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Investigations of plants used for antidotes in Badawani District of Madhya Pradesh

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Abstract
The plant wealth in Badwani District (Madhya Pradesh, India) plays a significant role in the economic status and social life of the local people. The present paper highlights Plants Used for Antidotes in Badwani district of Madhya Pradesh (India). It particularly contains information of plants used as antidotes in the region. In all, 23 species belonging to 23 genera and 17 families of angiosperms are recorded to use as antidotes. The local people prepare recipe such as decoction, paste, juice, powder, extract, slurry and infusion.

Keywords: Antidotes, Ethnobotany, Badwani District

1. Introduction
The word 'tradition' means oral transmission or practice from one generation to next. Although man has tried to keep written records especially after invention of printing, some traditions also passed over generations by word of mouth. The importance and significance of traditional knowledge in recent times, whether oral or written, are being recognized worldwide.

Badwani district lies between latitude 21º 37' to 22º 22' North and 74º 27' to 75º 30' East. It is situated in southwestern part of Madhya Pradesh. Forests in the district are dry deciduous type. Apart from rural populace, various tribal communities inhabit the district particularly Gond, Baiga, Koraku, Bhariaya, Halba, Bhil, Kaul and Pawara. They depend on the ambient plant wealth for their sustenance. They are traditional custodians of medicolore of the said region, which has largely remained untapped. The present attempt fills in this lacuna.

2. Methodology
The approaches and methodologies have been followed as suggested by Jain (1989) [4] during field work. Ethnomedicinal data was gathered since 2009 from local inhabitants, farmers, tribal heads and elder medicinemen. Repeated queries were made to confirm the data. Voucher plant specimens are identified using: (i) Flora of Madhya Pradesh Volume I, by Verma D M, Balakrishnan N P & Dixit R D (1993) ii) Flora of Madhya Pradesh Volume II by Mudgal V, Khanna K K & Hajra P K. (1997) [7], iii) Flora of Madhya Pradesh Volume III by Singh N P, Khanna K K, Mudgal V & Dixit R D (2001) [6]. The information is compared with the classical literature *viz.*, (i) The Wealth of India: A Dictionary of Indian Raw Materials and Natural Products, Anonymous (1948-1976) [2], (ii) A Dictionary of Economic Products (Watt, 1889-1893) [8], (iii) The Useful Plants of India (Ambasta, 1986) [1] and Dictionary of Indian Folk Medicine and Ethnobotany (Jain, 1991) [5]. Plant species used are enumerated alphabetically.

3. Ethnobotanical Inumeration
1. *Acacia pennata* (L.) Willd. (Mimosaceae) Chilari: Coll.No. 119

a) Root extract about halt cup is given against snake-bite immediately after bite.

2. *Achyranthes aspera* L. (Amaranthaceae) Kuida: Coll.No. 71

a) A cup of root extract is administered to person suffering from snake-bite. It creates omitting and reduces poison.

Critical Note: Plant species is exotic, native of North America

3. *Anagallis arvensis* Hook.(Primulaceae)Neel: Coll.No.58

a) Root pieces are deeped in a cup of water for about fifteen minutes. This infusion is administered to a person suffering from snake-bite. It causes vomiting and reduces poison.

Critical Notes: Application of root as a antidote on snake-bite is not reported in past.

4. *Anisomeles indica* (Linn.) O.Ktze.(Lamiaceae)Rantivi: Coll.No.258

a) Roots and leaf juice are given as antidote against snake bite.

Critical Notes: Leaf of this species is being reported the first time as a remedy against stomach-ache and snake- bite**.**

5. *Ampelocissus latifolia* (Roxb.) Planch. (Vitaceae) Jangli-angur: Coll.No. 67

a) One liter of root extract is given to the animal suffering from snake-bite. It is practiced for two days after each three hours.

Critical Notes: Application of root as antidote on snake bite in case of animal is new report.

6. *Bambusa arundinacea* Willd. (Poaceae)Was, Bamboo: Coll.No. 37

a) One glass decoction of root powder is administered as antidote to person suffering from snake-bite.

Critical Notes: All above medicinal uses are reported for the first time.

7. *Baliospertnum montanum* (Willd.) Muell.-Arg.(Euphorbiaceae)Sapedi: Coll.No.126

a) Leaf paste is prepared on hand-palm and applied on wounds. It is also applied for bites snake and scorpion sting

Critical Notes: Leaf paste is used as antidote on scorpion-sting and snake bite was not recorded earlier.

8. *Cassia tora* L. (Caesalpiniaceae) Kuwadya: Coll.No. 30

a) Seeds are rubbed on stone with water, slurry obtained applied against snake bite as an antidote.

Critical Notes: Application of seed as antidote against snake-bite have not been reported earlier. The plant species is exotic, native of America.

9. *Careya arborea* Roxb.(Barringtoniaceae)Kumbha, Kumbhi: Coll.No.383

a) Leaves are crushed and homogenised with few leaves of 'Bhulanwela' (*Piper betel* L.). About one liter of this mixture is administered as antidote for dog-bite in case of buffaloes. It is practiced once a day for seven days.

Critical Notes: Leaves are l used as antidote on dog bite in case of baffaloes is unrecorded in past literature.

10. *Cajanus cajan* (L.) Millsp. (Fabaceae) Tuhri: Coll.No. 35

a) About 5 gm of seeds this species and fruit pericarp of [*Cucumis callosus*(Rottl.) Cogn.] Is crushed in water. This extract, about a cup, is administered against snake-bite to reduce poison.

Critical Notes: Application of seeds as antidote on snake bite is a new report. It is exotic plant, native of Africa

11. *Cayratia trifolia* (L.) Domin(Vitaceae)Bail-mal: Coll.No.244

a) Root paste is applied against snake bite.

Critical Notes: Application of roots against snake bite is not reported earlier.

12. *Citrullus colocynthis* (L.) Schrad. (Cucurbitaceae) Indrayan: Coll.No.226

a) Extract of fruit is mixed with equal quantity of milk and honey. A cup of this mixture is administered against snake-bite at a time. Three to four times, if necessary is also advised.

Critical Notes: Fruit extract against snake-bite is not reported earlier.

13. *Enicostemma axillare* (Lam.) Rajnal (Gentianaceae) Naikai: Coll.No. 303

a) Paste of leaf is applied on wound of scorpion bite to reduce effect of its poison.

14. *Ensete superbum* (Roxb.) Cheesm. (Musaceae)Jangli-kela: Coll.No.282

a) Rhizomes are used as antidote on snake and dog bite. A spoonful of rhizome is powdered and given with sugar or betal leaf (*Piper betel*L.) after every six hours till the poison is reduced.

Critical Notes: Rhizomes are used as antidote on snake bite and dog bite. Both uses are new for science of ethnobotany.

15. *Euphorbia neriifolia* Linn. (Euphorbiaceae) Thua, Sehund: Coll.No.84

a) Latex obtained from unripe fruit is applied after scorpion sting.

b) Extract of baked stem about a cup is advised orally to the person suffering from dog-bite.

Critical Notes: Latex used against scorpion sting is not reported earlier in the classical literature.

16. *Jatropha gossypifolia* L. (Euphorbiaceae) Bellyacha: Coll.No.173

a) Extract of seeds about one litre is given to animals in case of snake-bite.

Critical Notes: It is used as an antidote on snake-bite. It is still unreported. It is native of Brazil, naturalized on waste places.

17. *Lagescea mollis* Cav. (Asteraceae) Coll.No.150

a) Extract of leaf is mixed with equal quantity of milk and honey. A cup of this mixture is administered against snake-bite at a time. If necessary, it is also advised for 3-4 times.

18. *Luffa cylindrica* (L.) M. J. Roem. (Cucurbitaceae) Gilka: Coll.No.264

a) Stem bark decoction about a cup is taken orally after interval of three hours against snake -bite.

19. *Momordica dioica* Roxb. ex Willd. (*Cucurbitaceae*) Kartoli: Coll.No.354

a) Rhizome powder is applied on injury of snake-bite. A spoonful of root powder mixed with water is drunk as an antidote on snake-bite.

20. *Nyctanthes arbor-tristis* L.(Oleaceae) Kharpati, Parijat: Coll.No.98

a) Leaf juice, about a glass, is advised to drink against dog-bite bite.

Critical Notes: Leaf juice is used as antidote on dog-bite is till unreported in literature.

21. *Pandanus odoratissimus* Linn.(Pandanaceae) Ketaka: Coll.No.350

a) Leaf extract is mixed in jaggery. Pellets are prepared. Two pellets for few days are advised to treat dog-bite.

Critical Notes: Leaf extract used as antidote against dog-bite is new reports.

22. *Sapindus laurifolius* Vahl (Sapindaceae) Ritha: Coll.No.289

a) Root paste is prepared on hand-palm and applied on wounds. It is also a remedy for snake bite and scorpion sting.

23. *Vernortia anthelmintica* (L.) Willd. (Asteraceae) Kala-jeera: Coll.No.360

a) Root extract is mixed in human urine in equal proportion. A cup of it is administered to a person suffering from snake-bite.

4. Discussion

The paper reports results of our studies on Plants Used for Antidotes during January 2009 to August 2012 in Badwani district of Madhya Pradesh (India). It particularly contains information of plants used as antidotes in the region. In all, 23 species belonging to 23 genera and 17 families of angiosperms are recorded to use as antidotes. Out of total 23 spwceis, only three species are used for domestic animals, while all others are employed to treat human-beings. Of these, 04 species belong to trees, whereas other are herbs, shrubs or lianas. Only two species are used to supplement the crude drug viz., *Piper betle* L. and *Cucumis callosus* (Rottl. Interestingly, 16 species out of 23 of the present account, on comparison with the classical literature turned out to be the first report for India. The local people prepare recipe such as decoction, paste, juice, powder, extract, slurry and infusion. The extract (10 application) form of recipe is commonly employed. It is then followed numerically by paste (04 application), juice and decoction (02 application each), infusion, slurry and pellets (01applications each), they use plant parts like roots (11 use-reports) leaves (07 use-reports), stem-bark (02 use- reports), roots (07 use-reports), seeds (03 use-reports), fruit (02 use-reports). Roots and leaves constitute a major share in their recipes.

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