

Ethno-Botanical Survey of Medicinal Plants Used by the Talaandig of Lourdes, Valencia City, Buidnon, Philippines

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ABSTRACT:

Traditionally, plants have been used as a source of medicine in Mindanao by indigenous people inhabiting various terrains especially when there is absence of medicines. An ethno-botanical survey was done to Talaandig people of Barangay Lourdes. Specifically, it aims to identify and determine some weed species; determine some local names used by Talaandig and assess the weeds species preparation and its application. Data revealed a total of 28 species belonging to 10 families and 26 genera. Most of the species collected were processed through decoction, juice and soaked. Age and gender of the Talaandig does not correlated to medicinal plant usage. Weed species still plays a vital role in primary healthcare of Indigenous People in Mindanao, Philippines. Therefore, awareness about the conservation of medicinal flora should be raised among the local communities.

Keyword: *Ethno-botanical, Talaandig, Local Terms*

INTRODUCTION:

Weeds is the generic word for a plant growing in a spot where it is not wanted. The most prominent used of the world is in connection with farming where weeds may damage crops when growing in fields and poison domesticated animals when growing on pasture land. They are noxious and a serious threat to agriculture (Azuelo, 2007). Despite of the negative impacts of the weeds, some plants usually thought of a weeds may actually provide some benefits. As cited by Azuelo et al, (2007), weeds have some medicinal value. Some weeds can cure heart ailments, wounds or even skin diseases.

Talaandig Tribe is the one of the 110 groups of Indigenous People in the Philippines. It has a population of approximately 100,000 people and mostly concentrated in the northern and western part of the province of Bukidnon, Mindanao Island, Philippines. Certain classes of weeds share adaptations to rural environments that this is to say that gives advantages over Talaandig who believed that the forest was the source of their life because it serves all of their needs.

MATERIALS AND METHODS

Entry Protocol and Research Design

A letter request was submitted to Barangay officials, of Barangay Lourdes, Valencia City, Bukidnon, Philippines. Stating the purpose of the study and to conduct an interview to the Talaandig of Brgy. Lourdes, Valencia City, Bukidnon, Philippines.

Gathering of Data and Sampling Procedure

The collected weeds species were placed on the newspaper with the plant presser for classification and identification. Data was collected between July – October of 2018, each herbal practitioner was interviewed once. Information collected from herbal practitioner include; sex of the respondent, age, source of knowledge, vernacular names of plants, uses of the plants, method of preparation and also administration etc. Use of structured questionnaire and oral interview were adopted to gather ethno medicinal data. Questionnaire was administered directly (same word to the respondents) those who could read and write, while others were filled after being interview orally using an interpreter.

Data Analysis

Descriptive statistics was used in analysing the data collected, this include mean and tables were used to summarize the data.

RESULTS AND DISCUSSION

The weeds under study were classified, identified and described according to habit and morphological characteristics. A total of twenty-eight (28) species of weeds were collected. Of these, thirty (26) genera and twelve (10) families.

Table 1. List of family, genera and species collected in the area.

No.	Family	Genera	Species
1	Asteraceae	Ageratum	1
2		Chromolaena	1
3		Conyza	1
4		Crassocephalum	1
5		Elephantopus	2
6		Emilia	1
7		Mikania	1
8		Spilanthes	1
9	Commelinaceae	Commelina	1
10		Murdannia	1
11	Covulvulaceae	Ipomoea	1
12	Cyperaceae	Cyperus	2
13	Fabaceae	Calopogonium	1
14		Casia	1
15		Mimosa	1
16	Malvaceae	Malvastrum	1
17		Sida	1
18		Urena	1
19		Peperomia	1
20	Poaceae/Graminae	Axonopus	1
21		Eleusine	1
22		Sporobolus	1

23	Polygalaceae	Polygala	1
24	Rubiaceae	Borreria	1
25	Verbenaceae	Lantana	1
26		Stachytarpheta	1
Total	10	26	28

The demographic profile of some Talaandig of the area. A total of thirty (30) informants consisting of twenty-five (25) female and five (5) male. Most of the respondents were House keeper and Sumifru for Barangay Lourdes has plantation of Banana.

Figure 1. Distribution on the processing on weeds species applied by Talaandig.

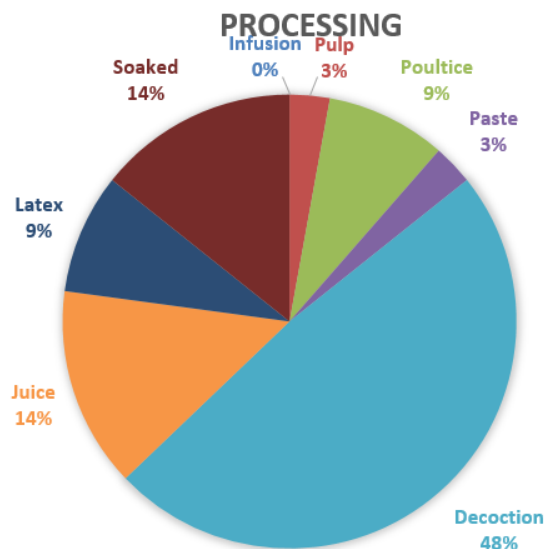


Table 2. Ailment Categories with respect to Biomedical and Local terms used by Talaandig.

Ailment categories	Bio-medical terms	Local Terms
Gastro-Intestinal Disorder	Constipation	Gitubol
	Diarrhea	Kalibanga
	Dysentery	disenteriya
	Nausea	Panglipong
	Indigestion	Wala na hilisan/ Impatso
	Vomiting with blood	Sugpa
	Stomachache	Sakit sa tiyan
	Bloated Stomach	Butod sa tiyan
	Flatulence	Panohot
Dermatological Disorders and cosmetics	Cuts	Hagbas
	Wounds	Samad
	Boils	hubag
	Pimples	Bugas
	Skin rushes	Dupang
	Skin diseases	Sakit sa panit
	Body inflammation	Hisang
	Sore	Noka-noka
	Facial Fungal infection	Ap ap
	Swell	Hupong
	Twinge	sinda
Respiratory diseases and Fever	Common cold	Subaw
	Cough	Ubo
	Ordinary fever	Hilanat
	Urinary Tract Infection	U.T.I
Cardiovascular Diseases	High blood Pressure	
	Heartburn	Kabuhi
Muscular, Joint, skeletal and nervous diseases	Canker sore	Luas

Table 3. Weeds species with respect to its life form, processing and plant parts used.

Species	Life form	Processing	Parts of Plants Used
<i>Amaranthus spinosus</i> L.	Herb	Decoction	Leaves
<i>Ageratum conyzoides</i> (L.)	Herb	Leaves are soaked in cold water for 3 days	Leaves
<i>Chromolaena odorata</i> (L.) R.M. King & Robinson	Shrub	Juice	Leaves
<i>Conyza Canadensis</i> (L.) Cronq.	Herb	Decoction	Entire Plant
<i>Crassocephalum crepidiodes</i> (Benth.) S. Moore.	Herb	Latex	Leaves
<i>Elephantopus scaber</i> L.	Herb	Decoction	Roots
<i>Elephantopus tomentosus</i> L.	Herb	Decoction	Roots
<i>Emilia sonchifolia</i> (L.)	Herb	Juice	Leaves/ shoots Tender
<i>Mikania cordata</i> (Burm f.) B.L. Robinson	Herb	Decoction	Leaves

<i>Spilanthes uliginosa</i> Sw.	Herb	Juice	Flower or Leaves
<i>Synedrella nodiflora</i> (L.) Gaetrn.	Herb	Poultice	Flower
<i>Vernonia cineria</i> (Linn.) Less.	Herb	Soaked	Tender Shoot
<i>Wedelia trilobata</i> (L.) Hitchc.	Herb	Pulp	Leaves/ Entire Plant
<i>Commelina benghalensis</i> L.	Herb	Leaves are soaked in warm water. Decoction of roots.	Leaves/ Rhizome
<i>Murdannia nudiflora</i> (Linn.) Brenan.	Herb	Paste	Entire Plant/ Rhizome
<i>Ipomoea obscura</i> (L.) Ker.	Herb	Decoction or extract to get the latex	Leaves
<i>Cyperus compressus</i> L.	Herb	Decoction	Roots
<i>Cyperus kyllingia</i> Endl.	Herb	Soaked in the water	Entire plant
<i>Calopogonium muconoides</i> Desv.	Herb	Latex	Stem
<i>Cassia tora</i> L.	Herb	Decoction	Entire Plant
<i>Mimosa pudica</i> L.	Herb	Decoction	Roots
<i>Malvastrum coromandelianum</i> (L.) Garcke	Herb	If roots decoction is needed. If leaves poultice.	Roots/ Leaves
<i>Sida rhombifolia</i> L.	Herb	Decoction	Roots
<i>Urena lobata</i> L.	Shrub	Burning process	Leaves
<i>Peperomia pellucida</i> (L.) HBK.	Herb	Soaked in hot water	Entire Plant
<i>Axonopus compressus</i> (Sw.) Beauv	Herb	Decoction	Entire Plant
<i>Eleusine indica</i> L.	Shrub	Decoction	Entire Plant/ Rhizome
<i>Sporobolus indicus</i> (L.) R. Br.	Herb	Decoction	Entire plant
<i>Polygala paniculata</i>	Herb	If roots Decoction. Or Make leaves pliable by heating. If leaves poultice.	Roots/ Leaves
<i>Borreria hispida</i> (L.) K. Schum.	Herb	Decoction	Roots
<i>Lantana camara</i> L.	Shrub	Juice	Leaves
<i>Stachytarpheta jamaicensis</i> (L.) Vahl.	Herb	Juice of Leaves Decoction of Roots	Roots/Leaves

Given the table on the common names used by the Talaandig on some ailments and its equivalent bio-medical terms. There were 6 categories of ailments of its 6 locally terms ailments were recognized and recorded. Further, the proper naming on species could greatly effect on the orientation and compatibility of herbal weeds to be used in a particular ailment.

CONCLUSION

The weeds were classified and described according to habit and morphological characteristics. A total of twenty-eight (28) species of weeds were collected. Local terms of some ailments were also gathered such as stomach ache “*Sakit sa tiyan*”, wound “*samad*”, Skin rushes “*Dupang*” and diarrhea “*Kalibanga*”. Further, for the processing method of medicinal weeds, Talaandig commonly used was decoction, soaked and juice. Leaf, roots or even the entire plant was commonly used by the Talaandig in applying to ailments. Furthermore, medicinal plants are continued to be used in medicinal practice based on a strong traditional belief in herbal medicine due to limited availability of modern machines and pharmaceutical services like the rural area of Talaandig.

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REFERENCES

1. Adel S. Al-Zubairi, Ahmad Bustamam Abdul,1,3 Siddig Ibrahim Abdelwahab,1 Chew Yuan Peng,3 Syam Mohan,1

- and Manal Mohamed Elhassan1 Eleusine indica Possesses Antioxidant, Antibacterial and Cytotoxic Properties
2. Arvind J. Mungole , Ravi Awati , Alka Chaturvedi , and Prakash Zanwar .(2010) Preliminary Phytochemical screening of *Ipomoea obscura* (L) -A hepatoprotective medicinal plant.
3. Azuelo, G.A., L.G. Sarina and E.L. Gamolo 2003. Morphology and Medicinal value of some Weed Plants in Bukidnon. CMU Journal of Science 11:1.
4. Balick, M.J. and P. A. Cox. 1997. Plants people and culture: The science of ethnobotany. Scientific American Library, New York, N.Y.
5. Boehem, J. 1982. Signature of all things. James Clarke and Co. Cambridge.
6. Boer JG & Dicke M (2004) The role of methyl salicylate in prey searching behavior of the predatory mite *Phytoseiulus persimilis*. Journal of Chemical Ecology, 30: 255-27.
7. Booth, B. D., S. D. Murphy and C. J. Swand. 2003. Weed Ecology in Natural and Agricultural System . Clarence Swanton: USA.
8. Buhler DD (2002) Challenges and opportunities for integrated weed management. Weed Sci. 50:273-280
9. Burkill, I.H., 1966. A dictionary of the economic products of the Malay Peninsula. Revised reprint. 2 volumes. Ministry of Agriculture and Co-operatives, Kuala Lumpur, Malaysia. Vol. 1 (A-H) pp. 1-1240, Vol. 2 (I-Z) pp. 1241-2444.
10. Burkill, H.M., 2000. The useful plants of West Tropical Africa. 2nd Edition. Volume 5, Families S–Z, Addenda. Royal Botanic Gardens, Kew, Richmond, United Kingdom. 686 pp.

11. BUSIA, K. 2007. Herbal pharmacopoeia: Science and Technology Policy Research Institute Council for Scientific and Industrial Research, Quality PC Limited, Accra North, Ghana. pp. 30-133.
12. Claude Kirimuhuzya, Paul Waako, Moses Joloba, and Olwa Odyek. (2009) The anti- mycobacterial activity of *Lantana camara* a plant traditionally used to treat symptoms of tuberculosis in South-western Uganda
13. Chauhan, Bhagirath S. Johnson, Davi E. Germination, emergence and dormancy of *Mimosa pudica*. *Weed Biology and Management* 2009; 9(1):38-45.
14. Coe F.G. and Anderson G.J., Screening of medicinal plants used by the Garifuna of eastern Nicaragua for bioactive compounds, *J. Ethnopharmacol.*, 1996; 53: 29-50.
15. Edward, R. 2004. Herbal Medicine. Booms Threaten Plants. News Scientist. Available at <http://www.newscientist.com/news>. Accessed on 5th November 2011.
16. Ekka N.R. and Dixit V. K.; 2007. Ethno-pharmacognostical studies of medicinal plants of Jashpur district (Chhattisgarh). *I. J. G. P.*, 1 (1): 2-4.
17. Erdman JW, Balentine D, Arab L, Beecher G, Dwyer JT, Folts HJ (2007). Flavonoids and Heart Health: Proceeding of the ILSI North America Flavonoids Workshop, May 31 – June 1, 2005, Washington, DC. *J. Nutr.*, 137: 718S-737S
18. Ghera CM, Benech-Arnold RL, Satorre EH, MartinezGhera MA (2000) Advances in weed management strategies. *Field Crops Res.* 67:95-104
19. Haq, F., H., Ahmad, and M., Alam. 2011. Traditional uses of medicinal plants of Nandian Khuwarr Catchments (District Battagram), Pakistan. *J. Medicinal plant research*, 5(1) 39-48pp.
20. Hatano T, Edamatsu R, Mori A, Fujita Y, Yasuhara E. (2013) Effects of tannins and related polyphenols on superoxide anion radical and on 1, 1-diphenyl-2-picrylhydrazyl. *Chem Pharm Bull.*
21. Heinrich, M., J., Barnes., S., Gibbons, and E.M., Williamson. 2004. *Fundamental of Pharmacognosy Phytotherapy*. Churchill livingstone, Elsevier Science Ltd., UK.
22. Ibeh, B.O. and Ezeja, M. 2011. Preliminary study of antidiabetic activity of the methanolic leaf extract of *Axonopus compressus* (P. Beauv) in alloxan-induced diabetic rats. *J. Ethnopharmacol.* 138, 713-71.
23. Ibrara M., Hashim S. and Marwat K.B., 2003. Ethnobotanic study of the weeds of five crops in district Abbottabad, N-W. Pak. *J. Weed Sci. Res.*, 9 (3 & 4): 229- 240.
24. K.J. Varghese, et al. *IJPSR*, 1, 10 (2010) 50-59.
25. Kapoor, L.D. 1990. *CRC Handbook of Ayurvedic Medicinal Plants*. CRC Press, Boca Raton, USA. Magnier, L.N. 1992. *A History of medicine*. Marcel Dekker Inc. New York.
26. Magnier, L.N. 1992. *A history of medicine*. New York. Marcel Dekker Inc. 153-158.
27. Maidan, P. 2002. *Nadan Newsletter Local Medicinal Herbs*. Available at <http://www.findarticles.com/p/articles/mimofdn/is65/ai68727266>.
28. Mcwhorter, C. G. 1982. The use of adjuvants. Pp. 10–21 in R. H. Hodgson (editor), *Adjuvants for Herbicides*. Weed Science Society of America, Champaign, Illinois
29. Mokgotho M.P., Masoko P., Mbazima V.G., Lebogo K.W. and Mampuru L.J. (2009). Wil-2 NS lymphoma cell line shows apoptotic features when treated with traditional medicine *Commelina benghalensis*. *African Journal of Traditional, Complementary and Alternative Medicines* 6(2):394-395
30. Muthu, C.M. Ayyanar, N. Raja, S. I. Muthu. 2006. Medicinal plants used by traditional Healers in Kancheepuram District of Tamil Nadu, India. *J. Ethnobiology and Ethnomedicine*, 2(43) doi: 10.1186/1746-4269-2-43.
31. N.R. Mshana, D.K. Abbiw, I. Addae-Mensah, E. Adjanohoun, M.R. Ahyi, and E.G. Enow-Orock, *Traditional medicine and pharmacopoeia. Contribution to the revision of ethnobotanical and floristic studies in Ghana*. Scientific, Technical and Research Commission of the Organization of African Unity Accra: Institute for Scientific and Technological Information. 2000: p. 122; 2000.
32. Narendhirakannan RT, Limmy TP. (2012) Anti-inflammatory and anti-oxidant properties of *Sida rhombifolia* stems and roots in adjuvant induced arthritic rats.
33. O.C. Enechi and M. Abugu. (2016) Antidiarrheal and Antibacterial Activities of *Calopogonium mucunoides* Desv Leaf Extracts
34. Oudhia, P. 2003. Medicinal Plants in Chhattisgarh. Research Note. Available at <http://www.Botanicalcomsite/column/poudhia/23chickpa.html-llk-cachedsimilarpages>.
35. Padua DE, L.S. N. Bunyaprahatsara, and R.H.M.J. Lemmens, 1999. *Plant resources of South- East Asia*, No.- 12(1). Medicinal and Poisonous plants. *Bachuys Publishers*, Leiden, The Netherlands.
36. Pal, D.C. 1980. Observations on folkore about plants used in veterinary medicine in Bengal Orissa and Bihar. *Bulletin Botanical Survey of India*. 22: 96-99.
37. Panda A, Misra MK (2011). Ethnomedicinal survey of some wetland plants of South Orissa and their conservation. *Ind. J. Trad. Knowl.*, 10(2): 296–303.
38. Patil UK, Saraf S, Dixit VK, *J. Ethnopharmacol*, 90 ,2004, 249–252
39. PROVINCIAL GOVERNMENT OF BUKIDNON 2018
40. Rao, V.S. 1999. *Principles of Weed Science*. Santa Clara, California USA.
41. Samuelson, G. 2004. *Drugs of natural origin : A textbook of pharmacognosy*, 5th edition. Swedish pharmaceutical press, Stolckholm.
42. Shabbir, G, S. Bahadur and Mr. Chaudhry. 2003. Botanical Description, significance and Prod. Tech. of some Impt. Med. Herbs. *Hamdard Medicus* 46:23-26
43. Shanthi, P and Amudha, P. (2010). Evaluation of the Phytochemical Constituents of *Acmulla calva* (DC). *International Journal of Pharmacology and Bioscience*, 1 (4): 308 -314.
44. Sharma, P.C., Murty, K.S., Bhat, A.V., Narayanappa, D. and Kishore, P. 1985. Medicinal- lores of Orissa Skin diseases. *Bull Med Ethno Botany Res.* 6 : 93-101
45. Saway 2012, *Global Responsibility And Local Knowledge Systems*; Datu Migketay Victorino L. Saway 2012
46. Sodipo, O.A., M.A. Akanji, F.B. Kolawole and A.A. Odutuga, 1991. Saponin is the active antifungal principle in *Garcinia kola*, heckle seed. *Biosci. Res. Commun.*, 3: 171-171.
47. Soladoye, M.O., Adetayo, M.O., Chukwuma, E.C.C. and Adetunji, A.N. 2010. Ethnobotanical survey of plants used in the treatment of haemorrhoids in South-Western Nigeria, *J. Adv. Dev. Res.* 2, 100-111.
48. Sri Ranjani Sivapalan. (2013). Medicinal uses and Pharmacological activities of *Cyperus rotundus* Linn – A Review.
49. Sudipta, B., Kumar.D.S., Goutam P., Monalisha, D., (2012). Evaluation of Antidiabetic activity and histological study of *Cyperus kyllinga* Endl. Roots.

50. Wang H, Gao J, Kou J, Zhu D & Yu B (2008) Anti-inflammatory activities of triterpenoid saponins from *Polygala japonica*. *Phytomedicine*, 15:321-326.
51. Weiher, E. A. Van de Werf, k., Thompson, M., Roderick, E., Garneir, and O. Erickson. 1999 Challenging Theophrastus: A common core list of plant traits for functional ecology. *J. Veg. Sci.* 10(5), 609-620 pp.

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