5-glucoside, delphinidin-3,5-diglucoside, cyanidin-3-sambubioside-5-glucoside, cyanidin-3,5-diglucoside, delphinidin-3-sambubioside, delphinidin-3-glucoside, cyanidin-3-sambubioside, and cyanidin-3-glucoside), and proanthocyanidin B were detected. DOI: 10.1016/j.foodchem.2009.07.045	production of nitric oxide, iNOS and COX-2 in RAW 264.7 macrophage cultures. DOI: 10.1016/j.fct.2016.12.036	extractions and partitions. As result, the ethanolic extract showed the highest antioxidant potential, by DPPH (IC ₅₀ 1.70 µg/mL), ORAC (31926.5 µmol Trolox equivalents/g) and FRAP (13937.9 µmol catechin equivalents/g) analysis, and it was directly related to the major content of phenolic compounds that could be extracted. DOI: 10.1016/j.foodchem.2009.07.045	<i>marcescens</i> , <i>A. faecalis</i> , <i>A. hydrophila</i> , <i>P. fluorescens</i> , <i>C. freundii</i> , <i>A. denitrificans</i> , and <i>S. putrefaciens</i>). Only against <i>L. innocua</i> the films added with maqui berry were no active. DOI: 10.1016/j.lwt.2015.07.026 <u>Main outcomes:</u> Extracts exhibit significant antimicrobial activity against several bacterial strains, including those commonly associated with the spoilage of refrigerated foods or with pathogenic potential. The two strains most sensitive to the extract were <i>Aeromonas hydrophila</i> (MIC of 40 g/L) and <i>Listeria innocua</i> (MIC of 50 g/L), with MBC of 50 g/L and 60 g/L, respectively. In contrast, bacteria such as <i>Enterobacter amnigenus</i> , <i>Enterobacter gergoviae</i> and <i>Achromobacter denitrificans</i> demonstrated greater resistance, presenting MIC values ranging from 80 to 90 g/L and MBC of 90 to 100 g/L. DOI: 10.1002/jsfa.7628
<i>Berberis buxifolia</i>	 Source: Agnieszka Kwiecień, Nova, CC BY-SA 4.0 https://creativecommons.org/licenses/by-sa/4.0/ , via Wikimedia Commons	Calafate	Chile, Argentina	<u>Studied part of the fruit:</u> fruit. <u>Main outcomes:</u> The phenolic composition of fruits was evaluated by the HPLC-DAD technique. Fourteen phenolic compounds were identified. The main anthocyanins identified were the group of 3-glycoside conjugates, delphinidin-3-glucoside with a concentration of 23.61 µmol/g, followed by petunidin-3-glucoside with a concentration of 7.70 µmol/g and Cyanidin 3-O-p-coumaroyl-glucoside with a concentration of 3.8 µmol/g. Nine non-anthocyanin components were also identified. DOI: 10.1016/j.foodchem.2014.12.039 DOI: 10.1111/jfbc.13254	No anti-inflammatory studies available for this fruit.	<u>Studied part of the fruit:</u> entire fruit. <u>Main outcomes:</u> Three different extracts (aqueous, alcoholic and hexanic) were done with entire fruits. The antioxidant potential was assessed using blood samples stimulated with chloramphenicol to cause an oxidative stress. As results, the cells threatened with aqueous extract showed the highest protection potential against oxidative stress of leukocytes and erythrocytes. Source: http://www.scielo.org.ar/scielo.php?script=sci_arttext&pid=S0025-76802010000100012&lng=es&nrm=iso	No antimicrobial studies available for this fruit.
<i>Byrsonima crassifolia</i>		Murici	Brazil	<u>Studied part of the fruit:</u> pulp. <u>Main outcomes:</u> Supercritical extraction of murici pulp was performed to determine the main bioactive compounds. The extracted oil presented lutein (224.77 µg/g),	<u>Studied parts of the fruit:</u> aerial parts, fruit, seed. <u>Main outcomes:</u> Oral administration (200 mg/kg) of hexane extract reduced inflammatory edema in an induced animal	<u>Studied part of the fruit:</u> pulp and oil. <u>Main outcomes:</u> Orac and DPPH methods were used in freeze-dried pulp, oil and ethanolic extracts. The extracts (oil and ethanolic) were obtained by supercritical fluid extractions. The freeze-dried pulp	<u>Studied part of the fruit:</u> fruit. <u>Main outcomes:</u> Extracts showed low effectiveness in controlling the population growth of Gram-negative and Gram-positive bacteria. Reference: Pío-Leon et al., 2013.

	Source: Koffermeija, CC BY-SA 4.0 < https://creativecommons.org/licenses/by-sa/4.0/ >, via Wikimedia Commons			oleic, palmitic and linoleic as the main fatty acids, and POLi (17.63%), POO (15.84%), PPO (13.63%) and LIOO (10.26%) as the main triglycerides. The ethanolic extract presented lutein (242.16 µg/g), phenolic compounds (20.63 mg GAE/g) and flavonoids (0.65 mg QE/g). DOI: 10.3390/foods10040737	experimental model. Reference: Cotera et al., 2013. Altern Ther Health Med (2013), Jan-Feb, 19(1):26-36.	sample showed ORAC activity between 1.45-1.90 µmol TE/g, and DPPH 1.37-2.47 µmol TE/g. For the oil extract, the activity values were, for ORAC, 32.83-43.48 µmol TE/g, and for DPPH 6.01-6.04 µmol TE/g. The ethanolic extract showed the highest activities. The ORAC range was 100.88-122.61 µmol TE/g, and DPPH: 12.87-17.14 µmol TE/g. DOI: 10.3390/foods10040737 <u>Studied part of the fruit:</u> pulp and peel. <u>Main outcomes:</u> Extract made with methanol/water (80:20 v/v) was freeze-dried and re-suspended in methanol/water (10:90, v/v) for ROS and RNS assays. The ORAC obtained activity was 0.3 µmol TE/mg of extract. The others analysis was expressed by IC ₅₀ values, being, H ₂ O ₂ = 228 µg/mL, HO = 7 µg/mL, HOCl = 10 µg/mL, ONOO- (without NaHCO ₃): 21 µg/mL, and ONOO- (with NaHCO ₃): 17 µg/mL. DOI: 10.1016/j.foodres.2014.07.032	Available at: https://www.cabidigitallibrary.org/doi/full/10.5555/20133355305
<i>Campomanesia phaea</i>	 Source: Webysther Nunes, CC BY-SA 4.0 < https://creativecommons.org/licenses/by-sa/4.0/ >, via Wikimedia Commons	Cambuci	Brazil	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Phenolic composition was analyzed by LC-ESI-MS/MS technique and 36 compounds were identified. Identified phenolic compounds belonged to the class of phenolic acids, procyanidins, flavan-3-ols, flavonols, flavones, lignans, ellagitannins and gallotannins. DOI: 10.1039/D0FO01763A	<u>Studied parts of the fruit:</u> essential oil and leaf. <u>Main outcomes:</u> The essential oil and leaf extract (1-100 µg/mL) suppressed the production of inflammatory cytokines (TNF-α and IL-6). Furthermore, it inhibited (20 µg/mL) NF-κB in macrophage culture. DOI: 10.1016/j.jep.2020.112562	<u>Studied parts of the fruit:</u> puree. <u>Main outcomes:</u> A fruit puree was done and gastrointestinal digestion was simulated. The antioxidant potential was assessed before, during and after the digestion through the ABTS and DPPH assays. As results, the antioxidant potential decreased during the gastrointestinal digestion, for both analyses. DOI: 10.1016/j.fufo.2021.100066	<u>Main outcomes:</u> The MIC and MBC/MFC of the extracts was determined against <i>Candida albicans</i> ATCC 5314, <i>Staphylococcus aureus</i> ATCC 25923, <i>Staphylococcus epidermidis</i> ATCC 12228, <i>Pseudomonas aeruginosa</i> ATCC 27853, <i>Enterococcus faecalis</i> ATCC 29212 and <i>Bacillus cereus</i> ATCC 11778. The pulp extract of <i>Campomanesia phaea</i> did not show a significant effect on the planktonic cells and biofilms of the treated microbial cultures. DOI: 10.1039/D0FO01763A
<i>Eugenia brasiliensis</i>	 Source: No machine-readable author provided. B.navez assumed	Grumixama	Brazil	<u>Studied parts of the fruit:</u> pulp. <u>Main outcomes:</u> Pulp presented sesquiterpene fractions greater than monoterpene fractions, respectively in its volatile composition, out of a total of 19 compounds identified by GC/MS. DOI: 10.3390/molecules27154955	<u>Studied parts of the fruit:</u> pulp. <u>Main outcomes:</u> Pretreatment with pulp extract (200 µg/mL) reduced TNF-α release and NF-κB activation in RAW 264.7 macrophage cultures. <i>In vivo</i> , treatment with the extract (3-30 mg/kg) reduced neutrophil migration, TNF-α release and paw edema after carrageenan challenge. DOI: 10.1016/j.biopha.2018.03.034	<u>Studied part of the fruit:</u> whole fruit. <u>Main outcomes:</u> An extract containing 10g of the crushed fruit was made using 40mL of ethanol:water (40:60 v/v) to analyze the antioxidant potential by DPPH and coupled oxidation of β-carotene and linoleic acid. As results, grumixama showed a DPPH scavenging activity relative to EC ₅₀ 100.74±2.85 µg/mL. Related to the potential in minimize the oxidation of β-carotene by the inhibition of	<u>Studied part of the fruit:</u> pulp. <u>Main outcomes:</u> Hydroethanolic extract 40%. MIC ranged from 62.5–500 µg/mL while MBC values were >500 µg/mL against <i>P. aeruginosa</i> (ATCC 27853), <i>S. mutans</i> (MYA 2876), <i>L. acidophilus</i> (ATCC 4356), <i>S. aureus</i> (ATCC 25923), <i>S. aureus</i> MRSA (ATCC 33591). No effect against <i>E. coli</i> (ATCC 43895) with a decrease in biofilm formation of <i>L. acidophilus</i> ATCC 4356 at 625 µg extract/mL, and no effect against <i>S. aureus</i> ATCC 25923.

	(based on copyright claims)., CC BY-SA 3.0 < http://creativecommons.org/licenses/by-sa/3.0/ >, via Wikimedia Commons					hydroperoxides formation, the fruit extract showed a potential higher than 90% in inhibit the free radical peroxidation of lipids. DOI: 10.1111/j.1365-2621.2011.02653.x	DOI: 10.1016/j.biopha.2018.03.034 <u>Studied part of the fruit:</u> seed. <u>Main outcomes:</u> Methanolic extract. MIC <i>S. aureus</i> 500µg/mL and >1000µg/mL for <i>E. Coli</i> and <i>Candida albicans</i> without activity. The other extracts and microorganisms are inactive (values higher than 1000 µg/mL). Reference: Nesello et al., 2017). Available at: https://revistas.cff.org.br/?journal=infarma&page=article&op=view&path%5B%5D=2172&path%5B%5D=pdf <u>Main outcomes:</u> Diffusion methods: <i>E. coli</i> ATCC 25922, <i>S. aureus</i> 25923 and <i>K. pneumoniae</i> ATCC13883. Activity against <i>K. pneumoniae</i> . DOI: 10.1111/j.1365-2621.2011.02653.x
<i>Eugenia myrcianthes</i>	 Source: E. Goossen, CC0, via Wikimedia Commons	Ubajai	Brazil	<u>Studied parts of the fruit:</u> leaf, pulp and seed. <u>Main outcomes:</u> According to the GC/MS technique, gallic acid was found in all 3 parts. In addition to gallic acid, the presence of cinnamic acid and 6,7-dihydroxycoumarin β-D-glucopyranoside was found in the pulp. DOI: 10.1371/journal.pone.0152974	<u>Studied parts of the fruit:</u> leaf, pulp and seed. <u>Main outcomes:</u> <i>Eugenia myrcianthes</i> (500 mg/kg) demonstrated significant anti-inflammatory potential by inhibiting neutrophil migration by 46% (leaves and pulps) and 29% (seeds) in mice challenged with carrageenan in the peritoneal cavity. DOI: 10.1371/journal.pone.0152974	<u>Studied parts of the fruit:</u> leaf, pulp and seed. <u>Main outcomes:</u> Extracts exhibited antioxidant effects against biologically relevant radicals such as peroxy, superoxide and hypochlorous acid. The pulp exhibited the lowest antioxidant activities, while the leaf showed the highest. DOI: 10.1371/journal.pone.0152974	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Extracts from <i>Eugenia myrcianthes</i> fruits reduced the population density of planktonic cells of <i>Candida albicans</i> . The MIC values ranged from 15.62 to >2000 µg/mL. The extracts caused destabilization of the mature biofilm. DOI: 10.1016/j.micpath.2017.02.044
<i>Eugenia pyriformis</i>	 Source: DirecteurR Mutt, Public domain, via Wikimedia Commons	Uvaia	Brazil	<u>Studied parts of the fruit:</u> leaf. <u>Main outcomes:</u> Eight phenolic compounds were isolated from the leaf fraction by semipreparative HPLC and characterized by Nuclear Magnetic Resonance (NMR) and mass spectrometry (ESI-MS). This is the first report of the accumulation of isoquercitrin, quercitrin and aglycone quercetin in its leaf. DOI: 10.1080/14786419.2021.2005049	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Extracts of 12 genotypes demonstrated inhibitory action on neutrophil chemotaxis <i>in vitro</i> . The “uvaia” extract reduced paw edema in rats induced by carrageenan at doses of 0.5 and 1.0 g/kg. DOI: 10.1111/j.1745-4514.2011.00558.x	<u>Studied part of the fruit:</u> fruit juice. <u>Main outcomes:</u> An <i>in vivo</i> study was carried out to determine the antioxidant activity in high-fatty diet-fed mice. It was identified a reduction in protein carbonyl levels in liver of high-fatty diet-fed + <i>E. pyriformis</i> juice group, when compared to the respective control. An increase on catalase enzyme activity was detected in the same group. DOI: 10.1016/j.foodres.2017.11.067	<u>Studied part of the fruit:</u> fruit. <u>Main outcomes:</u> Extracts showed bacteriostatic activity for up to 18 hours of observation against the tested bacteria. However, <i>Pseudomonas aeruginosa</i> was able to resist exposure to the extracts in all time periods evaluated. DOI: 10.26850/1678-4618eq.v34.3.2009.p07-16
<i>Eugenia uniflora</i>	 Source: Guilherme	Pitanga	Brazil, Paraguay, Uruguay, Argentina	<u>Studied parts of the fruit:</u> fruit pulp and seeds. <u>Main outcomes:</u> Extracts were analyzed for phytochemical composition using the HPLC-ESI-MS/MS technique. For all extracts, the	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> The juice attenuated IL-8 released <i>in vitro</i> . The compound cyanidin-3-glucoside and oxidoselin-1,3,7(11)-trien-8-one, identified in pitanga, reduced CXCL8 and IL-8	<u>Studied parts of the fruit:</u> fruit pulp. <u>Main outcomes:</u> DPPH method was used to determine the antioxidant potential of 4 different ripening stages of 2 varieties (red and purple). Extracts were prepared with acetone/water/acetic acid (70:29:1,	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Extracts did not show significant antifungal effects in any of the fractions tested. DOI: 10.1080/14786419.2021.1956920

	Barbaresco, CC BY-SA 3.0 < https://creativecommons.org/licenses/by-sa/3.0/ >, via Wikimedia Commons			compounds identified and quantified were salicylic acid, protocatechuic acid, gallic acid and myricitrin. For the pulp extract, ellagic and p-coumaric acids were also identified and quantified. DOI: 10.1080/14786419.2022.2153128	expression in human gingival fibroblast cultures. DOI: 10.1039/c4fo00509k	v/v/v). As results, the green ripening stage (first one) presented the higher antioxidant activity for both varieties. In the red variety the decrease from 17.18 to 8.33 mmol Trolox equivalents/100 g dry fruit during the ripening. The purple variety decreased from 18.13 to 10.43 mmol Trolox equivalents/100 g dry fruit. DOI: /10.1016/j.foodres.2010.12.036	
<i>Euterpe oleracea</i>	 Source: Vihelik, Public domain, via Wikimedia Commons	Açaí	Brazil	<u>Studied parts of the fruit:</u> freeze-dried pulp. <u>Main outcomes:</u> Phenolic composition of pulps from three different açaí genotypes and three commercial açaí pulps were studied by the HPLC technique. Anthocyanin 3-rutinoside was the main anthocyanin. One commercial sample presented the highest amounts of cyanidin 3-glucoside and cyanidin 3-rutinoside (18,942 and 34,397 µg/g, respectively). In conclusion, the commercial samples evaluated presented the highest contents of anthocyanins and non-anthocyanin compounds. DOI: 10.1002/jsfa.7886	<u>Studied parts of the fruit:</u> fruit oil. <u>Main outcomes:</u> Oral administration of fruit oil (1,226.8 mg/kg) reduced the inflammatory process in different <i>in vivo</i> models of inflammation. DOI: 10.1590/S0102-695X2011005000007	<u>Studied parts of the fruit:</u> pulp. <u>Main outcomes:</u> The fruit pulps were studied by the antioxidant potential of ripening stage (unripe, intermediate and ripe). The antioxidant potential was higher in the unripe fruit extract by the ABTS and total oxidant scavenging capacity (TOSC) assays. DOI: 10.1016/j.foodchem.2011.11.150	<u>Main outcomes:</u> <i>Euterpe oleracea</i> pulp extract reduced the population density of <i>S. aureus</i> with MIC and MCD of 7.81 µg/mL and 62.5 µg/mL, respectively. DOI: 10.1016/j.micpath.2017.11.006
<i>Feijoa sellowiana</i>	 Source: Didier Descouens, CC BY-SA 4.0 < https://creativecommons.org/licenses/by-sa/4.0/ >, via Wikimedia Commons	Feijoa	Brazil, Uruguay, Paraguay, Argentina	<u>Studied parts of the fruit:</u> peel, fruit pulp, seed and leaf. <u>Main outcomes:</u> A total of 14 phenolic compounds were identified and semiquantified. Procyanidin B-type tetramer, procyanidin B-type dimer, and procyanidin C-type trimer showed the highest concentrations in all parts evaluated. Caffeoyl glucose, dihydroferulic acid 4-O-glucuronide, galloyl glucose, and lariciresinol-sesquillignan were detected in fruits and leaves. DOI: 10.1016/j.foodchem.2023.136074	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Oral administration of fruit juice (30 mg/die) was able to inhibit carrageenan-induced paw edema in rats (44.11% in the first hour) and 44.12% after 5 hours. Finally, the fruit juice suppressed superoxide anion generation in human whole blood neutrophils activated with phorbol-myristate-13-acetate (PMA). DOI: 10.1089/jmf.2012.0262	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> DPPH potential was accessed. An <i>in vitro</i> study in blood of healthy adult volunteers was performed to determine the superoxide anion release by neutrophils. As results, the DPPH activity was IC ₅₀ : 6.31µg/mL. Related to the blood analysis, the blood threatened with the highest concentration of juice (10 ⁻² mg/mL) inhibit 70% of radical formation. The same behavior was found by bloods stimulated with zymosan, N-formyl-methionyl-leucyl-phenylalanine (FMLP) and phorbol-myristate-13-acetate (PMA). DOI: 10.1089/jmf.2012.0262	<u>Main outcomes:</u> Gram-positive bacteria, <i>Streptococcus faecalis</i> and <i>Staphylococcus aureus</i> , were not very sensitive to the extract, and had the highest MICs (MIC=32 and 64 mg l ⁻¹ , respectively). The Gram-negative bacteria were more sensitive. In particular, <i>Enterobacter aerogenes</i> and <i>E. cloacae</i> (MIC=2) and <i>Pseudomonas aeruginosa</i> (MIC=1) showed the greatest sensitivity to the extract. <i>Pseudomonas aeruginosa</i> (MBC=8 mg L ⁻¹). MBC values were from 4 to 16-fold higher than the MICs. DOI: 10.1016/s0924-8579(99)00122-3

<i>Fragaria chiloensis</i>	 Source: Mushibugyo, CC BY 4.0 <https://creativecommons.org/licenses/by/4.0/>, via Wikimedia Commons	Chilean strawberry	Chile	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Fruits were investigated for polyphenol content and composition using the HPLC-DAD-ESI-MSn technique. Four anthocyanins, nine ellagitannins, two proanthocyanidin dimers, one flavan-3-ol and five flavonols were found. DOI: 10.3390/molecules24183331	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Administration of aqueous extract (4 g/kg body weight/day) reduced serum levels and gene expression of pro-inflammatory cytokines (TNF-α, IL-1 and IL-6) in rats with liver injury. DOI: 10.1155/2015/20152F320136	<u>Studied parts of the fruit:</u> entire fruit. <u>Main outcomes:</u> Two different cultivars were tested. As results, both extracts showed important antioxidant properties, with emphasis on the fact that each extract had better activity in relation to a different methodology, and could be directly related to a different chemical composition. DOI: 10.3390/molecules24183331	No antimicrobial studies available for this fruit.
<i>Garcinia humilis</i>	 Source: Shou-Hui Wang, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0/>, via Wikimedia Commons	Achachairu	Bolivia	<u>Studied parts of the fruit:</u> peel, seed, and pulp. <u>Main outcomes:</u> Samples were analyzed for total phenolic and tannin content. The phenolic compounds showed variable results, where the highest contents ($p < 0.05$) were found in the aqueous extract of the peel (149.71 mg EAG/100 g) and in the ethereal extract of the seed (212.28 mg EAG/100 g). The highest tannin content ($p < 0.05$) was found in the seeds, both for the condensates (63.83 mg CAE/g) and for the hydrolysates (11.84 mg GA/g), and there was no significant difference between the results for peel and pulp. DOI: 10.1007/s11694-018-9934-x	<u>Studied parts of the fruit:</u> leaf. <u>Main outcomes:</u> Oral administration of the methanolic extract (30 mg/kg) reduced neutrophil influx and TNF, IL-1β and CXCL1 levels in carrageenan-challenged mice. <i>In vitro</i>, the extract reduced neutrophil chemotaxis. DOI: 10.1007/s10787-019-00645-x	<u>Studied parts of the fruit:</u> peel, pulp, and seeds. <u>Main outcomes:</u> Three different extracts (ethereal, ethanolic and aqueous) were prepared for each fruit part (peel, pulp, and seeds). The obtained results showed that the ethanolic extract was more effective in extracting compounds with antioxidant potential, against DPPH, ABTS and FRAP analyzes. DOI: 10.1007/s11694-018-9934-x	<u>Main outcomes:</u> The peel extract demonstrated no evidence of antibacterial effects, as no inhibition halos were observed against <i>Escherichia coli</i> and <i>Staphylococcus aureus</i>. This indicates an absence of detectable antibacterial activity in the extract. DOI: 10.1002/jsfa.13818
<i>Garcinia madruno</i>	 Source: Chris Hind, CC BY 3.0 <https://creativecommons.org/licenses/by/3.0/>, via Wikimedia Commons	Charichuelo	Colombia	<u>Studied parts of the fruit:</u> leaf, stem, epicarp, mesocarp, and seed. <u>Main outcomes:</u> In total, 3 organic acids and 21 biflavonoids were identified and more than 15 peaks structurally associated with known benzophenones from <i>Garcinia</i> species were detected. The leaves were the most promising source of biflavonoids and the epicarp was the richest source of morelloflavone-type biflavonoids (>10%). DOI: 10.1016/j.jff.2016.10.001	No anti-inflammatory studies available for this fruit.	<u>Studied part of the fruit:</u> epicarp, mesocarp and seeds. <u>Main outcomes:</u> ORAC and DPPH were used as methodologies to access the antioxidant potential. As results, the epicarp had the highest antioxidant potential for both methodologies, being ORAC: 175.83 μmol Trolox/100g of epicarp, and DPPH: 327.61 μmol Trolox/g of epicarp. DOI: 10.1016/j.jff.2016.10.001	<u>Main outcomes:</u> The MIC of extract and compounds ranging from 86.6 to 1253.4 μg/mL. DOI: 10.37360/blacpma.22.21.3.18

<i>Gaultheria pumila</i>  Source: Dick Culbert from Gibsons, B.C., Canada, CC BY 2.0 <https://creativecommons.org/licenses/by/2.0/>, via Wikimedia Commons		Chaura	Chile	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Fruits were analyzed using the (UHPLC-DAD-Orbitrap-MS) technique, which allowed the identification of 36 compounds, belonging to the classes of anthocyanins, phenolic acids, flavonoids, iridoids, diterpenes and fatty acids. DOI: 10.3390/metabo11080523	No anti-inflammatory studies available for this fruit.	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> The antioxidant potential of the fruit extract was assessed by DPPH, FRAP and ORAC assays. As results, the extract presented an IC₅₀ of 92.8mg/mL for DPPH scavenging, FRAP activity of 134 µmol Trolox Equivalents/g of extract, and peroxy scavenging potential of 4,251.6 µmol Trolox Equivalents/g of extract. DOI: 10.3390/metabo11080523	No antimicrobial studies available for this fruit.
<i>Genipa americana</i>  Source: Alex Popovkin, Bahia, Brazil from Brazil, CC BY 2.0 <https://creativecommons.org/licenses/by/2.0/>, via Wikimedia Commons		Huito/Jagua/Jenipapo	Brazil, Peru, Colombia, Argentina	<u>Studied parts of the fruit:</u> ripe and unripe fruit. <u>Main outcomes:</u> Methanolic extracts were analyzed by UPLC-DAD-ESI(-)-QTOF-MS/MS. Nine iridoids were identified (geniposidic acid, gardenoside, genipin-1-β-gentiobioside, geniposide, 6''-O-p-coumaroyl-1-β-gentiobioside geniposidic acid, 6''-O-p-coumaroylgenipin-gentiobioside, genipin, 6'-O-p-coumaroyl-geniposidic acid and 6'-O-feruloyl-geniposidic acid). Among them, genipin (60.77 mg/g DW) was found to be the most abundant iridoid in unripe fruit extract, while ripe fruit extract contained mainly geniposide and geniposidic acid (89.48 and 25.04 mg/g DW, respectively). DOI: 10.1016/j.foodres.2020.109252	<u>Studied parts of the fruit:</u> leaf. <u>Main outcomes:</u> Treatment with polysaccharide-rich extract (0.3-3.0 mg/kg; IV) of the leaves reduced edema and neutrophil migration in different models of inflammation in experimental animals. DOI: 10.1016/j.jep.2023.117234	<u>Studied part of the fruit:</u> mesocarp and endocarp of ripe and unripe fruits. <u>Main outcomes:</u> ORAC, DPPH and ABTS was used to determine the antioxidant potential of the obtained extracts. As results, it was observed a higher potential of the unripe fruit extract for all tested radicals (DPPH: 58.72 µmol Trolox Equivalents/g dry weight; ABTS: 24.67 µmol Trolox Equivalents/g dry weight; and ORAC: 571.36 µmol Trolox Equivalents/g dry weight). DOI: 10.1016/j.foodres.2020.109252	<u>Studied part of the fruit:</u> fruit. <u>Main outcomes:</u> Genipap extracts showed inhibition zones and MIC and MMC ranging between 150µg/mL and 940µg/mL against all microorganisms tested. DOI: 10.1590/0103-8478cr20160252
<i>Malpighia emarginata</i>  Source: Eric Gaba (Sting - fr:Sting), CC BY-SA		Acerola	South America, Central America	<u>Studied parts of the fruit:</u> whole fruit. <u>Main outcomes:</u> At least 76 phenolic compounds were identified using HPLC, including 55 flavonoids (anthocyanins, flavan-3-ols, flavonols, flavones, flavanones, isoflavones and chalcones) and 21 nonflavonoids (phenolic acids, stilbenes and lignans). DOI: 10.1007/s11694-023-02175-1	<u>Studied parts of the fruit:</u> whole fruit. <u>Main outcomes:</u> Oral administration of acerola juice reduced obesity-associated inflammation in <i>in vivo</i> models. DOI: 10.1186/1476-511X-13-24	<u>Studied part of the fruit:</u> pulp and peel. <u>Main outcomes:</u> A fruit puree was made and gastrointestinal digestion was simulated <i>in vitro</i>. The antioxidant potential was assessed before, during and after the digestion processes through the ABTS and DPPH assays. As results, the antioxidant potential decreased during the gastrointestinal	<u>Main outcomes:</u> Antimicrobial properties of the phenolic extract were evaluated by the disc diffusion method. The entire activities correspondent to sample amount of 500 µg. Phenolic extracts in the concentration tested showed limited antimicrobial activity against the bacterial strains tested: <i>Escherichia coli</i> (ATCC 25922), <i>Staphylococcus aureus</i>

	3.0 < https://creativecommons.org/licenses/by-sa/3.0/ >, via Wikimedia Commons					digestion, for both analyses. DOI: 10.1016/j.fufo.2021.100066	(ATCC 29247) and <i>Pseudomonas putida</i> (ATCC 12633). DOI: 10.1111/ijfs.12061 Main outcomes: Antimicrobial properties of the phenolic extract were evaluated by the disc diffusion method. The bacterial strains were not affected by the extracts (Gram negative bacteria <i>Escherichia coli</i> ATCC10536, <i>Aeromonas hydrophila</i> IOC/FDA110, <i>Pseudomonas aeruginosa</i> ATCC15442, <i>Pseudomonas fluorescence</i> NCTC10038, <i>Salmonella</i> spp., <i>Serratia marcescens</i> UFOP-001, <i>Hafnia alvei</i> ATCC11604, and the Gram positives <i>Staphylococcus aureus</i> ATCC6538P, <i>Listeria monocytogenes</i> ATCC7644 and <i>Bacillus cereus</i> ATCC 11778) indicating that this fruit presents low potential for inhibiting bacterial growth. Reference: Oliveira et al., 2017. Available at: http://www.ifrj.upm.edu.my/24%20(05)%202017/(54).pdf
<i>Maximiliana maripa</i>	 Source: Bernard DUPONT from FRANCE, CC BY-SA 2.0 < https://creativecommons.org/licenses/by-sa/2.0/ >, via Wikimedia Commons	Inajá	Brazil	Studied parts of the fruit: cake after oil extraction. Main outcomes: Chemical composition of inajá cake was analyzed by LC-ESI-QTOF-MS. Six compounds were identified (procyanidin dimer B1, catechin, procyanidin dimer B2, epicatechin, procyanidin dimer B3 and trans-piceatannol), with the flavan-3-ols class being the main phenolics. DOI: 10.1016/j.foodres.2021.110353	Studied parts of the fruit: cake after oil extraction. Main outcomes: The extract (100 µg/mL) reduced the production of TNF-α and NF-κB in activated macrophage culture. DOI: 10.1016/j.foodres.2021.110353	Studied parts of the fruit: pulp. Main outcomes: Pulp was analyzed by the capacity to scavenge superoxide radical, inhibiting in 73.6% the superoxide radicals generated. DOI: 10.46357/bcnaturais.v13i1.369	No antimicrobial studies were found for this fruit.
<i>Myrcianthes pungens</i>		Guabiju/ Guabijuzeiro	Brazil, Uruguay, Bolivia, Paraguay,	Studied parts of the fruit: pulp. Main outcomes: pulp of fruits from 1 wild type (GB) and 2 genotypes (PL2 and PL1). All samples presented the	Studied parts of the fruit: fruit. Main outcomes: The aqueous and methanolic extract (50 µg GAE/mL) of guabiju demonstrated efficacy in	Studied parts of the fruit: pulp. Main outcomes: fruit pulp of 1 wild type (GB) and 2 genotypes (PL2 and PL1). The antioxidant activity of the methanolic	Studied parts of the fruit: pulp, peels, seeds. Main outcomes: Only the seed (methanolic extract) showed moderate

	Source: Huertasurb anas, CC BY-SA 3.0, via Wikimedia Commons		Argentina	same 5 anthocyanidins (delphinidin, cyanidin, petunidin, peonidin, and malvidin) by HPLC. Total anthocyanin contents in the samples ranged from 334 to 531 mg/100 g dry weight (DW). Total flavonoids and polyphenols ranged from 79.8 to 154.0 mg/100 g and 2,438 to 4,613 mg/100 g (DW), respectively. Furthermore, the flavonoids quercitrin, hyperoside, and isoquercitrin were identified, and their relative amounts varied among the sample extracts. DOI: 10.1111/j.1750-3841.2011.02375.x	inhibiting the release of nitric oxide and IL-6 in RAW 264.7 macrophage cultures activated with LPS. DOI: 10.1371/journal.pone.0285625	extract of guabiju was comparable to that of Trolox and, at a test concentration of 0.25 mg/mL, the activities of GB and PL2 were higher than those exhibited by Trolox. DOI: 10.1111/j.1750-3841.2011.02375.x <u>Studied part of the fruit:</u> whole freeze-dried fruit. <u>Main outcomes:</u> Two different acidified extracts (methanolic and aqueous). The methanolic extract showed highest activity for ORAC (63.4 μ mol TE/g of fresh fruit or 338.4 μ mol TE/g dry fruit) ($p \leq 0.05$), when compared to the aqueous extract. No statistical difference between the solvent extractions for DPPH and NO scavenging activities. DOI: 10.1371/journal.pone.0285625 <u>Studied part of the fruit:</u> pulp and peel of mature stage fruits and fully mature stage fruits. <u>Main outcomes:</u> Extracts were made using methanol:water (50:50 v/v) and re-extracted using acetone:water (70:30 v/v). Both obtained extracts were mixed and the antioxidants analysis were performed. Ripening stage has a significant impact on its antioxidant capacity. DPPH scavenging potential decreased from 244.3 $\pm$ 2.9 mg TE/g of dry mature fruit to 201.4 $\pm$ 1.5 mg TE/g of dry fully mature fruit (reduction of 17,5%). FRAP decreased from 42.6 $\pm$ 1.9 μ mol TE/g of dry mature fruit to 28.4 $\pm$ 1.1 μ mol TE/g of dry fully mature fruit, (reduction of 33.3%). DOI: 10.1007/s11130-018-0690-1	activity against Staphylococcus aureus (MIC of 500 μ g/mL). No activity against <i>Escherichia coli</i> or <i>Candida albicans</i> . Other extracts: inactive because they exhibited values higher than 1,000 μ g/mL. DOI: 10.14450/2318-9312.v29.e4.a2017.pp357-363 <u>Studied parts of the fruit:</u> leaf. <u>Main outcomes:</u> Ethyl acetate and hexane extracts showed MIC < 62.5 μ g/ml against Gram-positive bacteria (<i>S. aureus</i> and <i>M. luteus</i>). Hexane extract showed the strongest inhibition, with MBC at the same concentration. Methanolic extracts showed good antifungal activity against <i>S. cerevisiae</i> , but no activity against <i>C. albicans</i> . Reference: Desoti et al. (2011). Available at: https://revistas.unipar.br/index.php/sau de/article/view/3686 .
<i>Myrciaria dubia</i>	 Source: Bobbyhus25, CC BY-SA 4.0 < https://creativecommons.org/licenses/by-	Camu-camu	Brazil, Peru	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Fruits were evaluated for the characterization of anthocyanin profile. HPLC-PDA, HPLC-MS/MS and 1H NMR techniques were used to confirm the identity of the main anthocyanins. Cyanidin-3-glucoside was identified as the principal pigment, followed by delphinidin-3-glucoside. DOI: 10.1021/jf051357v	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Male volunteer smokers had a reduction in inflammatory markers protein C, IL-6 and IL-8, after daily oral ingestion of 70mL of camu-camu juice. DOI: 10.1016/j.jjcc.2008.06.004	<u>Studied part of the fruit:</u> skin and pitted fruit. <u>Main outcomes:</u> The antioxidant potential was accessed by ABTS and DPPH methodologies for skin and pitted fruit extracts, collected in different areas (dry and flooded environments). The ripe fruits showed the highest antioxidant potential. DOI: 10.1002/jsfa.9224	<u>Studied part of the fruit:</u> fruit. <u>Main outcomes:</u> Fruit extracts were able to control the population density of <i>S. aureus</i> ATCC 29213. MIC values 0.16 mg/mL to 0.63 mg/mL. DOI: 10.1016/j.foodres.2015.07.009

	sa/4.0>, via Wikimedia Commons			DOI: 10.1007/s11130-022-00985-0			
<i>Passiflora edulis</i>	 Source: Alexander Klink, CC BY 3.0 <https://creativecommons.org/licenses/by/3.0/>, via Wikimedia Commons	Maracujá/ Passion fruit	Brazil, Peru, Paraguay, Argentina	<u>Studied parts of the fruit:</u> non-pasteurized juice. <u>Main outcomes:</u> Juice was evaluated for its aromatic composition. The characterization of volatiles by GC-MS allowed the identification of 34 components. Fourteen esters, 7 alcohols, 5 ketones, 3 aldehydes, 3 terpenic hydrocarbons and 2 acids were identified. Among these components, 3-hydroxy-2-butanone, ethyl 3-hydroxy butyrate, ethyl hexanoate, benzyl alcohol, octanoic acid, and hexyl hexanoate were the most abundant compounds. DOI: 10.1021/jf011077p	<u>Studied parts of the fruit:</u> Leaf. <u>Main outcomes:</u> The ethyl acetate extract increased the production of the cytokines IL-4, IL-6, IL-10, IL-17, and TNF-α. The hexane extract increased the production of the cytokines IL-6, IL-10, and IL-17. DOI: 10.1080/14786419.2020.1798660	<u>Studied parts of the fruit:</u> peel, pulp, and seeds. <u>Main outcomes:</u> Three different ripening stages (immature, mature and ripe) was used to analyze each fruit part. As results, no difference was observed in the ripening stage of seeds for the methodologies tested. The higher ABTS scavenging potential and β-carotene oxidation inhibition was observed by the seeds extract. However, the mature and ripe fruit pulp extracts showed the highest potential for the Phosphomolybdenum complex analysis DOI: 10.1016/j.scienta.2023.112244	<u>Main outcomes:</u> In a general way the extracts not induced antibacterial activity. Moreover, both ethanolic and ethyl acetate extracts presented fungicidal activity against <i>Candida parapsilosis</i>, <i>C. krusei</i> and <i>C. tropicalis</i> only at 750 μg/mL. DOI: 10.1080/14786419.2020.1798660
<i>Physalis peruviana</i>	 Source: var Leides, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0/>, via Wikimedia Commons	Aguaymanto	Chile, Peru	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Several phenolic compounds, such as gallic acid (183.0 mg/100 g DW), catechol (23.7 mg/100 g DW), p-hydroxybenzoic acid (38.6 mg/100 g DW), caffeine (9.3 mg/100 g DW), vanillic acid (10.5 mg/100 g DW), syringic acid (9.2 mg/100 g DW), vanillin (2.5 mg/100 g DW), benzoic acid (28.8 mg/100 g DW), o-coumaric acid (5.2 mg/100 g DW), salicylic acid (7.7 mg/100 g DW) and cinnamic acid (3.1 mg/100 g DW), were identified by HPLC/UV in the ethanolic extract of <i>Physalis peruviana</i> fruit. DOI: 10.1007/s10343-019-00456-8 <u>Studied parts of the fruit:</u> pulp. <u>Main outcomes:</u> Using the UHPLC-DAD technique, 12 phenolic compounds were identified in the ethanolic extract (gallic acid, 4-hydroxybenzoic acid, caffeic acid, vanillic acid, chlorogenic acid, ferulic acid, p-coumaric acid, trans-cinnamic acid, luteolin, naringenin, apigenin and kaempferol). The most abundant phenols were gallic acid (303.63 $\pm$ 35.85 mg/100 g DW), 4-	<u>Studied parts of the fruit:</u> aerial parts and fruits. <u>Main outcomes:</u> The isolated and identified compounds (Physaperuvins G, Physaperuvins I, Physaperuvins J, 4β-Hydroxywithanolide E, Withaperuvins C, Physalactone, Coagulin, Phyperunolide F and Withanolide S) showed inhibitory activity on TNF-induced NF-κB activation and nitric oxide release in culture of 293/NF-κB-Luc HEK cells and macrophage RAW 264.7. Reference: Chang et al., 2016. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5125362/	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Ethanolic extract was assessed the antioxidant activity by DPPH assay. The obtained IC₅₀ of the fruit extract was 21.47 μg/mL. The high activity was related to the high levels of polyphenols and vitamins A and C. DOI: 10.1007/s10343-019-00456-8 <u>Studied parts of the fruit:</u> cultivated and wild whole fruit. <u>Main outcomes:</u> The antioxidant activity of the extract was evaluated by DPPH and ABTS free radical assays, and the FRAP assay was also conducted to assess the antioxidant potential. As results, all analysis showed that the cultivated fruit extract had more free-radical scavenging potential than the wild fruit extract. In the DPPH analyze the IC₅₀ was 0.64$\pm$0.01 mg/mL for the cultivated fruit extract and 1.65$\pm$0.08 mg/mL for the wild fruit extract. The ABTS scavenging activity was 3.76 μmol of Trolox equivalents/100g of cultivated fruit, and 2.6 μmol of Trolox equivalents/100g of wild fruit. Related to FRAP, the results were 11.12 μmol of Trolox equivalents/100g of cultivated fruit, and 8.96 μmol of Trolox	<u>Main outcomes:</u> <i>Physalis peruviana</i> extract has antimicrobial activity against Gram-positive and Gram-negative bacteria. Gram-positive <i>Bacillus cereus</i> demonstrated higher susceptibility than gram-negative <i>Escherichia coli</i> and <i>Pseudomonas typhimurium</i>. Also, the extract showed positive effect on the fungus used (<i>Aspergillus niger</i> and <i>Candida albicans</i>). DOI: 10.1007/s10343-019-00456-8 <u>Main outcomes:</u> <i>Physalis peruviana</i> extract has antioxidant and antimicrobial activity against Gram-positive and Gram-negative bacteria. <i>Pseudomonas syringae</i> (MIC 0.313 mg/mL and MBC 1.25 mg/mL) was the most susceptible bacterium. Meanwhile, <i>Erwinia rhapontici</i> was the most resistant bacterium (MIC and MIB 5.00 mg/mL). DOI: 10.3390/2Ffoods10112699

				hydroxybenzoic acid (43.93 ± 3.45 mg/100 g DW) and kaempferol (19.57 ± 1.24 mg/100 g DW), while chlorogenic acid and apigenin were found in low concentrations. DOI: 10.3390/2Ffoods10112699		equivalents/100g of wild fruit. DOI: 10.1007/s11130-018-0702-1	
<i>Plinia cauliflora</i> <i>Myrciaria cauliflora</i>		Jabuticaba/ Guapuru	Brazil, Bolivia	<u>Studied parts of the fruit:</u> leaf, pulp, and seed. <u>Main outcomes:</u> Sixty-three compounds were identified by HPLC/MS in the aqueous and methanolic extracts. Flavonoids (40%), benzoic acid derivatives (13%), fatty acids (13%), carotenoids (6%), phenylpropanoids (6%) and tannins (5%) were the groups of substances found in greatest number, producing different fingerprints according to the parts of the fruit and the different extraction solvents used. DOI: 10.3390/molecules28052359 <u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Juice presented a total phenolic content of 303.54 ± 28.28 mg GA/L. Through the HPLC-ESI-MS/MS technique, chlorogenic acid, p-coumaric acid, taxifolin and hispidulin were described for the first time. DOI: 10.1080/14786419.2018.1550760 <u>Studied parts of the fruit:</u> pulp. <u>Main outcomes:</u> According to NMR 1D spectrum, five groups of signals representing phenolic compounds (200 µg/mL), such as anthocyanins, tannins, flavonoids and phenolic acids were identified. Coumarins were also observed in a very similar concentration (~200 µg/mL). Other compounds identified in the spectrum: rhamnose (390 µg/mL), cinnamic acid (40 µg/mL), fructose (170 µg/mL), glycerol (2.17 mg/mL), lactate (120 µg/mL), α,β-glucose (140 µg/mL) and succinic acid (1.11 mg/mL). DOI: 10.1155/2F2017%2F2383157	<u>Studied parts of the fruit:</u> epicarp. <u>Main outcomes:</u> The animals that received the extract at doses of 12.5, 25, 50 and 100 mg/kg showed inhibition of inflammatory paw edema at 120, 180 and 240 min, as well as migration at 41.8%, 44.1%, 50.4% and 52.1%, respectively. DOI: 10.1016/j.jep.2020.113611	<u>Studied part of the fruit:</u> air-dried and milled seedless fruits. <u>Main outcomes:</u> The extract was obtained by mixing the fruit powder with ethanol:water (55:45 v/v). After this, the extract was filtered, evaporated and resuspended in distilled water. A differential pulse voltammetry and DPPH analysis were carried out to determine the antioxidant potential of the obtained extract. As results, it was possible to observe a presence of electroactive compounds in the extract. Related to the scavenging capacity, the result was 7.08 mg of acid gallic equivalents/mg of extract. DOI: 10.1155/2F2017%2F2383157	<u>Studied part of the fruit:</u> fruit. <u>Main outcomes:</u> Fruit extract inhibited the growth of 11 of the 14 bacteria tested (79%). Fruit extract inhibited 7 of the 10 Gram-negative bacteria (70%) and 100% of the Gram-positive bacteria tested. Reference: Mohanty & Cock, 2008. Available at: http://ispub.com/IJMB/7/2/10983

<i>Pouteria lucuma</i>	 Source: Dtarazona, Public domain, via Wikimedia Commons	Lucuma	Peru, Bolivia	<u>Studied parts of the fruit:</u> fruit pulp. <u>Main outcomes:</u> A total of 36 compounds were identified by LC-ESI/LTQ-Orbitrap/MS/MS technique. The phenolic compounds were isolated and their structures were unambiguously identified by NMR experiments. DOI: 10.3390/molecules26175236	No anti-inflammatory studies available for this fruit	<u>Studied part of the fruit:</u> fruit pulp and peel. <u>Main outcomes:</u> Two different extracts were made: one from the peel using methanol, and another from pulp, using <i>n</i>-butanol. DPPH and ABTS analysis were carried out. As results, the methanolic extract of pup showed a higher antioxidant potential for both assays when compared to the <i>n</i>-butanol pulp extract. DOI: 10.3390/molecules26175236 <u>Studied part of the fruit:</u> peel and pulp. <u>Main outcomes:</u> Different extracts were prepared for peel and pulp, and antioxidant potential was assessed by DPPH and ABTS methods. As results, the peel extract showed highest potential in scavenge the formed free radicals for both analyzes. DOI: 10.3390/molecules26175236 <u>Studied part of the fruit:</u> entire fruit. It was analyzed 3 different cultivars, extracted by solvents hydrophilic and hydrophobic, at different ripening stages. As results, the “Rosalia” cultivar, first ripening stage and hydrophilic solvent showed the highest antioxidant potential against DPPH and ABTS free radicals. DOI: 10.1016/j.foodchem.2015.05.111	No antimicrobial studies available for this fruit.
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<i>Psidium cattleianum</i>  Source: Forest & Kim Starr, CC BY 3.0 <https://creativecommons.org/licenses/by/3.0/>, via Wikimedia Commons		Araçá/Arazá	Uruguay, Brazil	<u>Studied part of the fruit:</u> fruit pulp and peel. <u>Main outcomes:</u> HPLC-DAD–ESI-MS/M technique allowed the separation, quantification and identification of 21 phenolic compounds and 7 carotenoids. The main phenolic compounds identified and quantified (dry matter) in the extracts of skin and pulp were ellagic acid (2213–3818 µg/g extract), ellagic acid deoxyhexoside (1475–2070 µg/g extract) and epicatechin gallate (885–1603 µg/g extract); while all-trans-lutein (2–10 µg/g extract), all-trans-antheraxanthin (1.6–9 µg/g extract) and all-trans-β-carotene (4–6 µg/g extract) were the main carotenoids identified in both extracts. DOI: 10.1016/j.foodchem.2014.05.079	<u>Studied parts of the fruit:</u> essential oil. <u>Main outcomes:</u> Oral treatment (50-200 mg/kg) reduced carrageenan-induced paw edema and leukocyte migration in an animal experimental model. DOI: 10.1016/j.jep.2023.116443	<u>Studied part of the fruit:</u> fruit pulp and peel. <u>Main outcomes:</u> Extracts were analyzed by the antioxidant potential through singlet oxygen, superoxide radical, hypochlorous acid (HOCl), hydrogen peroxide (H₂O₂), nitric oxide (NO), and peroxynitrite (ONOO) assays. As results, the authors observed that the pulp extract presented the highest antioxidant potential for all tested analyzes (singlet oxygen: IC₅₀ 22.8µg/mL; superoxide radical: IC₅₀ 20.6µg/mL; HOCl: IC₅₀ 18.7µg/mL; H₂O₂: IC₅₀ 378µg/mL; NO: IC₅₀ 2.2µg/mL; and ONOO: 26µg/mL.) DOI: 10.1016/j.foodchem.2014.05.079	<u>Main outcomes:</u> Antibacterial assay was carried out using the hexane, ethyl acetate and methanolic extracts of <i>P. cattleianum</i>, by employing the disc diffusion assay (Bauer, Kirby, Sherris, & Turck, 1966). The methanolic extract of the fruit has intermediate antimicrobial activity against the bacteria <i>Bacillus subtilis</i> and <i>Staphylococcus aureus</i>. No other extract of the fruit demonstrated positive results against the bacteria tested. DOI: 10.1016/j.foodchem.2012.03.018
<i>Psidium guajava</i>  Source: photograph ed in Taiwan on 20 January, 2004. Binomial name is tentative. Licensed under the GFDL.		Guava/Goiaiba	Brazil, Paraguay, Uruguay, Venezuela	<u>Studied part of the fruit:</u> pulp. <u>Main outcomes:</u> The pulp of seven cultivars was evaluated by HPLC-PDA and LC-TOF-MS techniques. Twenty-one compounds belonging to the classes of anthocyanins, flavonoids, proanthocyanidins, triterpenes and other constituents were characterized in the cultivars, ten of which were reported for the first time in this fruit, which were: delphinidin 3-O-glucoside, cyanidin-3-O-glucoside, myricetin-3-O-arabinoside, myricetin-3-O-xyloside, isorhamnetin-3-O-galactoside, abscisic acid, pinfaensin, turpinionosides A, pedunculoside and madecassic acid. DOI: 10.1016/j.foodchem.2014.08.076 DOI: 10.1080/10412905.2013.796498	<u>Studied part of the fruit:</u> fruit. <u>Main outcomes:</u> The methanolic fraction of the fruit extract reduced edema formation, protein exudation and chronic arthritis <i>in vivo</i>. DOI: 10.1002/ptr.2650090208 <u>Studied parts of the fruit:</u> leaf and fruit. <u>Main outcomes:</u> Essential oils extracted from the leaves (IC₅₀ of 32.53 µg/m) and fruits (49.76 µg/mL) reduced the activity of 5-lipoxygenase. DOI: 10.1080/10412905.2013.796498	<u>Studied part of the fruit:</u> essential oil of the fruit without seeds. <u>Main outcomes:</u> The essential oil was analyzed by the capacity to destabilize the DPPH radical and protect the 2-deoxyribose (2-DR) oxidation. As results the DPPH activity was IC₅₀ 8.11 mg/mL and 2-deoxyribose protection IC₅₀ 42.78 mg/mL. DOI: 10.1016/j.foodchem.2014.08.076 <u>Studied part of the fruit:</u> whole fruit. <u>Main outcomes:</u> It was selected different cultivars, and the antioxidant potential was accessed by DPPH and ABTS assays. As results, the Thai Maroon cultivar present the highest activity to scavenge the DPPH radical, and Sardina 2 to scavenge the ABTS radical, DOI: 10.1080/10412905.2013.796498	<u>Main outcomes:</u> <i>Escherichia coli</i>, and <i>Staphylococcus aureus</i>. The methanolic ripe extract was found to possess maximum antibacterial activity ZOI, MIC, and IC₅₀ 18.00 ± 1.00 mm, 95.95 ± 0.05%, and 0.58 µg/ml; 15.66 ± 0.57 mm, 94.66 ± 0.19%, and 0.50 µg/ml, respectively, against pathogenic and MDR strains of <i>E. coli</i> and 22.33 ± 0.57 mm, 98.97 ± 0.02%, and 0.26 µg/ml; 20.33 ± 1.15 mm, 96.82 ± 0.14%, and 0.39 µg/ml, respectively, against pathogenic and MDR strains of <i>S. aureus</i>. DOI: 10.1007/s12033-023-00779-y

<i>Sicana odorifera</i>  Source: Secretaria de Agricultura e Abastecimento Agricultura sp (right), Julio chila (left), montage: RoRo, CC BY 3.0 <https://creativecommons.org/licenses/by/3.0/>, via Wikimedia Commons		Kurugua/ Fruta mortadela	Brazil, Paraguay	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Fruits were used for anthocyanin extraction by heat-assisted and ultrasound-assisted extraction (HAE and UAE, respectively). HAE offered an extract with higher anthocyanin content but required a longer processing time than UAE (62 vs. 23 min, respectively). On the other hand, a slightly higher extract yield could be achieved with UAE than with HAE (28% vs. 25% (w/w), respectively). DOI: 10.3390%2Ffoods10040700	No anti-inflammatory studies available for this fruit.	No antioxidant studies available for this fruit.	<u>Main outcomes:</u> Extract showed efficiency to inhibit the growth of all bacterial culture tested (MIC = 1.1 mg/mL) and its bactericidal effect was achieved with twice the bacteriostatic concentration (MBC = 2.2 mg/mL) (<i>Staphylococcus aureus</i> (ATCC 6538), <i>Bacillus cereus</i> (food isolate), and <i>Listeria monocytogenes</i> (NCTC 7973), as well as three Gram-negative strains: <i>Escherichia coli</i> (ATCC 35210), <i>Salmonella typhimurium</i> (ATCC 13311), and <i>Enterobacter cloacae</i> (ATCC 35030). Regarding antifungal activity, hydroethanolic extract epicarp was evaluated using following micromycetes: <i>Aspergillus fumigatus</i> (ATCC 1022), <i>Aspergillus versicolor</i> (ATCC 11730), <i>Aspergillus niger</i> (ATCC 6275), <i>Penicillium funiculosum</i> (ATCC 36839), <i>Penicillium verrucosum</i> var. <i>cyclopium</i> (food isolate), and <i>Trichoderma viride</i> (IAM 5061). All fungi strains were sensitive to the hydroethanolic extracts studied, highlighting the low concentration of extract that was required to inhibit the growth of <i>T. viride</i> (MIC = 0.28 mg/mL), while higher concentration of the controls E211 and E224 (MIC = 1.0 and 0.5 mg/mL, respectively) were necessary. <i>Penicillium spp.</i> were more susceptible to the extracts than <i>Aspergillum spp.</i> DOI: 10.3390%2Ffoods10040700
<i>Solanum betaceum</i>  Source: C T Johansson, CC BY-SA 3.0 <https://creativecommons.org/licenses/by-sa/3.0/>, via Wikimedia Commons		Tamarillo	Bolivia, Ecuador, Argentina	<u>Studied parts of the fruit:</u> fruit and peel. <u>Main outcomes:</u> Fruits and peel of <i>Solanum betaceum</i> were analyzed for phenolic composition by LC-MS/MS technique. Twelve polyphenols were quantified, six of which (ellagic acid, rutin, catechin, epicatechin, kaempferol-3-rutinoside and isorhamnetin-3-rutinoside) were detected for the first time. DOI: 10.3390/antiox9020169	<u>Studied parts of the fruit:</u> peel. <u>Main outcomes:</u> The peel extract (12.5-75µg/ml) reduced the production of Prostaglandin E2, TNF-α and IL-1β in macrophage culture. DOI: 10.35790/eg.9.1.2021.32847	<u>Studied part of the fruit:</u> fruit pulp and peel of 3 different cultivars. <u>Main outcomes:</u> Three different cultivars were analyzed by the CUPRAC and FRAP methods to access the antioxidant capacity. As results, the peel of Mulligan cultivar showed the high activity for both assays, being CUPRAC: 265.29 µmol Trolox equivalents/g of dry weight, and FRAP: 161.74 µmol Trolox equivalents/g of dry weight. DOI: 10.3390/antiox9020169	<u>Main outcomes:</u> Compared to water as the control, tamarillo extracts prepared by water and methanol extraction showed significant antibacterial activity against <i>E. coli</i>, <i>P. aeruginosa</i>, and <i>S. aureus</i> with zone of inhibition of at least 13.5 mm. DOI: 10.3390/foods10092212

<i>Solanum quitoense</i>		Naranjilla	Ecuador, Colombia	<u>Studied parts of the fruit:</u> peel, pulp+seeds. <u>Main outcomes:</u> Samples were analyzed by the UHPLC-ESI-HRMS technique. The phenolics chlorogenic acid, p-coumaric acid, rutin, taxifolin were found in the peels, while in the pulp + seeds fraction only chlorogenic acid and taxifolin were identified. DOI: 10.3390/foods8030089	No anti-inflammatory studies available for this fruit.	<u>Studied parts of the fruit:</u> peel, pulp+seeds. <u>Main outcomes:</u> It was done 2 different extracts, one for pulp and seeds and another for peel. Both extracts were conducted to DPPH, ABTS, FRAP and β -carotene bleaching test. The results suggest that the peel extract present higher activity for DPPH (IC ₅₀ : 38.8 μ g/mL), ABTS (IC ₅₀ : 167.7 μ g/mL) and FRAP (49.4 μ M Fe(II)/g) analysis than the pulp+seeds extract. However, for the β -carotene bleaching test the pulp+seeds extract present better results (IC ₅₀ : 6.9 μ g/mL). DOI: 10.3390/foods8030089	<u>Main outcomes:</u> The fruit has not been directly reported to have antimicrobial activity. The highlight is that microorganisms isolated from this fruit, such as <i>Lactiplantibacillus plantarum</i> and <i>Weissella cibaria</i> , produce peptides with significant antimicrobial properties. In other words, it is the environment and the microorganisms present in the fruit that offer this potential through the production of antimicrobial compounds, and not the fruit itself. DOI: 10.3389/fmicb.2022.868025 DOI: 10.3389/fmicb.2021.675002 DOI: 10.3390/foods9091242
<i>Talisia esculenta</i>		Pitomba	Brazil	<u>Studied part of the fruit:</u> pulp. <u>Main outcomes:</u> Fruit pulp was extracted with methanol and analyzed by LC-QTOF-MS/MS technique. A total of 13 compounds were tentatively identified (quinic acid, gallic acid, chlorogenic acid, catechin, epicatechin, caffeic acid, syringic acid, p-coumaric acid, rutin, ferulic acid, quercetin, eriodictyol and acacetin). Quinic acid was the main compound, presenting a concentration of 507.8 $\pm$ 7.4 μ g g ⁻¹ DW). DOI: 10.1016/j.foodres.2016.01.031	No anti-inflammatory studies available for this fruit.	<u>Studied part of the fruit:</u> pulp and peel. <u>Main outcomes:</u> The following extract concentrations were used for DPPH, ABTS, FRAP, β -carotene oxidation, spontaneous peroxidation in mouse brain homogenate (TBARs) and reduction of nitric oxide (NO): 2.5, 5, 10, 15, and 20 mg/mL. The ethanolic extract of peel showed the higher results in DPPH (54.21% to 81.41%), and ABTS (78.16–94.07%). For FRAP, it ranged from ~1000 to ~1500 μ mol-Fe ₂ SO ₄ /mL of extract. Related to the oxidation protection of β -carotene, the ethanolic extract of peel at 10mg/mL inhibit 84.91%. The TBAR's activities were not significant, but all of the extracts reduced the percentage of lipoperoxidation when compared to the control. The NO production decreased for all tested concentration of both extractions and both samples, except for the lower concentration of peel extracts (0.25 mg/mL). DOI: 10.1016/j.foodchem.2020.127929	<u>Main outcomes:</u> Antifungal activity of seed lectins against <i>Microsporum canis</i> . Microdilution method whose concentration for total inhibition of growth was 2 mg/mL. Study only <i>in vitro</i> by dilution methods (CLSI). DOI: 10.1111/j.1365-2672.2009.04387.x

<i>Theobroma bicolor</i>  Source: Juan Gpe Ignacio, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0/>, via Wikimedia Commons		Macambo	Colombia, Ecuador, Peru	No chemical composition studies available for this fruit.	No anti-inflammatory studies available for this fruit.	<u>Studied part of the fruit:</u> whole fruit. <u>Main outcomes:</u> Three extracts were prepared using water, ether, and ethanol. Additionally, three phenolic compound fractions were obtained using tetrahydrofuran: dry matter of free phenolic acids (FPA), soluble phenolic esters (SPE), and insoluble phenolic esters (IPE). Antioxidant activity was assessed in both the extracts and phenolic fractions using the β-carotene-linoleic acid model system. The phenolic fractions (FPA, SPE, and IPE) demonstrated significantly higher antioxidant activities (82.58%, 85.02%, and 93.1%, respectively) compared to the synthetic antioxidant BHT (70.46%). Among the extracts, the ethanolic extract exhibited the highest antioxidant potential (68.2%). Furthermore, when all extracts and fractions were combined with BHT, a synergistic effect was observed. DOI: 10.1002/1438-9312(200205)104:5%3C278::AID-EJLT278%3E3.0.CO;2-K	No antimicrobial studies available for this fruit.
<i>Theobroma cacao</i>  Source: Muséum de Toulouse, CC BY-SA 3.0 <https://creativecommons.org/licenses/by-sa/3.0/>, via Wikimedia Commons		Cacao/ Cocoa	Brazil	<u>Studied parts of the fruit:</u> seeds. <u>Main outcomes:</u> Characterization and quantification of phenolic compounds from <i>Theobroma cacao</i> extract was performed using the HPLC-MS-ESI-QTOF technique. A total of 61 compounds were identified and quantified and fractions belonging to several structural classes, such as flavan-3-ol and derivatives (including procyanidins), flavonols, N-phenylpropenoyl-L-amino acids and other compounds. DOI: 10.1016/j.jff.2014.07.016	<u>Studied parts of the fruit:</u> stem peel. <u>Main outcomes:</u> Oral administration of the ethanolic extract (250 mg/kg) and ethyl acetate fraction (62.5-250 mg/kg) showed <i>in vivo</i> anti-inflammatory activity by inhibiting granuloma formation in the carrageenan-induced air pouch model. DOI: 10.1016/j.jep.2018.04.050	<u>Studied part of the fruit:</u> pulp. <u>Main outcomes:</u> Pulp was extracted and the DPPH and ABTS scavenging potential was determined. As results, the DPPH scavenging potential was 979.19 μmol Trolox equivalents/100g, and ABTS scavenging potential 813.79 μmol Trolox equivalents/100g. DOI: 10.1016/j.bcab.2021.101995	<u>Studied part of the fruit:</u> pulp. <u>Main outcomes:</u> Pulp extract showed a significant effect on planktonic cells of oral bacteria <i>Porphyromonas gingivalis</i>, <i>Fusobacterium nucleatum</i> and <i>Prevotella intermedia</i>. DOI: 10.1016/S1349-0079(10)80033-7

<i>Theobroma grandiflorum</i>  Source: Upper left: The original uploader was Roy Bateman at English Wikipedia. (Transferred by IKAL); upper right: M.-A. Wolf bottom: BjoernS, montage by User:RoRo, CC BY-SA 3.0 <https://creativecommons.org/licenses/by-sa/3.0/>, via Wikimedia Commons	Cupuaçu	Brazil, Peru, Bolivia, Colombia	<u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> Fruits were analyzed for phenolic composition by HPLC–DAD-MS-MS and UPLC-QTOF techniques, which allowed the detection of nine flavone derivatives. Vitexin, hypolaetin 8-glucuronide-glucoside, hypolaetin 3'-methyl ether 8-β-d-glucuronide, and the corresponding 3''-sulfate were reported for the first time in cupuaçu and the latter is a novel conjugate. Isoscutellarein 8-O-β-d-glucuronide 6''-methyl ester and quercetin 3-O-β-d-glucuronide 6''-methyl ester were not detected. DOI: 10.1021/jf304349u	<u>Studied parts of the fruit:</u> fruit pulp. <u>Main outcomes:</u> Oral administration of a diet enriched in cupuaçu provides protective effects in an animal model of intestinal inflammation. DOI: 10.1016/j.fbio.2020.100599	<u>Studied parts of the fruit:</u> pulp, seeds and pulp. <u>Main outcomes:</u> Different extracts were prepared for each season of the year (autumn, winter and summer). All extracts were analyzed by DPPH and ORAC scavenging potential. As results, the seed extracts of all seasons presented the highest antioxidant potential. No difference was observed between seasons for fresh pulp and commercial frozen pulp. However, for seeds, the autumn collected fruits presented a decrease in antioxidant potential when compared to the other seasons. DOI: 10.1021/jf304349u	No antimicrobial studies were found for this fruit.
<i>Ugni molinae</i>  Source: Richard Fensome (myself), CC BY-SA 3.0 <https://creativecommons.org/licenses/by-sa/3.0/>, via Wikimedia Commons	Murta/ Murtilla/ Myrtle	Chile	<u>Studied part of the fruit:</u> fruit. <u>Main outcomes:</u> Fruits were analyzed for phenolic compounds profile by HPLC technique. Nine compounds (pyrogallol, vanillic, catechin, 3-hydroxytyrosol, gallic, protocatechuic, tyrosol, quercetin, and trans-cinnamic acids) were detected in the phenolic fractions of fresh and dried myrtle fruits. The most abundant phenol in fresh myrtle berries was catechin (172.72 mg/100 g DM). In contrast, the lowest levels were gallic acid (4.57 mg/100 g DM) and 3-hydroxytyrosol (24.73 mg/100 g DM). DOI: 10.3389/fpls.2023.1095179	<u>Studied part of the fruit:</u> fruit. <u>Main outcomes:</u> Extracts (3 mg/ear) reduced inflammatory edema induced by phorbol 12-myristate 13-acetate (TPA) and arachidonic acid (AA) in mice. DOI: 10.3389/fpls.2023.1095179	<u>Studied part of the fruit:</u> entire fruit. <u>Main outcomes:</u> Six different extracts were done, changing the dried methods. DPPH and ORAC assays were done to access the antioxidant properties of the fruit extracts. As results, the fresh fruit, without any dried procedure, showed the highest potential to scavenge DPPH and peroxy radicals. DOI: 10.3389/fpls.2023.1095179	<u>Main outcomes:</u> Extracts from fruits showed significant antibacterial and antifungal effects. <i>Escherichia coli</i> and <i>Listeria monocytogenes</i> had MIC of 0.6 mg/mL and MBC of 1.7 mg/mL. <i>Penicillium expansum</i> showed greater sensitivity to the extract and there was a reduction of approximately 4% in fungal population density. DOI: 10.1016/j.foodres.2017.09.073

<i>Ziziphus mistol</i>	Source: Abestrobi, CC BY-SA 3.0 < http://creativecommons.org/licenses/by-sa/3.0/ >, via Wikimedia Commons	Mistol	Paraguay, Argentina	<u>Studied parts of the fruit:</u> fruit pulp and peel. <u>Main outcomes:</u> Samples were analyzed by HPLC–ESI-MS/MS technique. It was possible to identify 17 compounds, including 16 flavonoids and one procyanidin. DOI: 10.1016/j.jff.2017.08.020	<u>Studied parts of the fruit:</u> seeds, fruit pulp and peel. <u>Main outcomes:</u> Extracts of Ziziphus mistol (100 µg GAE/mL for extract samples) from the seeds, pulp and peel exhibited inhibitory activity (greater than 90%) against lipoxygenase and cyclooxygenase-2. The extract obtained from the pulp demonstrated greater inhibitory activity against phospholipase A2. DOI: 10.3390/foods11142125 <u>Studied parts of the fruit:</u> fruit. <u>Main outcomes:</u> The aqueous extract showed an inhibitory effect on lipoxygenase activity, with an IC₅₀ of 183.80 µg GAE/mL. DOI: 10.1016/j.foodres.2011.02.040	<u>Studied parts of the fruit:</u> whole fruit. <u>Main outcomes:</u> Two extractions type were analyzed, simulating the domestic cooking processing of the fruit: ethanolic and aqueous extracts. As results, the ethanolic extract showed high potential to scavenge the DPPH and ABTS radical formations, as well as inhibit the oxidation of β-carotene. However, related to the superoxide and hydroxyl radical formation, the aqueous extract exhibited higher scavenging activity. DOI: 10.1016/j.foodres.2011.02.040	No antimicrobial studies available for this fruit.
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MIC: Minimum Inhibitory Concentration. MBC: Minimum Bacterial Concentration. MMC: Minimum microbicidal concentration.