

Supplementary Table

Table 1. Major components identified from Scrophulariaceae essential oils

Species	Locality	Part	Major compounds	References
<i>Adenosma bracteosa</i>	Vietnam	Leaf	Carvacrol (37.2%), carvarol methyl ether (23.2%), α -bisabolene (15.9%), γ -terpinene (9.2%)	Do et al. (21)
<i>Adenosma indiana</i>	Vietnam	Leaf	Limonene (25.1%), 1,8-Cineole (20.1%), α -pinene (17.2%), Verbenone (4.4%)	Do et al. (21)
<i>Adenosma indianum</i>	Guangxi, China	Aerial part	Fenchone (31.81), α -limonene (20.59%), β -caryophyllene (10.09%)	Zeng et al. (28)
	Guangdong, China	Aerial part	Fenchone (31.60), α -limonene (30.15%), β -caryophyllene (6.98%)	Zeng et al. (28)
<i>Adenosma capitatum</i>	Bangladesh	Aerial parts	Limonene (24.74%), fenchone (21.59%), 2-carene (17.64%), fenchyl alcohol (2.08%)	Bhuiyan et al. (27)
<i>Adenosma glutinosum</i>	Vietnam	Aerial parts	α -Pinene (22.7%), 1,8-cineole (18.2%), γ -terpinene (16.9%), terpinolene (6.8%)	Nguyen et al. (26)
<i>Capraria biflora</i>	Brasil	Leaf	α -Humulene (43.0%), β -caryophyllene (31.11%), E-nerolidol (5.74%), β -elemene (3.57%)	Souza et al. (34)
<i>Conobea scoparioides</i>	Para state Brasil	Whole plant	Methyl thymol (40.0%), thymol (38.5%), α -phellandrene (12.9%), 3-Octanone (1.2%)	Costa et al. (22)
	Amapa, Brasil	Whole plant	Thymol (52.0%), methyl thymol (36.0%), α -phellandrene (5.1%)	Maia et al. (43)
	Para, Brasil	Whole plant	Methyl thymol (42.4%), thymol (17.9%), α -phellandrene (9.6%)	Maia et al. (43)
	Maranhao, Brasil	Whole plant	Thymol (57.5%), <i>p</i> -cymene (26.7%), limonene (5.7%)	Maia et al. (43)

<i>Eremophila longifolia</i>	Australia	Leaf	Limonene (34.0%), α -pinene (18.7%), p-cymene (9.5%), Sabinene (9.4%)	Sadgrove et al. (30)
	New South Wales, Australia	Leaf	Bornyl acetate (25.7%), fenchyl acetate (23.2%), camphene (10.0%)	Sadgrove et al. (33)
<i>Eremophila bignoniflora</i>	Queensland, Australia	Leaf	Bornyl acetate (21.5%), fenchyl acetate (17.0%), camphene (8.6%)	Sadgrove et al. (33)
	Adelaide, Australia	Leaf	Bornyl acetate (28.3%), fenchyl acetate (23.2%), camphene (14.7%)	Sadgrove et al. (33)
<i>Euphrasia rostkoviana</i>	Czech Republic	Whole plant	n-Hexadecanoic acid (18.47%), thymol (7.97%), myristic acid (4.71%), linalool (4.65%)	Novy et al. (40)
<i>Limnophila aromatica</i>	Trang Bang, Vietnam	Leaf	Methyl benzoate (27.7%), pulegone (23.4%), limonene (20.2%), 3-Methyl octanoate (4.2%)	Do et al. (21)
	Cu Chi, Vietnam	Aerial parts	Limonene (46.1%), transbicyclo [5.4.0] undecane (21.8%), transisolimonene (18.6%),	Van et al. (19)
	Bangladesh	Aerial parts	Z-Ocimene (39.21%), terpinolene (17.24%), camphor (12.89%), β -myrcene (9.48%)	Bhuiyan et al. (27)
	Thailand	Whole plant	<i>Trans</i> -isolimonene (14.52%), limonene (15.09%), α -humulene (6.04%), m-Mentha-1(7), 8-dien (4.17%)	Arunya et al. (44)
	Thailand	Whole plant	Limonene (48.95%), cis-4-caranone (18.04%), perilla aldehyde (14.84%), α -pinene (2.79%)	Thanatuskitti et al. 2020
<i>Limnophila chinensis</i>	Vietnam	Aerial parts	β -Ocimene (40.1%), 3-carene (27.5%), 2-carene (12.9%), β -terpinene (7.1%)	Van et al. 2021
<i>Limnophila geoffrayi</i>	Thailand	Aerial parts	d-Pulegone (27.14%), perillaldehyde (19.13%), 2,5,6-trimethyl-1,3,6-heptatriene (10.64%)	Thongdon and Inprakhon (45)
<i>Limnophila micrantha</i>	Vietnam	Leaf	Mentha-1,5,8-triene (38.5%), β -myrcene (24.4%), β -caryophyllene (6.9%), carvacrol (5.7%)	Do et al. (21)
<i>Limnophila rugosa</i>	Vietnam	Aerial parts	Methyl chavicol (73.5%), <i>trans</i> -anethole (25.6%),	Van et al. (19)
	Vietnam	Whole plant	Methyl chavicol (70.79%), <i>trans</i> -anethole (24.96%)	Nguyen and Le (26)

	Foothills, India	Whole plant	Methyl chavicol (76.6%), <i>trans</i> -anethole (19.1%)	Verma et al. (20)
	Mid-hills, India	Whole plant	<i>Trans</i> -anethole (88.5%), (<i>Z</i>)-anethole (2.2%),	Verma et al. (20)
<i>Rhinanthus angustifolius</i>	Turkey	Whole plant	2,3-Dihydro-5-methyl-1H-indene (25.14%), α -cubebene (19.27%), 1-hexadecene (15.59%), hexadecanoic acid (12.14%)	Kaya et al. (37)
<i>Scrophularia amplexicaulis</i>	Iran	Aerial parts	Eugenol (53.8%), eugenol acetate (24.5%), β -caryophyllene (5.7%), caryophyllene oxide (6.4%)	Pasdaran et al. (23)
<i>Scrophularia chrysantha</i>	Turkey	Aerial parts	Carvacrol (52.4%), linalool (19.0%), 1-octen-3-ol (6.6%)	Rend et al. (42)
<i>Scrophularia cinerascens</i>	Turkey	Aerial parts	(<i>Z</i>)-2-Nonenal (11.2%), phytol (7.9%), nonanal (7.8%)	Rend et al. (42)
<i>Scrophularia deserti</i>	Iran	Aerial parts	α -Pinene (24.69%), β -phellandrene (20.58%), β -Myrcene (11.82%), β -Caryophyllene (9.22%)	Mardani et al. (32)
<i>Scrophularia frigida</i>	Iran (Summer)	Aerial parts	Linalool (38.69%), E-geraniol (11.2%), α -terpineol (9.99%)	Asgharian et al. (25)
	Iran (Autumn)	Aerial parts	n-Hexadecanoic acid (30.49%), phytol (12.99%), linalool (11.44%)	Asgharian et al. (25)
<i>Scrophularia khorassanica</i>	Iran	aerial parts	p-Cymene (20.68 %), palmitic acid (11.19 %), thymol (10.21 %), linalool (7.56 %)	Barati and Sani (46)
<i>Scrophularia kotschyana</i>	Turkey	aerial parts	2-Pentadecanone (26.7%), 1-octen-3-ol (26.1%), phytol (11.5%)	Rend et al. (42)
<i>Scrophularia olympica</i>	Turkey	aerial parts	Phytol (12.0%), 2-pentadecanone (12.2%), 1-octen-3-ol (11.8%)	Rend et al. (42)
<i>Scrophularia striata</i>	Iran	aerial parts	Nonane (9.4%), α -terpineol (6.7%), isovaleric acid (4.2%)	Bahrami et al. (47)
<i>Scrophularia subaphylla</i>	Iran	aerial parts	Linalool (22.35%), phytol (15.74%), geraniol (7.27%), α -Terpineol (5.25)	Asgharian et al. (24)

<i>Scrophularia umbrosa</i>	Iran	aerial parts	Hexahydrofarnesyl acetone (26.18%), phytol (11.86%), palmitic acid (8.92%), β -damascenone (4.1%)	Nikkhah et al. (41)
<i>Scrophularia zuvandica</i>	Turkey	aerial parts	Carvacrol (69.1%), linalool (9.6%), p-cymene (3.4%)	Rend et al. (42)
<i>Stemodia foliosa</i>	Brazil	Leaf	6 α -Malonyloxybutyl ester manoyl oxide (46.45%), 6 α -acetoxymanoyl oxide (27.12%), β -caryophyllene (5.79%)	Oliveira et al. (39)
<i>Stemodia maritima</i>	Brazil	Leaf	β -Caryophyllene (31.5%), 14-Hydroxy-9-epi- β -Caryophyllene (14.0%), caryophylla-4(14),8(15)-dien-5 α -ol (8.6%), caryophyllene oxide (7.4%)	Arriaga et al. (36)
	Brazil	Stem	β -Caryophyllene (42.0%), caryophyllene oxide (37.7%), Caryophylla-4(14),8(15)-dien-5 α -ol (7.4%), α -humulene (3.1%)	Arriaga et al. (36)
<i>Stemodia trifoliata</i>	Brazil	Leaf	6 α -Hydroxymanoyl oxide (25.1%), 6 α -acetoxymanoyl oxide (23.2%), β -Caryophyllene (9.4%), caryophyllene oxide (9.0%)	Silva et al. (38)
<i>Stemodia viscosa</i>	Brazil	whole plant	β -Caryophyllene (37.1%), endo-fenchol (31.8%), p-mentha-1-(7)-8-diene (19.58%)	Mammen and Daniel (35)