Report on

"Parthenium Awareness Week"

Submitted by

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2019

Parthenium Awareness Week

Description:

Parthenium hysterophorus is an erect, branched, aromatic, annual (or a short-lived perennial), herbaceous plant with a deep taproot. The species reproduces by seed and has vigorous growth. In its neotropical range it grows to 30-90 cm in height (Lorenzi, 1982; Kissmann and Groth, 1992), but up to 1.5 m, or even 2.5 m, in exotic situations (Haseler, 1976; Navie *et al*, 1996). Shortly after germination the young plant forms a basal rosette of pale green, pubescent, strongly dissected, deeply lobed leaves, 8-20 cm in length and 4-8 cm in width. The rosette stage may persist for considerable periods during unfavourable conditions (such as water or cold stress). As the stem elongates, smaller, narrower and less dissected leaves are produced alternately on the pubescent, rigid, angular, longitudinally-grooved stem, which becomes woody with age. Both leaves and stems are covered with short, soft trichomes, of which four types have been recognized and are considered to be of taxonomic importance within the genus (Kohli and Rani, 1994).

Flower heads are both terminal and axillary, pedunculate and slightly hairy, being composed of many florets formed into small white capitula, 3-5 mm in diameter. Each head consists of five fertile ray florets (sometimes six, seven or eight) and about 40 male disc florets. The first capitulum forms in the terminal leaf axil, with subsequent capitula occurring progressively down the stem on lateral branches arising from the axils of the lower leaves. Thousands of inflorescences, forming in branched clusters, may be produced at the apex of the plant during the season. Seeds (achenes) are black, flattened, about 2 mm long, each with two thin, straw-coloured, spathulate appendages (sterile florets) at the apex which act as air sacs and aid dispersal.

Distribution:

There is some uncertainty about the extent of the native range of P. hysterophorus in the New World. It is regarded by Bajwa *et al* (2016) as native to the Americas, introduced elsewhere. Acevedo-Rodríguez and Strong (2012) report the species as native to North America, Central America, South America and the West Indies. At the National Commission of Biodiversity of Mexico (CONABIO), the species is listed as originating in the east of Mexico

and the Antilles, with a secondary native distribution from the southern USA to South America (CONABIO, 2018). Other sources report that the species originated in the region surrounding the Gulf of Mexico, including southern USA, or in central South America (Dale, 1981; Navie *et al*, 1996), being now widespread in North and South America and the Caribbean, and Fournet and Hammerton (1991) indicate that it occurs in 'probably all islands' of the Lesser Antilles.

Since its accidental introduction into Australia and India in the 1950s, probably as a contaminant of grain or pasture seeds, P. hysterophorus has achieved major weed status in those countries. It was first recorded in southern Africa in 1880 but was not reported as a common weed in parts of that region until the mid-1980s following extensive flooding on the east coast (McConnachie *et al*, 2011). Recent reports of the weed from other countries indicate that its geographic range continues to increase.

The species is present in Asia, Africa, North America, Central America, the Caribbean, South America, Europe and Oceania (See Distribution Table for details: Acevedo-Rodríguez and Strong, 2012; EPPO, 2018; PIER, 2018; Missouri Botanical Garden, 2018; USDA-ARS, 2018). In Europe P. hysterophorus is considered as an ephemeral species.

Distribution Table:

The distribution in this summary table is based on all the information available. When several references are cited, they may give conflicting information on the status. Further details may be available for individual references in the Distribution Table Details section which can be selected by going to Generate Report.

Continent/Country /Region	Distribution	Last Reported	Origin	First Reported	Invasive	Reference	Notes
Asia							
Bangladesh	Present		Introduced		Invasive	Mahadevappa, 1997; EPPO, 2014	
Bhutan	Present		Introduced		Invasive	Parker, 1992; EPPO, 2014	
China	Present		Introduced		Invasive	Aneja *et al*, 1991; EPPO, 2014; PIER, 2018	
-Guangdong	Present		Introduced			Aneja *et al*, 1991; EPPO, 2014; PIER, 2018	
-Guangxi	Present		Introduced			Aneja *et al*, 1991; EPPO, 2014; PIER, 2018	
-Guizhou	Present		Introduced			Missouri Botanical Garden, 2008; EPPO, 2014; PIER, 2018	
-Hunan	Present		Introduced			Aneja *et al*, 1991; EPPO, 2014	
-Yunnan	Present		Introduced			Aneja *et al*,	

						1991; EPPO, 2014; PIER, 2018	
India	Widespread		Introduced		Invasive	Holm *et al*, 1991; EPPO, 2014	
-Andhra Pradesh	Widespread		Introduced			Santapau, 1967; Ellis and Swaminathan, 1969; Mahadevappa, 1997	
-Assam	Present		Introduced			Rao, 1979; Kohli and Rani, 1994; EPPO, 2014	
-Bihar	Widespread		Introduced			Chandra, 1973; Maheshwari and Pandey, 1973; EPPO, 2014	
-Chandigarh	Widespread		Introduced			Kumari *et al*, 1985; Aneja *et al*, 1991; EPPO, 2014	
-Delhi	Widespread		Introduced			Maheshwari, 1966; Kohli and Rani, 1994; EPPO, 2014	
-Gujarat	Widespread		Introduced			Mahadevappa, 1997; EPPO, 2014	
-Haryana	Widespread		Introduced			Aneja *et al*, 1991; EPPO, 2014	
-Himachal Pradesh	Widespread		Introduced			Vaid and Naithani, 1970; EPPO, 2014	
-Indian Punjab	Widespread		Introduced			Mahadevappa, 1997; EPPO, 2014	
-Jammu and Kashmir	Widespread		Introduced			Hakoo, 1963; Mahadevappa, 1997; EPPO, 2014	
-Karnataka	Widespread		Introduced			Jayachandra, 1971; Mahadevappa, 1997; EPPO, 2014	
-Kerala	Widespread		Introduced			Mahadevappa, 1997; EPPO, 2014	
-Madhya Pradesh	Widespread		Introduced			Maheshwari, 1968; Tiwari and Bisen, 1984; EPPO, 2014	
-Maharashtra	Widespread		Introduced			Rao, 1956; Vartak, 1968; EPPO, 2014	
-Odisha	Present		Introduced			Mahadevappa, 1997; EPPO, 2014	
-Rajasthan	Present		Introduced			Gena and Bhardwaj, 1980; Mahadevappa, 1997; EPPO, 2014	
-Tamil Nadu	Widespread		Introduced			Ellis and Swaminathan, 1969; Mahadevappa, 1997; EPPO, 2014	
-Uttar Pradesh	Widespread		Introduced			Ellis and	

						Swaminathan, 1969; Mahadevappa, 1997; EPPO, 2014	
-West Bengal	Widespread		Introduced			Mandal *et al*, 1980; Mahadevappa, 1997; EPPO, 2014	
Israel	Widespread		Introduced		Invasive	Joel and Liston, 1986; Navie *et al*, 1996; EPPO, 2014; Euro+Med PlantBase, 2018	
Japan	Present					EPPO, 2014; PIER, 2018	
-Ryukyu Archipelago	Present		Introduced			USDA-ARS, 2012	
Jordan	Present, few occurrences		Introduced		Not invasive	Euro+Med PlantBase, 2018	
Korea, Republic of	Present				Invasive	Shabbir and Adkins, 2013; EPPO, 2014	
Malaysia	Present		Introduced		Invasive	Rezaul Karim, 2014	
Nepal	Present		Introduced		Invasive	Evans, 1997a; Aneja *et al*, 1991; Mishra, 1991; EPPO, 2014; India Biodiversity Portal, 2018	
Oman	Present		Introduced	1998	Invasive	Alhammadi, 2010; EPPO, 2014	
Pakistan	Present		Introduced	1980s	Invasive	Shabbir *et al*, 2011; EPPO, 2014	
Palestine	Present		Introduced			Dafni and Heller, 1982	
Saudi Arabia	Present		Introduced			Thomas *et al*, 2015	Southern Tihama
Sri Lanka	Present					Jayasurya, 2005; Kelaniyangoda and Ekanayake, 2008; EPPO, 2014	
Taiwan	Present		Introduced			Towers and Mitchell, 1983; Peng *et al*, 1988; Navie *et al*, 1996; EPPO, 2014	
Thailand	Present		Introduced			Adkins *et al*, 2019	
United Arab Emirates	Present		Introduced			Mahmoud *et al*, 2015	First record
Vietnam	Present		Introduced		Invasive	Maheshwari and Pandey, 1973; Aneja *et al*, 1991; Navie *et al*, 1996; EPPO, 2014	
Yemen	Present		Introduced		Invasive	Alhammadi, 2010; EPPO, 2014	
Africa							
Botswana	Present		Introduced			Adkins *et al*, 2019	

Comoros	Present		Introduced			Missouri Botanical Garden, 2008; EPPO, 2014; India Biodiversity Portal, 2018	
Djibouti	Present		Introduced			Etana *et al*, 2015	Found along roadsides in Awash National Park
Egypt	Present		Introduced		Invasive	Zahran and Willis, 2009; EPPO, 2014	
Eritrea	Present		Introduced			USDA-ARS, 2012; EPPO, 2014	
Ethiopia	Widespread		Introduced	1980s	Invasive	Evans, 1997a; Medhin, 1992; Fasil, 1994; Frew *et al*, 1996; EPPO, 2014	
Kenya	Present		Introduced		Invasive	Ivens, 1989; Njoroge, 1989; Navie *et al*, 1996; EPPO, 2014	
Madagascar	Present		Introduced		Invasive	Aneja *et al*, 1991; EPPO, 2014; India Biodiversity Portal, 2018	
Mauritius	Widespread		Introduced		Invasive	Holm *et al*, 1991; Navie *et al*, 1996; Mahadevappa, 1997; EPPO, 2014; PIER, 2018	
Mayotte	Present		Introduced			USDA-ARS, 2012; EPPO, 2014	
Mozambique	Present		Introduced		Invasive	Aneja *et al*, 1991; EPPO, 2014	
Réunion	Present		Introduced		Invasive	Navie *et al*, 1996; Mahadevappa, 1997; EPPO, 2014	
Rwanda	Present		Introduced		Invasive	Witt and Luke, 2017	
Seychelles	Present		Introduced		Invasive	Navie *et al*, 1996; Mahadevappa, 1997; EPPO, 2014	
Somalia	Present		Introduced			Tamado and Milberg, 2000; EPPO, 2014	
South Africa	Present		Introduced		Invasive	Maheshwari, 1966; Picman and Towers, 1982; Navie *et al*, 1996; McConnachie *et al*, 2011; EPPO, 2014; USDA-ARS, 2018	

Swaziland	Present		Introduced			Henderson, 2001; EPPO, 2014	
Tanzania	Present		Introduced		Invasive	McConnachie *et al*, 2011; EPPO, 2014	
Uganda	Present		Introduced		Invasive	McConnachie *et al*, 2011; EPPO, 2014	
North America							
Bermuda	Present		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; EPPO, 2014	
Mexico	Widespread		Native		Not invasive	Haseler, 1976; Dale, 1981; Aneja *et al*, 1991; Holm *et al*, 1991; EPPO, 2014	
USA	Widespread		Native		Not invasive	Dale, 1981; Holm *et al*, 1991; EPPO, 2014; USDA-ARS, 2018	
-Alabama	Present					Aneja *et al*, 1991; Kohli and Rani, 1994; EPPO, 2014	
-Arkansas	Present					EPPO, 2014	
-Connecticut	Present					EPPO, 2014	
-Delaware	Present		Introduced			USDA-ARS, 2012; EPPO, 2014	
-District of Columbia	Present		Introduced			USDA-ARS, 2012; EPPO, 2014	
-Florida	Present					Aneja *et al*, 1991; Kohli and Rani, 1994; EPPO, 2014	
-Hawaii	Present		Introduced		Invasive	PIER, 2008; USDA-ARS, 2012; EPPO, 2014	Hawai'i, Jaua 'i, Maui, Moloka'i, O'ahu
-Illinois	Present					Fernold, 1970; Mahadevappa, 1997; EPPO, 2014	
-Kansas	Present					Fernold, 1970; Mahadevappa, 1997; EPPO, 2014	
-Louisiana	Present					Mahadevappa, 1997; EPPO, 2014	
-Maryland	Present					Arny, 1897; Kohli and Rani, 1994; EPPO, 2014	
-Massachusetts	Present					Arny, 1897; EPPO, 2014	
-Michigan	Present					Fernold, 1970; Mahadevappa, 1997; EPPO, 2014	
-Minnesota	Present					Mackoff and Dahl,	

						1951; Mahadevappa, 1997	
-Mississippi	Present		Introduced			USDA-ARS, 2012; EPPO, 2014	
-Missouri	Present					Fernold, 1970; Mahadevappa, 1997; EPPO, 2014	
-New Jersey	Present		Introduced			USDA-ARS, 2012; EPPO, 2014	
-New Mexico	Present		Introduced			USDA-ARS, 2012	
-New York	Present					EPPO, 2014	
-Ohio	Present					Fernold, 1970; Mahadevappa, 1997; EPPO, 2014	
-Oklahoma	Present					EPPO, 2014	
-Pennsylvania	Present					EPPO, 2014	
-South Carolina	Present					EPPO, 2014	
-Texas	Present					Castex *et al*, 1940; McClay *et al*, 1995; Mahadevappa, 1997; EPPO, 2014	
-Virginia	Present					Arny, 1897; Mahadevappa, 1997; EPPO, 2014	
Central America and Caribbean							
Anguilla	Present		Native			USDA-ARS, 2008; EPPO, 2014	
Antigua and Barbuda	Present		Native			USDA-ARS, 2012; EPPO, 2014	
Aruba	Present		Native			USDA-ARS, 2012; EPPO, 2014	
Bahamas	Present		Native			USDA-ARS, 2012; EPPO, 2014	
Barbados	Present		Native			Dale, 1981; Kohli and Rani, 1994; USDA-ARS, 2012; EPPO, 2014	
Belize	Present		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; EPPO, 2014; Missouri Botanical Garden, 2018	
British Virgin Islands	Present		Native			Acevedo-Rodríguez and Strong, 2012; Missouri Botanical Garden, 2018	Tortola, Virgin Gorda
Cayman Islands	Present		Native			USDA-ARS, 2012; EPPO, 2014	
Costa Rica	Present		Native		Not invasive	Dale, 1981; Parsons and Cuthbertson, 1992; EPPO, 2014	
Cuba	Widespread		Introduced		Invasive	Evans, 1997b; Holm *et al*, 1991; Navie *et al*, 1996; Oviedo Prieto *et al*,	

						2012; EPPO, 2014; Missouri Botanical Garden, 2018; USDA-ARS, 2018	
Curaçao	Present		Native		Not invasive	Dale, 1981; Kohli and Rani, 1994	
Dominica	Present		Native		Not invasive	Dale, 1981; Kohli and Rani, 1994; EPPO, 2014	
Dominican Republic	Widespread		Native		Not invasive	Evans, 1997b; Ciferri, 1956; Dale, 1981; Holm *et al*, 1991; EPPO, 2014	
Grenada	Present		Native			USDA-ARS, 2012; EPPO, 2014	
Guadeloupe	Present		Native		Not invasive	Dale, 1981; Kohli and Rani, 1994; EPPO, 2014	
Guatemala	Present		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; Kohli and Rani, 1994; EPPO, 2014; Missouri Botanical Garden, 2018	
Haiti	Present		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; EPPO, 2014	
Honduras	Present		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; Kohli and Rani, 1994; EPPO, 2014; Missouri Botanical Garden, 2018	
Jamaica	Widespread		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; Holm *et al*, 1991; Mahadevappa, 1997; EPPO, 2014	
Martinique	Present		Native		Not invasive	Dale, 1981; Kohli and Rani, 1994; EPPO, 2014	
Montserrat	Present		Native			USDA-ARS, 2018	
Netherlands Antilles	Present		Native			USDA-ARS, 2012; EPPO, 2014	
Nicaragua	Present					Lewis *et al*, 1988; EPPO, 2014; Missouri Botanical Garden, 2018	
Panama	Present					Hammel, 1997; EPPO, 2014	
Puerto Rico	Widespread		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; Holm *et al*, 1991; EPPO, 2014	
Saba	Present		Native			Acevedo-Rodríguez and Strong, 2012	

Saint Kitts and Nevis	Present		Native			USDA-ARS, 2012	
Saint Lucia	Present		Native			USDA-ARS, 2012; EPPO, 2014	
Saint Vincent and the Grenadines	Present		Native			USDA-ARS, 2012	
Sint Eustatius	Present		Native			Acevedo-Rodríguez and Strong, 2012	
Sint Maarten	Present		Native			Acevedo-Rodríguez and Strong, 2012	
Trinidad and Tobago	Widespread		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; Holm *et al*, 1991; Mahadevappa, 1997; EPPO, 2014; Bridgemohan *et al*, 2015	
Turks and Caicos Islands	Present		Introduced			GBIF, 2008; PROTA, 2018	
United States Virgin Islands	Present		Native			Acevedo-Rodríguez and Strong, 2012; USDA-ARS, 2012; EPPO, 2014	
South America							
Argentina	Widespread		Native		Not invasive	Castex *et al*, 1940; Dale, 1981; Aneja *et al*, 1991; Holm *et al*, 1991; EPPO, 2014	
Bolivia	Present		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; Kohli and Rani, 1994; EPPO, 2014	
Brazil	Present		Native		Not invasive	Dale, 1981; EPPO, 2014; Flora do Brasil, 2018	
-Alagoas	Present		Introduced			Flora do Brasil, 2018	
-Bahia	Present		Introduced			Flora do Brasil, 2018	
-Goias	Present					Lorenzi, 1982; EPPO, 2014; Flora do Brasil, 2018	
-Mato Grosso	Present		Introduced			Flora do Brasil, 2018	
-Mato Grosso do Sul	Present					Lorenzi, 1982; EPPO, 2014; Flora do Brasil, 2018	
-Minas Gerais	Present					Lorenzi, 1982; EPPO, 2014; Flora do Brasil, 2018	
-Parana	Widespread					Lorenzi,	

						1982; Kissmann and Groth, 1992; EPPO, 2014; Flora do Brasil, 2018	
-Pernambuco	Present		Introduced			Flora do Brasil, 2018	
-Rio de Janeiro	Present					Lorenzi, 1982; EPPO, 2014; Flora do Brasil, 2018	
-Santa Catarina	Present					Lorenzi, 1982; EPPO, 2014	
-Sao Paulo	Widespread					Lorenzi, 1982; Kissmann and Groth, 1992; EPPO, 2014; Flora do Brasil, 2018	
-Tocantins	Present		Introduced			Flora do Brasil, 2018	
Chile	Present					Dale, 1981; EPPO, 2014	
Colombia	Present		Native			Missouri Botanical Garden, 2018	Valle del Cauca
Ecuador	Present		Native			Missouri Botanical Garden, 2008; USDA-ARS, 2012; EPPO, 2014; Missouri Botanical Garden, 2018	
French Guiana	Present		Native			USDA-ARS, 2012; EPPO, 2014	
Guyana	Present		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; Mahadevappa, 1997; EPPO, 2014	
Paraguay	Present		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; EPPO, 2014	
Peru	Present					Dale, 1981; EPPO, 2014; Missouri Botanical Garden, 2018	
Suriname	Present		Native			USDA-ARS, 2012; EPPO, 2014	
Uruguay	Present		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; EPPO, 2014	
Venezuela	Widespread		Native		Not invasive	Dale, 1981; Aneja *et al*, 1991; Holm *et al*, 1991; EPPO, 2014	
Europe							
Belgium	Transient: actionable, under eradication					USDA-ARS, 2012; EPPO, 2014; Euro+Med PlantBase, 2018	

Poland	Transient: actionable, under eradication					EPPO, 2014; Euro+Med PlantBase, 2018	
Oceania							
Australia	Present		Introduced		Invasive	Dale, 1981; Holm *et al*, 1991; EPPO, 2014	
-Australian Northern Territory	Present		Introduced		Invasive	Auld and Medd, 1987; Navie *et al*, 1996; EPPO, 2014	
-New South Wales	Present		Introduced			Auld and Medd, 1987; Navie *et al*, 1996; EPPO, 2014	
-Queensland	Widespread		Introduced		Invasive	Haseler, 1976; Navie *et al*, 1996; EPPO, 2014	
-Western Australia	Present					EPPO, 2014	
French Polynesia	Present		Introduced		Invasive	Aneja *et al*, 1991; Queensland Government, 2011; EPPO, 2014; PIER, 2018	Also cultivated. Society Islands (Raiatea, Tahiti), Austral Islands, Marquesas Islands.
New Caledonia	Present		Introduced		Invasive	Aneja *et al*, 1991; PIER, 2008; EPPO, 2014	Iles Loyaute, Ile Mare, Ile Oyuvea, Ile Tiga, Ile Walpole, Ile Grande Terre, Ile des Pins
Papua New Guinea	Transient: actionable, under eradication					EPPO, 2014	
Vanuatu	Widespread		Introduced		Invasive	Aneja *et al*, 1991; Holm *et al*, 1991; Navie *et al*, 1996; EPPO, 2014; PIER, 2018	

As per the directions from ICAR-Directorate of weed science research, Jabalpur and Directorate of Extension KVAFSU, Bidar, we initiated “Parthenium Awareness Week” at ICAR-KVK, Kankanady (DK) on 16th August 2019 by creating awareness about the menace of

Parthenium weed plant in Agricultural fields, Environment, Human and Animal health among the working staff of the KVK, Agricultural labourers and Farmers and appealed all the gathering to join hands in complete eradication of this noxious weed from our state and the country.

Fig. 1 Initiation of *Parthenium Awareness Week* programme at ICAR- KVK (DK), Kankanady

On 17th August 2019, we have organized "Parthenium Awareness Programme" for Agricultural input dealers; they were informed about reduction of crop yield due to parthenium weed plant and created awareness on obnoxious effects of parthenium.

Fig. 2 *Parthenium Awareness Week* programme organized for agricultural input dealers.

On 18th August 2019, we continued to organized "Parthenium Awareness Programme" for students of Government primary school, Velencia they were informed about health hazards and loss of biodiversity due to parthenium weed plant and created awareness on unbearable effects of parthenium. Dr. Mallikarjuna L. Scientist Soil Science, Dr. Rashmi R. Scientist

Horticultur, Dr. Hanumanthappa D. Soumya D K, Vidyavathi, Vijetha, Somashekhar, Teachers and staff along with the students were participated in this programme.

Fig. 3 *Parthenium Awareness Week* programme organized at Govt. Primary school Velencia, Mangaluru

On 19th August 2019 Programme on "Parthenium Awareness" was conducted by ICAR Krishi Vigyan Kendra, (D.K), Kannkanady, Mangalore at School of Social Work Roshni Nilaya, Valencia. Scientist from ICAR KVK Kankanady (D.K) Dr. Mallikarjuna L had given information in detail on the harms of parthenium weed plant on human health, agriculture productivity and quality of animal's milk and also requested all the gathering to join their hands in complete eradication of this parthenium weed plant from state and our country. Dr, Rashmi R Scientist (Horticulture) Krishi Vigyan Kendra (D.K), Dr. Hanumanthappa D, Sowmya D.K, Deepa, Ashwith, Somashekaraih, Vijetha, Vidyavathi and professors staff of Roshni Nilaya were present in this programme.

Fig. 4 *Parthenium Awareness Week* programme organized at School of Social Work, Roshni Nilaya, Velencia, Mangaluru

On 20th August 2019, we have organized "Parthenium Awareness Programme" at Kendriya Vidyalaya, Ekkuru and students of the Kendriya Vidyalaya were educated about health hazards and loss of biodiversity due to presence of Parthenium weed plant in the environment and created awareness on unbearable effects of parthenium in Agriculture and its eradication methods. Lastly all the students were requested to share this information to their surrounding people to eradicate this noxious weed completely from our state and the country. Dr. Mallikarjuna L. Scientist Soil Science, Dr. Rashmi R. Scientist Horticultur, Dr. Hanumanthappa D. Soumya D K, Ashwith, Somashekhar, Teachers and staff of Kendriya Vidyalaya, students were participated in this programme.

Fig. 5 *Parthenium Awareness Week* programme organized at Kendriya Vidyalaya, Ekkuru, Mangaluru

Fig. 6 Showing the posters of *Parthenium Awareness Week* to the students Kendriya Vidyalaya, Ekkuru, Mangaluru

On 21st August 2019, we have organized "Parthenium Awareness Programme" at Kittel memorial High School, Gorigudda, Mangaluru and students of the Kittel memorial High School were advised about health hazards and loss of biodiversity due to presence of Parthenium weed plant in the environment and created awareness on intolerable effects of parthenium in Agriculture and its eradication methods. Dr. Mallikarjuna L. Scientist Soil Science, Dr. Kedarnath Scientist Plant Protection, Dr. Rashmi R. Scientist Horticultur, Dr. Hanumanthappa D. Soumya D K, Deepa, Somashekhar, Teachers and staff of Kittel memorial High School, students were participated in this programme.

Fig. 7 *Parthenium Awareness Week* programme organized at Kittel memorial School, Gorigudda, Mangaluru

On 22nd August 2019, we have organized valedictory function of "Parthenium Awareness Week Programme" at ICAR- KVK (DK), Kankanady, Mangaluru. Dean college of Fisheries was the chief guest of the function in this function we have told regarding conducting of several several awareness programme at various places for creating awareness about parthenium weed plant among students, working staff of schools, colleges and other organizations, labourers and farmers to eradicate this problematic weed from the state and the country completely by adopting physical, chemical and biological control methods. Dr. Chethan N. Sscientist Fisheries, Dr. Naveen B. T. Scientist Agronomy, Dr. Mallikarjuna L. Scientist Soil Science, Soumya D K, Deepa, Ashwith, Somashekhar and other staff members were participated in this programme.

Fig. 8 Valedictory function of *Parthenium Awareness Week* organized at Seminar Hall of ICAR KVK (DK), Kankanady, Mangaluru

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