



Supplementary Material

Comparative Efficacy of Selected Biorational Insecticides against Larvae of Southern House Mosquito *Culex quinquefasciatus* Say (Diptera: Culicidae)

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Supplementary Table SI. Taxonomic and vernacular information of indigenous plant samples collected from the different locations of Soon Valley and surrounding Salt Range of Pakistan









Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
1	<i>Chenopodium album</i>	Bathuwa	Khura	Leaves	Amaranthaceae	Alkaloids, Flavonoids, Saponin, Tannins (Mojab et al. 2010; Pandey and Gupta 2014)	
2	<i>Buxus papillosa</i>	Shamshad	Khura	Leaves	Buxaceae	Alkaloids, Flavonoids, Phenols (Parveen et al 2001; Akhtar and Mirza 2018)	




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0030-9923/2022/0005-2229 \$ 9.00/0






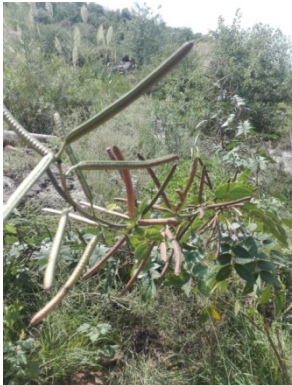
Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
3	<i>Cynodon dactylon</i>	Khabal	Khura	Leaves	Poaceae	Alkaloids, Anthroquinone, Flavonoids, Glycosides, Phenols, Saponins, Steroids, Tannins, Triterpenoids (Suresh 2008; Kaleeswaran et al. 2010)	
4	<i>Petrophytum caespitosum</i>	Mat rock spiraea	Khura	Leaves and stem	Rosaceae	Not available	
5	<i>Astragalus</i> Spp.	Koohni	Khura	Leaves and stem	Fabaceae	Not available	
6	<i>Trichodesma indicum</i>	Juri/ Nil karaj, Doosi, Gao zaban	Khura	Leaves and stem	Boraginaceae	Alkaloids, Flavonoids, Phenols, Steroids, Terpenoids, Tannins, (Perianayagam et al. 2012; Anusha et al. 2014; Saboo et al. 2014)	

Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
7	<i>Dicliptera bupleuroides</i>	Kaalu and Pipri	Daep Sharif	Leaves, flower and stem	Acanthaceae	Alkaloids, Carbohydrates, Flavonoids, Glycosides, Lipids, Proteins, Sterols, Saponin, Triterpenoids, Tannins (Riaz et al. 2012)	
8	<i>Marrubium vulgare</i>	Pahari gandana	Daep Sharif	Leaves	Lamiaceae	Alkaloids, Flavonoids, Saponin, Terpenoids, Tannins (Mojab et al. 2010; Amessis-Ouchemoukh et al. 2014)	
9	<i>Fagonia indica</i>	Dhamasa	Daep Sharif	Leaves and stem	Zygophyllaceae	Alkaloids, Anthraquinones, Coumarins, Carbohydrates, Flavonoids, Glycosides, Phenol, Saponins, Steroids, Terpenoids, Tannins (Burm 2011; Eman 2011; Rashid et al. 2013)	
10	<i>S-16 (Unidentified)</i>		Daep Sharif		Not clear yet	Not available	

Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
11	<i>Mentha longifolia</i>	Desi podina	Daep Sharif	Leaves and stem	Lamiaceae	Essential oils, Flavonoids (Ghoulami et al. 2001)	
12	<i>Solanum surattense</i>	Kanda kari/ Choti Kateri	Daep Sharif	Leaves and fruit	Solanaceae	Alkaloids, Flavonoids, Glycosides, Sterols, Tannins, Triterpenoids (Muruhan et al. 2013)	
13	<i>Nerium indicum</i>	Kanera	Daep Sharif	Leaves	Apocynaceae	Alkaloids, Carbohydrates, Glycosides, Lipids, Proteins, Sterols, Saponins, Tannins, Triterpenoids (Bhuvaneshwari et al. 2007)	
14	<i>Nerium indicum</i>	Kanera	Daep Sharif	Fruit	Apocynaceae	Alkaloids, Carbohydrates, Glycosides, Lipids, Proteins, Sterols, Saponins, Tannins, Triterpenoids (Bhuvaneshwari et al. 2007)	

Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
15	<i>Acacia melanoxylon</i>	Hickory	Daep Sharif	Leaves and stem	Fabaceae	Alkaloids, flavonoids, Phenols (Luis et al. 2012)	
16	<i>S-22 (Unidentified)</i>		Daep Sharif		Not clear yet	Not available	
17	<i>Datura alba</i>	Dhatura	Uchhali	Leaves	Solanaceae	Flavonoids, Glycosides, Phenol, Reducing sugars, Steroids, Saponins, Terpenoids, Tannins, (Uddin et al. 2012)	
18	<i>Suaeda fruticosa</i>	Lahnra	Uchhali	Leaves	Amaranthaceae	Anthraquinones, Alkaloids, Carbohydrates, Flavonoids, Phenol, Saponins, Steroids, Terpenoids, Tannins (Ullah et al. 2012; Munir et al. 2014)	



Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
19	<i>Alternanthera pungens</i>	Kandaa Booti/Phakra	Uchhali	Leaves and stem	Amaranthaceae	Alkaloids, Anthocyanosides, Anthraquinons, Carbohydrates, Coumarins, Flavonoids, Lipids, Phenol, Saponins, Steroids, Triterpenoids, Tannins, (Zongo et al. 2011; Kalpana et al. 2018)	
20	<i>Opuntia dillenii</i>	Thor	Kanhata Garden	Leaves and roots	Cactaceae	Alkaloids, Flavonoids, Glycosides, Phenols, Saponins, Steroids, Terpenoids Tannins (Pooja and Vidyasagar 2016)	
21	<i>Murraya koenigii</i>	Jangli curry Patta	Kanhata Garden	Leaves and stem	Rutaceae	Alkaloids, Anthraquinons, Carbohydrates, Flavonoids, Proteins, Phytosterols, Saponins, Tannin, Volatile oil, (Handral and Prashanth 2010)	
22	<i>Periploca aphylla</i>	Bata	Kanhata Garden	Stem and leaves	Apocynaceae	Anthraquinons, Alkaloids, Carbohydrates, Flavonoids, Proteins, Phytosterols, Steroids, Saponins, Terpenoids (Khan et al 2012)	

Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
23	<i>Dryopteris filix-mas</i>	Male fern	Kanhata Garden	Leaves	Dryopteridaceae	Anthraquinones, Alkaloids, Flavonoid, Glycosides, Phenol, Reducing sugars, Saponins, Steroids, Tannins, Terpenoids (Erhirhie 2018; Erhirhie et al. 2019)	
24	<i>Ricinus communis</i>	Harnoli	Kanhata Garden	Leaves	Euphorbiaceae	Carbohydrates, Fatty acids, Flavonoids, Glycosides, Phenols, Proteins, Saponins, Steroids, Tannins (Yadav and Agarwala 2011; Wafa et al. 2014)	
25	<i>Cassia occidentalis</i>	Bana Chakunda	Kanhata Garden	Leaves	Fabaceae	Alkaloid, Flavonoid, Glycosides, Steroid, Saponin, Tannin (Saganuwan and Gulumbe 2006; Yadav et al. 2010)	
26	<i>Cassia occidentalis</i>	Bana Chakunda	Kanhata Garden	Fruit	Fabaceae	Anthraquinones, Flavonoids, Glycosides, Phenols, Steroid (Yadav et al. 2010)	

Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
27	<i>Adiantum capillus-veneris</i>	Venus hair fern/ Khatti booti	Kanhati Garden	Leaves	Pteridaceae	Alkaloids, Carbohydrates, Fiber, Fats and waxes, Flavonoids, Glycosides, Phenolics, Saponins, Steroids, Terpenoids, Tannins (Ibraheim et al. 2011; Rajurkar and Gaikwad 2012; Ishaq et al. 2014)	
28	<i>Justicia adhatoda</i>	Dhodhak Booti, Vaheakar/ Baikarr and Vasaka	Kanhati Garden	Leaves	Acanthaceae	Alkaloids, Anthraquinones, Flavonoids, Glycosides, Phenols, Polyphenols, Phytosterols, Saponins, Triterpenoids (Chanu and Sarangthem 2014; Jayapriya and Shoba 2015)	
29	<i>Salvia virgata</i>	Meadow Sage	Khabikki	Flower	Lamiaceae	Amino acids, Alkaloids, Carbohydrates, Flavonoids, Glycosides, Phenolic compounds and Proteins, Saponins, Terpenoids (Koşar et al. 2008)	
30	<i>Amaranthus viridis</i>	Jangli cholai/ Ghanyar	Kanhati Garden	Whole plant	Amaranthaceae	Amino acids, Alkaloids, Carbohydrates, Flavonoids, Glycosides, Phenolic compounds, Proteins, Saponins, Terpenoids (Kumar et al. 2012)	

Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
31	<i>Sonchus asper</i>	Bhattal	Kanhati Garden	Leaves	Asteraceae	Alkaloids, Flavonoids, Phenols, Saponins, Steroids, Tannins, Terpinoids (Hussain et al. 2010; Kumari et al. 2017)	
32	<i>Melilotus officinalis</i>	Yellow sweet clover	Kanhati Garden	Leaves	Fabaceae	Flavonoids, Phenol, Saponins, Tannin, Terpenoids (Govindappa and Poojashri 2011)	
33	<i>Salvia officinalis</i>	Khalatra	Angah	Leaves	Lamiaceae	Alkaloids, Diterpenes, Flavonoids, Polyphenols, Saponins, Triterpenic acids (Kontogianni et al. 2013;Hernández-Saavedra et al. 2016)	
34	<i>Solanum incanum</i>	Mahori	Angah	Fruit	Solanaceae	Alkaloids, Carbohydrates, Cardic glycosides, Cyanogenic glycosides, Flavonoids, Phenols, Resins Oxalates, Steroids, Saponins, Tannins (Auta et al. 2011; Indhumathi and Mohandass 2014; Sambo et al. 2016)	

Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
35	<i>Portulaca oleracea</i>	Loonak	Angah	Leaves and stem	Portulacaceae	Fatty acids, Organic acids, Phenolic compounds (Oliveira et al. 2009)	
36	<i>Dodonaea viscosa</i>	Santha/ Pippar	Angah	Leaves	Sapindaceae	Amino acids, Carbohydrates, Fatty acids Fixed oils, Flavonoids, Glycosides, Phenols, Proteins, Steroids, Saponins, Tannins , Triterpenoids (Venkatesh et al. 2008; Dimetry et al. 2015)	
37	<i>Olea ferruginea</i>	Zatoon, Kao	Angah	Fruit	Oleaceae	Ligstroside, Oleuropein, Quercetin,β-amyrin (Hashmi et al. 2015)	
38	<i>Rumex dentatus</i>	Toothed dock	Angah	Leaves and fruits	Polygonaceae	Alkaloids, Cardic glycosides, Cyanogenic glycosides, Carbohydruates, Flavonoids, Phenols, Steroids, Saponins, Tannins (Nisa et al. 2013)	

Sr. No.	Scientific name	Common name	Locality	Part(s) used	Family	Phytochemical (s)	Picture of plant
39	<i>Withania coagulans</i>	Paneer booti/ Kham-jeera	Angah	Leaves, fruits	Solanaceae	Alkaloids, Amino acids, Carbohydrates, Organic acids, Phenolic compounds, Proteins, Steroids, Saponin, Tannins, (Mathur et al. 2011)	
40	<i>Eruca sativa</i>	arden rocket/ Jamahoon	Angah	Flower	Brassicaceae	Allyl isothiocyanate, 3-butenyl isothiocyanate, 4-methylsulfinylbutyl isothiocyanate, sulforaphane), 2-phenylethyl isothiocyanate and bis (isothiocyanatobutyl) disulphide, fatty acids (Khoobchandani et al. 2010)	

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